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**The Effectiveness of Listening While Reading With Story Mapping On The Reading
Comprehension Of Students With Emotional Disorders**

by

Suzanne C. Sedarat

A Thesis

Submitted to the
Department of Interdisciplinary and Inclusive Education
College of Education

In partial fulfillment of the requirement

For the degree of
Master of Arts in Special Education

at

Rowan University
August 22, 2016

Thesis Chair: Amy Accardo, Ed.D

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Dedication

I would like to dedicate this thesis manuscript to my sons Justin, Zachary, Maxwell, and Adam for their unending love, support and encouragement.

Acknowledgments

I would like to express my appreciation and gratitude to Dr. Amy Accardo for her guidance and patience throughout this research.

I would like to acknowledge my family, friends and coworkers who reminded me to breathe.

I would like to acknowledge my students whose lives I am honored to be a part of each day.

Abstract

Suzanne Sedarat

THE EFFECTIVENESS OF LISTENING WHILE READING WITH STORY MAPPING ON THE READING COMPREHENSION OF STUDENTS WITH EMOTIONAL DISORDERS

2015-2016

Amy Accardo, Ed.D

Master of Arts in Special Education

This study utilized a single-subject ABA design to examine the effectiveness of listening while reading using audiobooks combined with the evidence-based strategy, story mapping, on the reading comprehension of narrative text for students with emotional and behavioral disorders. Four high-school students in a ninth grade self-contained classroom in a private, special education setting participated in the study. During the intervention, students listened to a novel on the computer program Learning Ally while reading along with a copy of the text and completing a related story map. Reading comprehension was measured via student responses to comprehension questions and the number of narrative story elements identified in a story retelling. The combined intervention package had an overall positive effect on the reading comprehension for all four participants with variations in individual improvement. Results reveal two of four participants increased comprehension, and three of four participants increased number of story elements identified in a retelling as a result of using the listening while reading with story mapping strategy. Furthermore, survey results indicate that participants perceived the intervention as beneficial in improving their reading comprehension and story retelling.

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Chapter I

Introduction

Statement of the Problem

There are an estimated eight million struggling readers between fourth and twelfth grade (Biancarosa & Snow, 2006). Many of these readers are students with emotional-behavioral disorders (Forness, Freeman, Paparella, Kauffman, & Walker, 2012). Students with emotional behavioral disorders (EBD) exhibit behaviors that negatively impact their academic success (Ciullo, Ortiz, Otaiba, & Lane, 2016; Nelson, Benner, Lane & Smith, 2004).

Students with EBD are five times more likely to receive special education services under the learning disability (LD) or specific learning disability category than under the emotionally disturbed category (Forness et al., 2012). Since emotional disorders may be diagnosed at any given point during one's lifetime including adolescence, it is reasonable that many students are served under other special education categories (Forness et al., 2012).

Specific EBDs include oppositional defiant or conduct disorders, attention-deficit/hyperactivity disorder, and depression, mood or anxiety disorders (Forness et al., 2012). Almost forty percent of students are diagnosed with EBD before adulthood (Forness, et al., 2012).

Students with EBD and LD have deficits in basic reading and mathematical skills (Lane et al., 2006). As reading content becomes more complex in secondary grades, the reading deficits of students with emotional disorders can become worse (Lane, Carter, Pierson, & Glaeser, 2006).

The most common problem for high-school students with reading difficulties is reading comprehension (Biancarosa & Snow, 2006). Although high-school students may be able to read the words in a text, they may not understand the meaning of the text (Biancarosa & Snow, 2006).

Reading comprehension is a necessary skill for students to be successful in school (Watson, Gable, Gear, & Hughes, 2012), yet there is limited research in the area of reading comprehension for high-school students with EBD. There is a consensus, however, that effective strategies are needed to help students with EBD who struggle with reading comprehension (Griffith, Trout, Hagaman, & Harper, 2008; Stetter & Hughes, 2010b; National Reading Panel, 2000). Furthermore, a combination of strategies is recommended to meet the need of struggling readers (Biancarosa & Snow, 2006).

One evidence-based reading comprehension strategy that can be used improve a student's understanding of what they read is *story mapping*, a graphic organizer that uses story grammar elements for narrative text (Babyak, Koorland, & Mathes, 2000; Boulineau, Fore, Cecil, Hagan-Burke, & Burke, 2004; Gardill & Jitendra, 1999; Gurney, Gersten, Dimino, & Carmine, 2001; Idol & Croll, 1987; Stetter & Hughes, 2010b; Stone, Boone, Fore, Bender, & Spencer, 2008; Watson et al., 2012). Students with disabilities may have limited knowledge of the structure of text which may adversely affects their comprehension (Gerston, Fuchs, Williams, & Baker, 2001; Watson et al., 2012). Understanding the structure of narrative text through the use of story mapping helps students recall main events of a story and can result in increased understanding of informational text presented in secondary subject areas (Gersten et al., 2001; Stetter & Hughes, 2010b).

A second strategy recommended to increase student comprehension of narrative text is the use of *audiobooks* or text read to students via an electronic device such as a computer, MP3 player, or CD-Rom which can add to a student's understanding of text (Wolfson, 2008). Wolfson compares listening to books through electronic devices to listening to a book being read aloud, and reports the audiobook removes the obstacle of having to decode and recognize words. In this way, the reader is able to focus on the meaning of the text, thereby increasing comprehension. Wolfson recommends the incorporation of other reading comprehension strategies in combination with the use of audiobooks to further support struggling readers (2008).

Significance of the Study

Although there has been much research conducted on the effectiveness of strategies to improve reading comprehension for students with LD, only recently have researchers begun to explore the effectiveness of strategies to improve reading comprehension for students with EBD. Few studies have been conducted to determine if listening while reading is beneficial in improving reading outcomes for students with EBD. Those that were conducted show that listening while reading increased reading comprehension outcomes of students with EBD (Hale, Skinner, Winn, Oliver, Allin, & Molloy, 2005; Schmitt, McCallum, Hale, Obeldobel, & Dingus, 2009). The present study attempts to add to the existing research to determine if an instructional package, combining listening while reading using audiobooks and an evidence-based strategy, story mapping, will improve reading comprehension of narrative text for students with EBD.

Results of this study may provide instructional implications for teachers working with students with EBD and/or students with other special education classifications who have emotional disorders.

Purpose of Study

The purpose of this research study was to determine the effectiveness of an intervention package on the reading comprehension of students with EBD reading narrative text.

Specifically, the study examined the effects of listening to an audiobook while reading combined with the use of the evidence-based strategy, story mapping, on the reading comprehension of ninth grade students with EBD and on the detail of narrative text elements in a story retelling provided by students with EBD.

Research Questions

1. Will listening to an audiobook while reading in combination with a story mapping strategy improve the reading comprehension of students with EBD reading narrative text?
2. Will listening to an audiobook while reading in combination with a story mapping strategy improve the detail of narrative text elements in a story retelling provided by students with EBD?
3. Will students perceive the use of audiobooks while reading in combination with a story mapping strategy as beneficial in improving their comprehension and retelling of narrative text?

Chapter II

Review of the Literature

Students with EBD demonstrate less success academically and later in life than any other group of students with or without disabilities (Ciullo, Ortiz, Otaiba, & Lane, 2016; Landrum, Tankersley, & Kauffman, 2003). Even students who are not receiving special education services under the EBD category may demonstrate behaviors associated with EBD (Ciullo et al., 2016). Students with EBD may share similar academic, social, and behavioral characteristics as students with LD (Anderson, Kutash, & Duchnowski, 2001; Lane et al., 2006; Vaughn, Levy, Coleman, & Bos, 2002). Research suggests that, unlike students with LD, the academic achievement of students with EBD does not improve over time (Anderson et al., 2001; Nelson et al., 2004).

Many students who receive special education services demonstrate deficits in reading comprehension (Wei, Blackorby, & Schiller, 2011). Although reading comprehension is the most common problem for high-school students (Biancarosa and Snow, 2006), the comorbidity of EBD and learning disabilities often result in significant reading comprehension deficits (Ciullo et al., 2016; Roberts, Solis, Ciullo, McKenna, & Vaughn, 2015). The average high-school senior with EBD has a fifth-grade reading level (Wei et al., 2011).

With many EBD students having LD, Garwood, Brunsting, and Fox (2014) suggest that the implementation of evidence-based reading comprehension strategies for students with LDs may be beneficial for struggling readers with EBD.

This chapter provides a review of the research related to the reading comprehension needs of students with EBD and two reading strategies to support struggling readers with EBD, story mapping, and listening while reading.

Reading Comprehension and Students with EBD

Reading comprehension is a critical skill for both academic and work-related success (Blankenship et al., 2005; Garwood et al., 2014; Vaughn et al., 2002). However, students with EBD demonstrate less improvement in reading comprehension over time than other students with reading difficulties (Anderson et al., 2001; Kostewicz & Kubina, 2008; Nelson et al., 2004).

In a five-year longitudinal study comparing the academic progress of 61 students with LD and 42 students with EBD, Anderson et al. (2001) found that the math and reading scores for both groups remained below the norm from kindergarten to sixth grade. A significant finding of the study was that the reading scores of students with EBD did not improve over time, whereas the reading scores of the students with LD increased over time.

Nelson et al. (2004) found similar results in their cross-sectional study of 155 students in grades K-12 conducted to determine the effect of age and gender on the academic achievement of students with EBD. Nelson et al. (2004) used the Broad Reading, Broad Math, Math Calculation Skills, Broad Written Language, and Written Expression clusters of the Woodcock-Johnson III to measure academic achievement. The results of the analysis indicate that reading scores for students with EBD did not improve over time.

Contrary to the findings of Anderson et al. (2001) and Nelson et al. (2004), Wei et al. (2011) found that students with EBD performed better on reading comprehension than students with LD. Wei et al. (2011) compared the reading growth of students between the ages of 7 and 17 among different disability categories to those with LD. Overall, results of the study show that reading comprehension growth for students with reading difficulties across all disabilities declined after 13 years of age.

As students enter high school, reading comprehension skills are essential as students must read to learn (Biancarosa & Snow, 2006). However, research focusing on improving reading comprehension for adolescent students with EBD is limited. There is a plethora of research on reading comprehension strategies for students with LD; however, much research has focused on managing the behavioral and emotional needs of students with EBD rather than their academic needs (Stone et al., 2008; Vaughn et al., 2002; Wehby, Lane & Falk, 2003). Vaughn et al. suggest a possible reason for the limited research on reading comprehension (2002). Most studies are conducted with students in resource rooms and general education classrooms; yet students with EBD are often educated in more restrictive learning environments such as self-contained classrooms (Vaughn et al., 2002).

In 2014, Garwood et al. presented a research synthesis that specifically focused on reading comprehension and fluency interventions for middle and high-school students with EBD who are educated outside of the general education classroom. Garwood et al. (2014) also report that most students with EBD are educated in non-general education classrooms. They further report that reading scores are significantly lower among students with EBD educated in settings outside the general educational classroom (2014).

Four of the nine studies included in Garwood and colleague's (2014) research synthesis focused on reading comprehension. Three studies focused on oral reading fluency and two studies focused on both oral reading fluency and reading comprehension. The four reading comprehension studies (Blankenship, Ayres, & Langone, 2005; Stone et al., 2008; Hale et al., 2005; Schmitt et al., 2009) used either a story mapping strategy or a listening while reading strategy (Garwood et al., 2014).

In 2015, Burke, Boon, Hatton, and Bowman-Perrott conducted a review of 11 single-case studies on reading interventions for middle-school and high-school students with EBD or at risk for EBD. Two studies included in the research focused on reading comprehension outcomes of students in ninth grade (Blankenship et al., 2005; Stone et al., 2008). Both studies (Blankenship et al., 2005; Stone et al., 2008) used story mapping strategies to improve reading comprehension with students with EBD. Furthermore, Burke et al. concluded in their research synthesis that the implementation of reading strategies used in the studies were effective in improving reading comprehension for students with EBD (2015).

Limited research in the area of reading comprehension strategies for high-school students with EBD suggest the need for more research about effective strategies to help these students who struggle with reading comprehension (Griffith et al., 2008; Nelson et al., 2004). Biancarosa and Snow (2006) and the National Reading Panel (2006) suggest a combination of strategies is effective to meet the need of struggling readers (Biancarosa & Snow, 2006).

Research shows that the evidence-based instructional strategy of story mapping (Babyak et al., 2000; Stone et al., 2008), and listening while reading (Wolfson, 2008) are effective for improving reading comprehension.

Story Mapping

In a literature review focusing on the effect of story grammar strategies on reading comprehension of students with LD, Stetter and Hughes (2010) concluded that students with LD in high school have difficulty with the structure of narrative stories. Story mapping is one evidence-based strategy that has been shown to improve the reading comprehension of students with reading difficulties (e.g., Boulineau et al., 2004; Idol & Croll, 1987; Gardill & Jitendra 1999; Gurney et al., 2001).

Idol and Croll (1987) implemented a study using a story mapping strategy specifically with students with LD. Using a multiple-baseline research design, the researchers trained five elementary students with mild disabilities and poor reading comprehension in the use of story mapping procedures to assess the effect on reading comprehension outcomes. The students were trained to complete a visual story about the characters, the setting, the problem, the goal, the action taken to meet the goal or resolve the problem, and the outcome of the situation.

The results of the study indicate that all five students improved in reading comprehension, suggesting story mapping is an effective way to build a student's understanding of story structure. Furthermore, students maintained improvement after they stopped using the story mapping strategy. Idol and Croll found that there was a correlation between the response to the comprehension questions and the inclusion of the story problem and solution in the student's retelling (1987). Overall, the results of the

study indicate that a visual organizer of story structure improves reading comprehension, listening comprehension and length of story retell.

In another study, Gardill and Jitendra (1999) extended the research on story mapping using a multiple study baseline design with middle school students with LD. The purpose of the study was to determine the effect of direct instruction of a story mapping strategy on reading comprehension skills relative to narrative story elements and basal questions, to determine if generalization to novel passages improved, and to assess maintenance of skill. A third purpose of the study was to determine to what extent a story mapping procedure influences oral story retellings. Students were instructed in the use of a story map to identify the character, the problem, the attempt to resolve the problem, conflicts, implicit information reactions, themes and story details.

Results of the study showed an increase in reading comprehension for all students on the story grammar tests following story mapping instruction. Five of the six students showed an increase in the number of story grammar elements included in the story retelling. This suggests that story mapping is a beneficial strategy that provides students with structural framework to organize and retain critical story elements.

A study by Gurney et al. (2001) supports the findings of Idol and Croll (1987) that instruction in narrative text structure with students with LD is beneficial in improving reading comprehension. Gurney et al. used a multiple baseline design to determine the effectiveness of teaching narrative story elements to seven high-school students with LD (2001). During instruction, the students were taught how to identify the problem, how to use character clues to help identify the problem, how to identify the resolution of the problem, and how to determine the theme of the narrative. Reading comprehension was

measured by the correct responses to comprehension questions and the identification of story elements in a retelling by the student. Although the results of the study indicate that story mapping did not increase correct responses to comprehension questions, students showed improvement in identifying story elements. The results of the study suggest that teaching narrative story elements through the use of a story map is effective in providing students with an organizational framework to help them understand important elements of a story.

A more recent study by Boulineau et al. (2004) extends the research of Idol and Croll (1987) and Gardill and Jitendra (1999) to determine the effects of a story mapping strategy on reading comprehension with students with learning disabilities. Participating in an ABC research design, six elementary students with specific learning disabilities were instructed in how to record story elements on a story map. Reading passages were taken from a primer and first-grade reading series. Reading comprehension was measured through the completion of a blank story map. The results of the study showed an increase in the students' identification of narrative story elements after the strategy was explicitly taught. Furthermore, the results align with those of Idol and Croll (1987) in which students maintained improvement after they stopped using the story mapping strategy.

Although the aforementioned studies suggest that story mapping instruction is an effective strategy to improve the reading comprehension of students with LD, few studies have been conducted with students with EBD. Two studies (Blankenship et al., 2005; Stone et al., 2008) included in the research synthesis by Garwood et al. (2014) indicate that story mapping is an effective strategy in improving reading comprehension for students with EBD.

Using a multiple-probe research design, Blankenship et al. (2005), implemented a computer-based mapping strategy to determine the effects on the reading comprehension of four students with EBD. Reading comprehension was measured through the use of chapter tests in the students' secondary subject areas. Three high-school students were taught how to create cognitive maps with a computer software program. The students created a context map on the computer while reading the text. Use of the strategy by the students showed an increase in reading comprehension for all participants.

Stone et al. (2008) implemented a story-mapping strategy with four ninth-graders with EBD. Interventions included the use of a teacher-made text map and a student-made text map. The multi-baseline design single-subject study measured reading comprehension through the number of correct responses to fill-in-the blank comprehension questions. Reading passages were taken from the high-school literature book. The strategy, taught to each participant on an individual basis, resulted in improved reading comprehension for all the participants when the teacher created the text map. Outcomes varied, however, when the students generated the story map. Overall, the results of the study indicate that the use of the story map is a beneficial strategy for students with EBD.

In another study, Babyak et al. (2000), used a story mapping strategy to measure comprehension of narrative text with four fourth and fifth-grade students diagnosed with behavioral disorders. The multi-baseline study measured reading comprehension through correct story retellings by the students, comprehension questions, and the assessment of the main idea. Narrative text was taken from a literature series and stories from the library. The use of the strategy, taught to the students through modeling, guided practice

and independent practice, resulted in improved reading comprehension on all measures for the participants. This study aligns with the results of studies by Boulineau et al., (2004), Idol and Croll (1987), Gardill and Jitendra (1999), and Gurney et al. (2001) which showed an increase in reading comprehension for students with LD after the implementation of a story mapping strategy.

Variations of results, however, are evident. Gurney et al. (2001) found that students improved comprehension of important story elements, but not accuracy of response to literature questions. Idol and Croll (1987) found that students improved recall of story elements when asked specific questions. However, the students did not naturally include narrative story elements in their retellings.

Listening While Reading

The use of computer-assisted technology in the classroom has increased during the past 10 years and may be beneficial to improving reading comprehension for struggling readers (Stetter & Hughes, 2010a). Listening while reading involves the use of technology and is another strategy that has proven successful to help students comprehend text (Wolfson, 2008). Wolfson does not suggest that audiobooks are intended to replace print; rather he suggests that they can add to a student's understanding of text (2008). Furthermore, Wolfson recommends using a listening while reading strategy in combination with other reading comprehension strategies (2008).

Boyle, Washburn, Rosenberg, Connelly, Brinckerhoff, and Banerjee (2002) support Wolfson's suggestion of combining a reading comprehension strategy with audio text. The authors developed a graphic organizer to be used as a worksheet while students listened to and read along with the text. The worksheet was designed to prompt each

student to consider the key points of the text. With the use of audio text, the students were able to pause the recording and fill in the main ideas on the worksheet.

Two studies are particularly relevant to measuring the effects of the use of listening while reading on reading comprehension outcomes for students with EBD. In the first study conducted by Hale et al. (2005), an alternating treatment design was implemented to determine the effects of listening and listening while reading on reading comprehension. In this study, the researchers read aloud to the participants prior to students answering comprehension questions. The results showed that the listening while reading strategy improved the reading comprehension of the four participants ages 12-14. However, there was no significant improvement with the use of the read aloud over silent-reading. The researchers do suggest that listening while reading is an effective accommodation for students with EBD who struggle with reading.

Secondly, Schmitt et al. (2009) conducted an experiment similar to Hale et al. (2005) using an alternating treatment design to determine if assistive technology improves reading comprehension of students with EBD. They used silent reading as a control to listening and listening while reading with two middle-school students and two high-school students with EBD in a private-day school. One group listened to narrative passages read on the computer rather than listening to the researchers read aloud. The other group read the printed text while listening to the passage read on the computer. The results showed an increase in comprehension for students in both groups. However, students who listened while reading showed better comprehension outcomes.

Contrasting findings were found in a study similar to Hale et al. (2005) and Schmitt et al. (2009). In 2011, Schmitt, Hale, McCullum, and Mauck conducted a study

of listening while reading using text-to-speech assistive technology with silent reading as the control. The participants were middle-school students ages 11-15 who were in a remedial reading program. Grade-level reading passages were used, yet the results did not show that reading comprehension improved with the intervention. The researchers recommend further research to determine for which population listening while reading is most effective.

Summary

A listening while reading strategy used in combination with the evidence-based strategy story mapping may improve the overall comprehension of narrative text for students with EBD. Implementation of two strategies simultaneously may increase generalization of reading comprehension (Gersten et al., 2001). The review of literature suggests that listening while reading is promising as an effective strategy to improve the reading comprehension of students with EBD (Hale et al., 2005; Schmitt et al., 2009); and that a story mapping strategy is beneficial in helping students understand the main points of narrative text (Babyak et al., 2000; Boulineau et al., 2004; Gardill & Jitendra 1999; Gurney et al., 2001; Idol & Croll, 1987; Stone et al., 2008). Common recommendations among the authors of reviewed studies include determining when and for whom listening while reading is most effective (e.g., Hale et al., 2005; Schmitt et al., 2009; Schmitt et al., 2010); and further investigating the use of a reading comprehension strategy combined with listening while reading (Schmitt et al., 2010; Wolfson, 2008). This study aims to investigate the combined use of the evidence-based strategy story mapping and listening while reading on the reading comprehension and retelling of students with EBD.

Chapter III

Method

Setting

School. The study was conducted in a private, special education school in Southern New Jersey. The school serves students from multiple sending districts with social, emotional, behavioral and learning disabilities. All participating students have emotional disorders in addition to their special education classification, and as a result receive educational services in a self-contained classroom within an out-of-district, private day school for students with emotional, behavioral, social, and learning disabilities. The students were placed at this school upon recommendation from their district's child study team. The school implements an accredited cognitive, relationship, and strengths-based behavioral model. All staff members are trained in the use of the behavioral model.

Classroom. The study was conducted in a self-contained classroom for students in ninth to twelfth-grade. The ninth-grade students remain in the classroom for all of their academic courses. The classroom has two paraprofessionals and one social worker. None of the participants have a one-to-one aide. Each student has a desk, the use of a Chromebook, and a Learning Ally account. The study was conducted during the students' Language Arts class which is scheduled third period. The class structure was not modified in order to maintain an authentic setting in which to determine if the intervention was effective.

Participants

Students. A total of 4 students, 3 males and one female, who have a history of trauma and emotional and behavioral disorders, participated in the study. The students, two Caucasian and two African-American, attend the class with three other ninth-grade students. Of the three ninth-grade students who did not participate, one enrolled in our school in the past month, and two have intensive individual behavioral and academic plans and are not in the classroom on a consistent basis. All students received the same instruction and intervention. Table 1 represents the general information of the participants.

Table 1

General Information of Participating Students

Student	Grade	Age	EBD characteristics from psychiatric evaluation records	Classification	Woodcock Johnson Total Reading
A	9	18	Severe Depressive Disorder Anxiety	ID – Moderate	2.6
B	9	15	Major Depressive Disorder Emotional Disorder Anxiety ADHD	SLD	4.5
C	9	16	Emotionally Disturbed Disruptive Behavioral Disorder PTSD- Chronic and Severe ADHD	Autistic	4.2
D	9	15	Emotional Disorder ADHD w/Impulsivity Anxiety	OHI	5.5

Student A is an 18-year-old female. She has severe depressive disorder and is anxious in social situations. She did not attend school for two years after completing the 8th grade. She is receiving special education services under the Intellectually Disabled – Moderate Intellectual Disability category. This student is introverted, hesitates to participate in class and respond verbally. She puts forth good effort in her school work and wants to graduate from high school.

Student B is a 15-year-old-male who has difficulty accepting responsibility for his behaviors and tends to isolate himself from others. His anxiety and past trauma affect his ability to have appropriate peer relationships and he will often make poor choices in order to be accepted by his peers. Student B is receiving special education services under the Specific Learning Disability Category. He follows directions and tries to work independently. He is respectful to staff.

Student C is a 16-year-old male who struggles with accepting feedback and taking responsibility for his behaviors. He does not take his time on his assignments and often will not follow the directions given for an assignment. This student will exhibit externalizing behaviors when feedback is given to him. His inability to monitor his emotions and behaviors interfere with his academic progress. Although this student is interested in developing peer relationships, he struggles with understanding social cues and misinterprets situations. This student is receiving special education services under the Autistic category. He is artistic and enjoys his carpentry elective.

Student D is a 15-year-old-male who recently had a traumatic brain injury. Student D is receiving special education services under the Other Health Impaired category, however due to past chronic trauma, emotional disorders emerged resulting in

the student's inability to identify, tolerate, and regulate his emotions. This student struggles with staying on task and requires one-step instructions and task lists. This student has a sense of humor, although at times it is not appropriate for school. The self-contained classroom is beneficial for this student as he does not adjust well to change. Although he has struggled with developing peer relationships in the past, he is well-liked by his classmates in this classroom.

Materials

The materials used in this study included a hard copy of the novel *Wonder* by R.J. Palacio, a Chromebook, headphones with microphone, a story mapping worksheet, and comprehension questions. The Chromebook was used by each student to record a retelling of the pages of the novel the student read. The Chromebook was used by the student during the listening while reading intervention. The novel was downloaded to the student's Learning Ally account.

Measurement Materials

Comprehension questions. Students answered comprehension questions from the pages they read each day. Students read two to three chapters daily and answered comprehension questions. The comprehension questions were taken from a unit study on the novel obtained from a website for teachers (www.teacherspayteachers.com/Product/Wonder-by-RJ-Palacio-Novel-Study-Unit-602041). This unit study offered important ideas for each section, comprehension and inference questions for each chapter. The comprehension questions were chosen from the selection offered to assess students on the factual content and main idea of each chapter.

Story retelling. The purpose of the retelling was to determine if listening while reading in combination with a story mapping strategy improved the detail of narrative text elements in a story retelling provided by students. The students recorded their retelling on their Chromebook using Google voice recorder. Using the voice recorder increased the anxiety of Student A. As a result, the procedure for Student A was modified and she retold her retelling to the researcher.

Story elements checklist. A story grammar retelling checklist used to assess the number of story elements told in a retelling was modified from the example in the textbook *Teaching Reading to Students Who Are At Risk or Have Disabilities* (Bursuck & Damer, 2015). The checklist of narrative story elements included the setting, characters, problem or goal, process to solve the problem or meet the goal and resolution (see Appendix A). Boxes were created with a plus or a minus for each element identified in the student's story retelling. The researcher did not prompt the students in their retelling as each student recorded their retelling on the Chromebook using the Google voice recorder. The researcher listened to the recording, transcribed the retelling, and completed the checklist. The identification of the theme was included but not analyzed since the theme of a novel is often not evident until the end of the story.

Survey. At the end of the intervention, participating students completed a survey regarding their perception of the use of audiobooks while reading in combination with a story mapping strategy. Specifically, the students were surveyed to determine if they perceived the intervention as beneficial in improving their comprehension of narrative text and story retelling. The survey was developed using a Likert scale of 1-5, with 5 representing strongly agree, and 1 representing strongly disagree (see Appendix B).

Research Design

A single subject design with ABA phases was used. The silent reading condition was the control for this experiment as it did not involve listening to the text. The independent variables were student reading comprehension, measured by the responses to the comprehension questions, and the number of narrative story elements identified in each student's retelling. During Phase A, baseline data was collected for six days by the researcher. Originally, the students read the novel silently for 10 minutes without a story map and without listening to the audio version of the novel. After day four of the baseline, it was evident to the researcher that this method would elicit inaccurate comprehension results due to the structure of the novel and the comprehension questions relating to the pages the students were reading each day. Often students would be in the middle of a page or chapter after the 10 minutes. This resulted in students not having enough information to answer the comprehension questions. Therefore, the baseline was extended for two more days and concluded when all participating students read up to the same page and had answered the same number of comprehension questions. The novel is divided into eight parts with each part divided into chapters. The chapters within the parts are two to five pages in length. The short-answer response questions corresponded to each chapter. After the students read silently, they recorded a retelling using Google voice recorder on their Chromebook. The students then answered comprehension questions corresponding to the pages they read.

Following the baseline assessment, the students were instructed in the use of a story map. The three-day instruction included modeling, guided practice and independent practice. Students then practiced using the story map to retell what they read. Students

also were instructed in the use of their Chromebook for listening to the novel including adjusting the pace of the reading, the volume, and the pause buttons.

During Phase B, students logged into their Learning Ally account on their Chromebook and opened up the novel *Wonder*. They opened their book to the assigned chapter and began listening to the assigned chapters while they read. Students had a blank story map which they were instructed to complete as they read. After reading the assigned chapters, the students completed a retelling using Google voice recorder on their Chromebook. The students saved the recording and then completed the comprehension questions. Phase B included five sessions. During the second Phase A, the students read assigned novel chapters silently, recorded a retelling as they had during the baseline, and completed comprehension questions. The second Phase A included 5 sessions. Two sessions were conducted in one day due to a four-day school week.

Measurement Procedures

Silent reading condition. To avoid the potential variable effects from reading on a computer monitor, the students read the novel *Wonder* by R.J. Palacio from a hardcopy. Participants were given the following instruction, “You will be reading parts of the novel each day. After reading the novel, you will close your book and record a retelling of what you read using Google voice recorder on your Chromebook. When you have completed the retelling, raise your hand and I will give you some questions to answer about what you just read.”

Story mapping instruction. Students were shown a story map on the Smartboard. The researcher read each story element on the map. The researcher then read the first chapter - one page - of the novel which all the students had read. The researcher

modeled for the students how to complete the story map. Instruction continued with guided practice and independent practice. The students were instructed to use their story map to guide them as they recorded their retelling.

Survey. At the end of the study, participating students were required to complete the survey. The researcher read each question and instructed each student to circle the response on the survey that represented their perception of the intervention.

Data Analysis

The student comprehension data were analyzed using percentages comparing the number of questions answered correctly to the total number of questions presented during each phase of the research design. The data were displayed in a visual graph to compare the results in each phase. Story retellings were scored for the presence of specific story elements. The total number of possible points on the retellings was 5. One point each was assigned (a) setting, (b) characters, (c) the goal or problem, (d) the process to solve the goal or problem, and (e) the resolution. The story elements were calculated percentages and displayed in a graph comparing pre-intervention and post-intervention results. The survey was analyzed using the number of responses for each part of the scale.

Chapter IV

Results

Utilizing a single-subject design with ABA phases, this study examined the effectiveness of an intervention package on the reading comprehension and story retelling of students with EBD reading narrative text. Four high-school students in a ninth grade self-contained classroom in a private, special education setting participated in the study.

Reading Comprehension

The first research question asked, will listening to an audiobook while reading in combination with a story mapping strategy improve the reading comprehension of students with EBD reading narrative text? Reading comprehension was measured by the responses to comprehension questions relating to each chapter of a novel.

Table 2 shows the percentage of comprehension questions answered correctly for each of the four participants by phase. The table also shows the mean score for each participant. Student A and Student D showed a mean increase in the percent of comprehension questions answered correctly during the intervention compared to the initial baseline phase. Compared to the mean score during the baseline data collection, Student B and Student C showed a decrease in the percentage of questions scored correctly. Student C's results showed a decrease in correct responses to comprehension questions after each phase of the research.

Table 2

Comprehension Results Across Phases

	Student A	Student B	Student C	Student D
Baseline (daily %)	20.00	66.00	80.00	50.00
	50.00	75.00	25.00	50.00
	50.00	100.00	50.00	100.00
	50.00	75.00	25.00	50.00
	50.00	100.00	100.00	50.00
	33.00	93.00	66.00	0.00
Baseline Mean (%)	42.17	84.83	61.83	50.00
Intervention (daily %)	50.00	100.00	0.00	50.00
	50.00	50.00	50.00	50.00
	66.00	66.00	66.00	33.00
	50.00	93.00	50.00	100.00
	100.00	100.00	71.00	71.00
Intervention Mean (%)	63.20	81.80	47.40	60.80
Baseline II (daily %)	33.00	100.00	66.00	66.00
	0.00	66.00	33.00	66.00
	0.00	100.00	0.00	100.00
	50.00	100.00	0.00	75.00
	100.00	75.00	13.00	75.00
Baseline II Mean (%)	36.60	88.20	22.40	76.40

Individual Results - Comprehension Questions

Results for the percentage of comprehension questions answered correctly during each phase of the research for Student A are shown in Figure 1. The results show that Student A maintained or increased the percentage of comprehension questions answered correctly during the intervention phase compared to the original baseline phase. A visual analysis shows that Student A had the highest percent increase in comprehension

questions scored as correct during the intervention phase compared to her original baseline data.

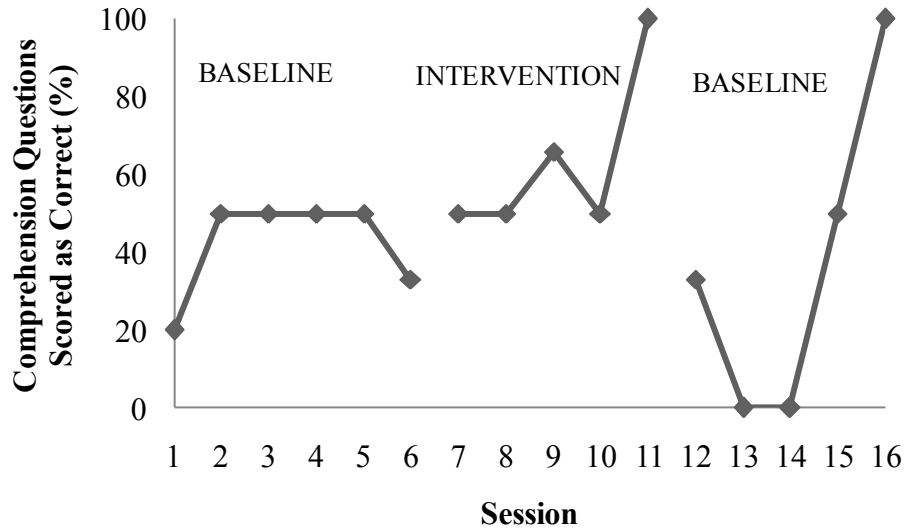


Figure 1. Student A reading comprehension across phases.

A visual analysis of the results for Student B show a consistency in the number of correct responses to comprehension questions during each condition. The results show a decrease in the percent of comprehension questions answered correctly between the first and second sessions of the intervention phase. The graphic analysis shows an increase in the percent of comprehension questions answered correctly during sessions 9, 10, and 11 of the intervention phase. Results for the percentage of comprehension questions answered correctly during each phase of the research for Student B are shown in Figure 2.

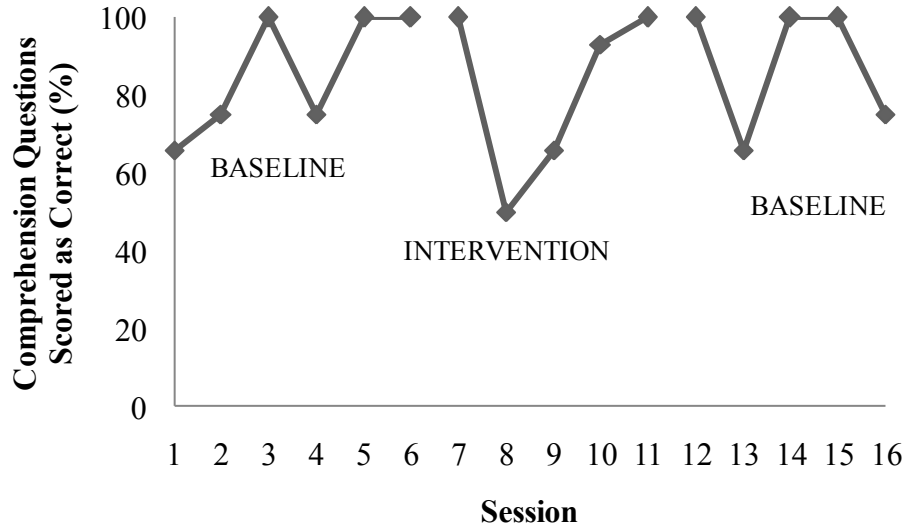


Figure 2. Student B reading comprehension across phases.

A visual analysis of the results for Student C are shown in Figure 3. The results show an increasing trend in the percentage of comprehension questions answered correctly after the first session of the intervention phase. An analysis of the graphic reveals a decrease in the percentage of comprehension questions answered correctly at the beginning of the second baseline condition.

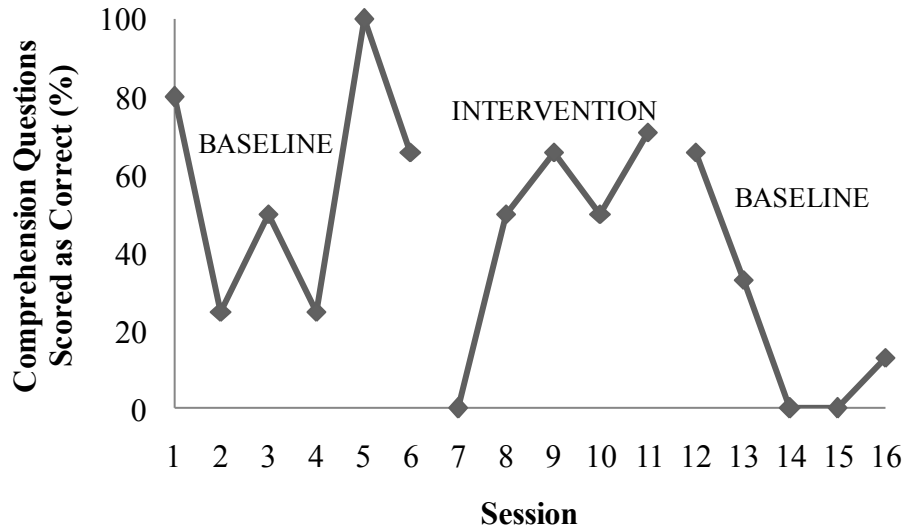


Figure 3. Student C reading comprehension across phases.

Results for the percentage of comprehension questions answered correctly during each phase of the study for Student D are shown in Figure 4. A visual analysis shows a variation in the percent of comprehension questions answered correctly during each condition. The graphic analysis shows an upward trend during second and third sessions of the intervention phase.

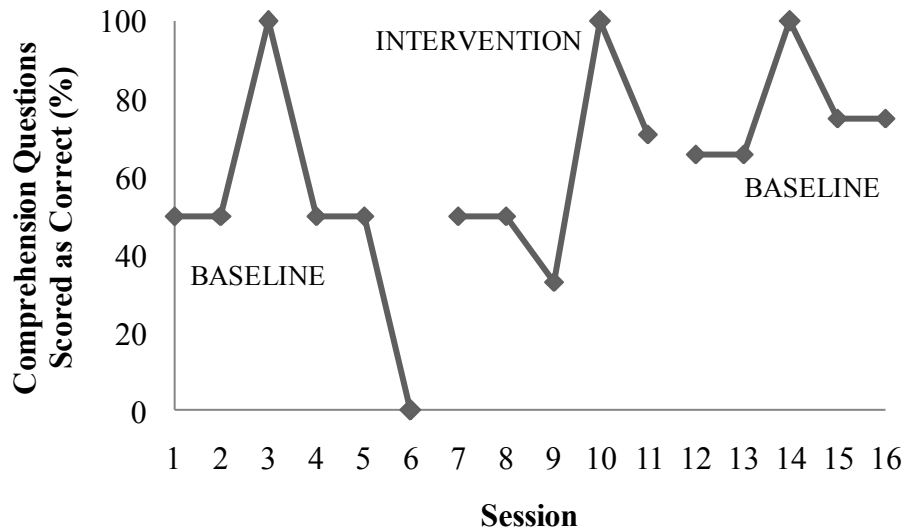


Figure 4. Student D reading comprehension across phases.

Story Retelling

The second research question asked, will listening to an audiobook while reading in combination with a story mapping strategy improve the detail of narrative text elements in a story retelling provided by students with EBD? Story retelling was measured by the number of narrative story elements identified in a retelling by each student.

Results of the number of story elements identified in retelling by each of the four participants are shown in Table 3. A review of the data reveals that Student A, Student B, and Student C increased the number of story elements in their retelling during the intervention phase. The results show a decrease in story elements identified during the second baseline phase compared to the intervention phase for all participants.

Table 3

Story Elements Identified Across Phases

	Student A	Student B	Student C	Student D
Baseline (daily %)	40.00	40.00	40.00	40.00
	60.00	40.00	60.00	60.00
	40.00	40.00	40.00	20.00
	40.00	40.00	40.00	40.00
	40.00	40.00	40.00	20.00
	40.00	60.00	60.00	60.00
Baseline Mean (%)	43.30	43.30	46.67	40.00
Intervention (daily %)	100.00	100.00	100.00	40.00
	40.00	100.00	60.00	40.00
	100.00	60.00	100.00	40.00
	60.00	60.00	100.00	40.00
	100.00	100.00	100.00	40.00
Intervention Mean (%)	45.80	84.00	49.00	40.00
Baseline II (daily %)	60.00	80.00	60.00	80.00
	0.00	40.00	0.00	20.00
	0.00	60.00	40.00	40.00
	40.00	40.00	0.00	20.00
	60.00	100.00	20.00	20.00
Baseline II Mean (%)	32.00	64.00	24.00	36.00

Individual Results – Story Elements

An analysis of individual scores was conducted for the percentage of story elements identified in the student retellings. Results for the percentage of story elements identified in the retelling during each phase of the research for Student A are shown in Figure 5. A visual analysis revealed an increase in the percent of story elements identified during intervention compared to her baseline. The results show Student A identified 100% of narrative story elements in her retelling in three intervention sessions compared

to 60% and below during the baseline condition.

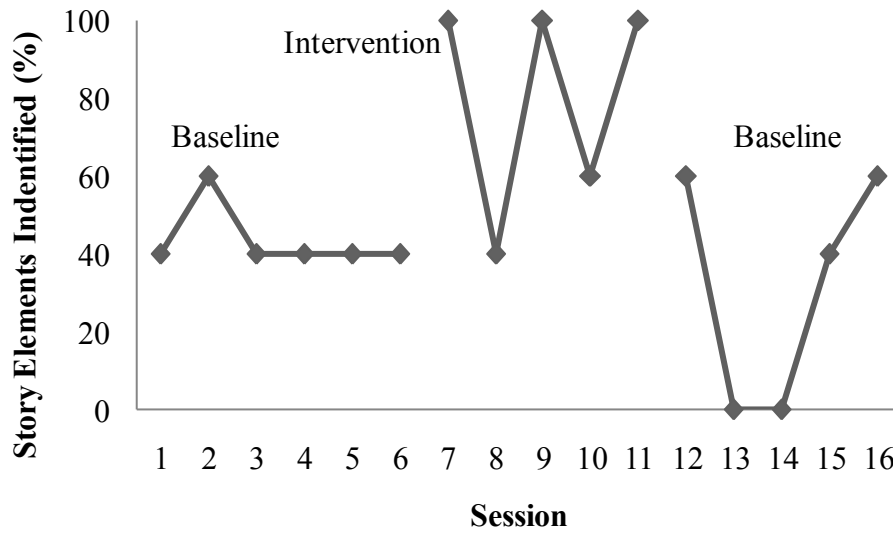


Figure 5. Student A story elements across phases.

Results for the percent of story elements identified in the retelling during each phase of the research for Student B are shown in Figure 6. A visual analysis shows that Student B increased the percent of story elements told in his retelling during the intervention period compared to his initial baseline and second baseline scores. During the intervention phase, Student B identified 100% of the story elements in three of five sessions.

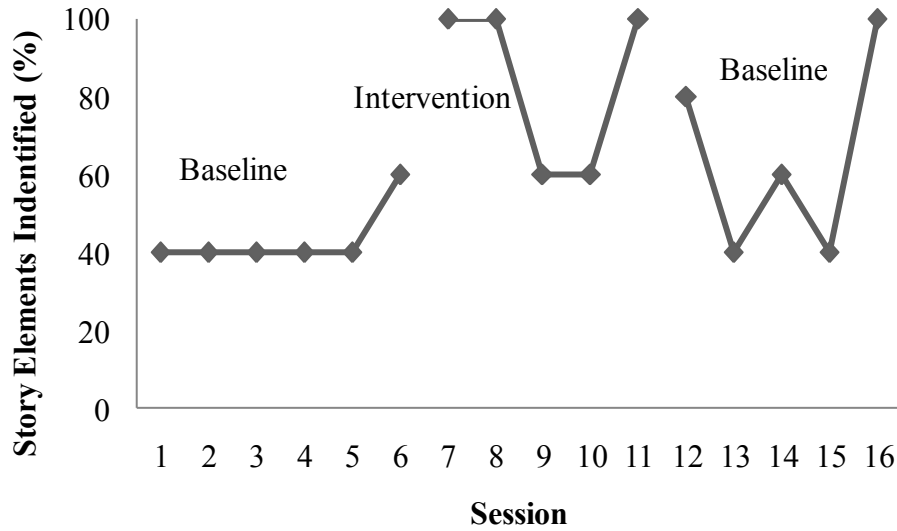


Figure 6. Student B story elements across phases.

The visual results for Student C shown in Figure 7 also reveal an increase in the percent of story elements identified in his retelling during the intervention phase. The results show that on three consecutive days during the intervention phase, Student C identified 100% of the story elements in his retelling. A visual analysis shows that during the second baseline condition in which the participant read silently, his story element retelling decreased.

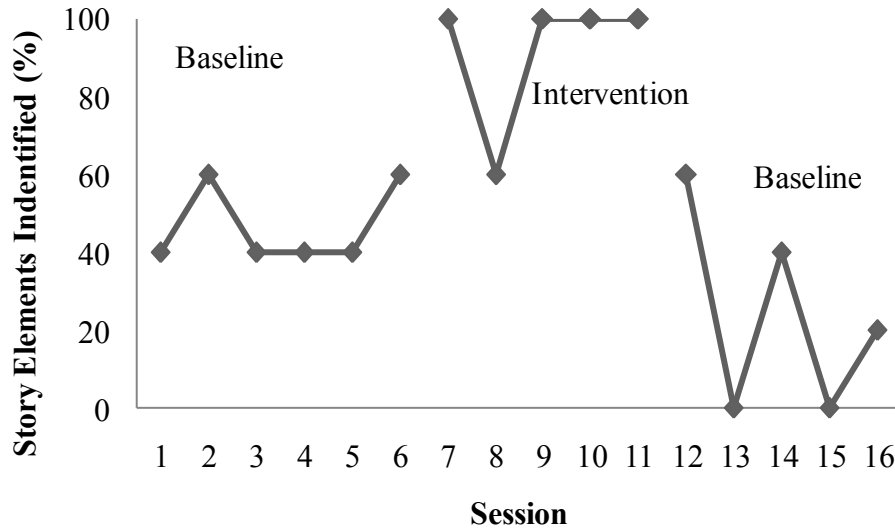


Figure 7. Student C story elements across phases.

Results for the percent of story elements identified in the retelling during each phase of the research for Student D are shown in Figure 8. The results for Student D remained consistent during the intervention phase. A visual analysis shows an increase in the percent of story elements identified in a retelling on the first day of the second baseline condition, with a decreasing trend for the remainder of the second baseline condition.

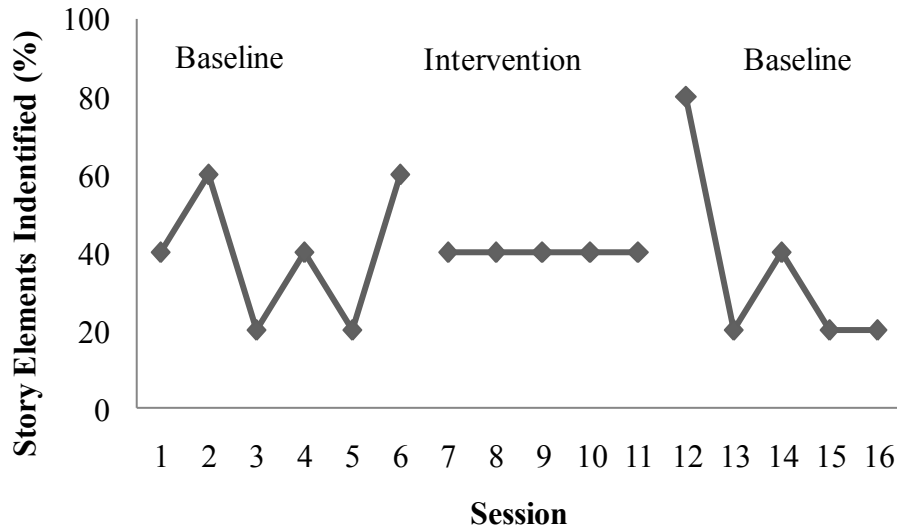


Figure 8. Student D story elements across phases.

Group Results

Table 4 reports the means and standard deviations for comprehension questions scored as correct and the number of story elements identified in student retellings combined as a group by phase.

Table 4

Group Mean and Standard Deviation for Study Variables

Variable	Mean	SD
Baseline Comprehension Questions Scored as Correct (%)	60.00	7.67
Intervention Comprehension Questions Scored as Correct (%)	63.30	2.82
Baseline II Comprehension Questions Scored as Correct (%)	55.90	9.75
Baseline Story Elements Identified (%)	43.30	3.64
Intervention Story Elements Identified (%)	74.00	9.39
Baseline II Story Elements Identified (%)	39.00	1.64

The results show an overall increase in the percent of questions answered correctly for the group during intervention. The mean comprehension questions answered correctly by the group during baseline was 60% compared to 63.3% during intervention, an increase of 3.3 %. After the intervention, the mean percent of comprehension questions answered correctly decreased to a group mean of 55.9%.

Moreover, the group results show an increase in the identification of narrative story elements during the intervention phase. The result for the group show that the identification of story elements in the students' retellings increased from 43.3% during Phase A to 74% during Phase B. The results show a decrease in the identification of story elements in the students' retellings during the second baseline condition.

Student Satisfaction

The final research question asked, will students perceive the use of audiobooks while reading in combination with a story mapping strategy as beneficial in improving their comprehension and retelling of narrative text? The results of the student survey are shown in Table 5. The participants were asked if they perceived the intervention package to be beneficial in improving their comprehension and retelling of narrative text. Of the four participants, two participants strongly agreed and two participants agreed that listening to audiobooks while reading combined with the story mapping strategy helped them improve their comprehension.

The participants were also asked if they perceived the intervention package to be beneficial in retelling the story with more detail. Of the four participants, three agreed and one strongly agreed that using a story mapping strategy when listening to the audiobook while reading helped increase the detail told in their retelling of the story.

Table 5

Student Survey Results, N=4

Question	Strongly Agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly Disagree (%)
1. Listening to audiobooks while reading helped me improve my comprehension.	0	0	50	50	0
2. Listening to audiobooks while reading helped me to retell the story with more detail.	0	50	25	25	0
3. Using a story mapping strategy when I was listening to audiobooks while reading helped me improve my comprehension.	50	50	0	0	0
4. Using a story mapping strategy when I was listening to audiobooks while reading helped me retell the story with more detail.	25	75	0	0	0
5. I recommend continued use of audiobooks while reading.	0	50	25	0	25
6. I recommend using the story mapping strategy when listening to audiobooks while reading.	0	50	50	0	0

Summary

The results show two of the four participants increased their reading comprehension as measured by the number of comprehension questions answered correctly during the intervention. The results show an improvement for three of the four participants in the number of story elements identified in their retellings during the implementation of the intervention. The results of the student survey show that all the participants perceived the use of the instructional package as effective in improving their reading comprehension.

Chapter V

Discussion

This purpose of this study was to examine the effectiveness of listening while reading combined with the evidence-based practice, story mapping, on the reading comprehension of four students in ninth grade with EBD. Reading comprehension was measured by responses to comprehension questions and the number of story elements identified in each retelling by the student. The combined intervention package had an overall positive effect on the reading comprehension for all four participants with variations in individual improvement.

Findings

The story mapping strategy has been shown to be effective in improving the identification of story elements via oral retelling by high-school students with LD (Gurney et al., 2001). The results for Students A, B, and C corroborate the research of Gurney et al. (2001) in which students improved comprehension of story elements with the story mapping strategy, but did not improve responses to related comprehension questions. With regard to the percentage of narrative story elements identified, results of the present study show an improvement for three of four participants during the intervention phase. Although the results do not show a consistent increase during the intervention sessions, there was an overall increase compared to the silent reading condition. Two of four students (Student A and B) identified 100% of the story elements in three of the five intervention sessions compared to 60% or below during the baseline phase. A third student, Student C, identified 100% of the story elements in four of the five intervention sessions compared to 60% or below during the baseline phase. Student

D identified two of the five story elements during all phases. A possible factor for Student D's inconsistent results may be the difficulty Student D has with focusing on multiple tasks. During the intervention, it was noted that Student D appeared to be listening to the audiobook, however, did not appear to be attending to reading and completing the story map while listening.

Previous research also suggests that the evidence-based strategy, story mapping, improved reading comprehension of high-school students with EBD (Blankenship et al., 2005; Stone et al., 2008). Furthermore, listening while reading has been shown to be an effective strategy in improving reading comprehension of students with EBD as measured by responses to comprehension questions (Hale et al., 2005; Schmitt et al., 2009). Moreover, the use of a combination of strategies has been recommended to improve reading comprehension outcomes of struggling readers (Biancarosa & Snow, 2006).

In this study, Student A showed the most improvement in the area of comprehension. Student D also increased correct responses to the comprehension questions during the intervention. In contrast, the percentage of comprehension questions answered correctly by Student B remained relatively consistent across phases with a slight decrease during the intervention phase. This may be explained by the student's stated preference for silent reading over listening while reading. Finally, Student C decreased correct responses to comprehension questions answered correctly across all phases. A possible factor contributing to the variation in comprehension questions answered correctly may be that the students were reading and listening during the

intervention phase for information to complete the story maps rather than for comprehension of the text.

Results for two of the four participants in this study corroborate the research of Blankenship et al. (2005) in which students created a cognitive map for a specific subject area while reading the text. In that study, the students showed an increase in reading comprehension (Blankenship et al., 2005). The differences in individual results in this study corroborate the findings of Stone et al. (2008). Stone et al. found that student comprehension outcomes varied when the students created the story map (2008).

With regard to listening while reading, the results of this study differ from the findings of Hale et al. (2005) and Schmitt et al. (2009). The results of those studies showed an improvement in student comprehension outcomes compared to silent reading. A comparison of the results of this research to previous research, however, must take into account the following differences: the combination of the evidence-based story mapping strategy and the listening while reading strategy implemented in this study, the use of a novel rather than separate narrative reading passages; and the implementation of the intervention in an authentic classroom setting.

In terms of social validity, all of the student participants in the study agreed that using the story mapping strategy when they were listening to the audiobook while reading helped improve their comprehension and increase the detail in their retelling of the story. The participants did not perceive that listening to audiobooks without the story mapping strategy improved their comprehension or increased the detail of their retellings. The four students also voluntarily stated that they enjoyed the novel.

Limitations

The current study may have been impacted by several limitations. The participant size was limited to four ninth-grade students who have EBD and receive education in an out-of-district placement. A larger sample size is warranted to determine generalization of the intervention beyond the four participants in this study.

The duration of the study was limited as well due to the time frame between university IRB approval and the end of the school year. The study was conducted during the 4th marking period and limited to 16 sessions.

Another limitation was the length of the novel selected. All students were not able to complete the novel during the research study. Only two students were able to complete the novel before the end of the year. The other two students were not able to attend school after the study due to changes in their living arrangements.

Finally, this study investigated a combination of strategies as recommended by Biancarosa & Snow (2006), Gersten et al. (2001), and the National Reading Panel (2006) using audiobooks and story mapping. A limitation to the research is not being able to attribute study results to the use of audiobooks or story mapping individually, as they were used in combination. The continued use of evidence-based intervention packages to support students with EBD in the area of reading comprehension, however, appears warranted.

Implications and Recommendations

This study adds to the existing research on reading comprehension of students with EBD in which the evidence-based strategy story mapping and a listening while reading strategy were investigated individually. The implementation of the instructional

package in this research may lead educators to consider other combinations of strategies to improve the reading comprehension of students with EBD. A practical implication of this research is that listening while reading combined with the evidence-based story mapping strategy appears effective in improving the ability of students with EBD to retell a story with important story elements. However, the intervention may not be effective in improving student correct responses to reading comprehension questions.

Moreover, the participants perceived that using the story mapping strategy when they were listening to the audiobook while reading helped improve their comprehension and increase the detail in their retelling of the story. Their perception suggests that they may become more engaged in the reading process with the use of mapping strategies.

Further research is needed to determine if other evidence-based strategies combined with listening while reading would be as effective or more effective in improving reading comprehension of students with EBD. Finally, more research is needed to determine the effectiveness of this study's instructional package across grade levels and reading materials.

Conclusion

The results of this study revealed an increase in the reading comprehension of students with EBD reading narrative passages. However, the percentage of correct responses to comprehension questions for each participant varied across phases. Three of the four participants improved in the identification of story elements in an oral retelling of the story. All the participants perceived the combination of strategies implemented in this study to be beneficial in improving their reading comprehension and retelling of narrative text. Overall, it appears that providing high-school students with EBD concrete

reading strategies will help improve their reading comprehension. Further research is needed to determine which combination of strategies may be most effective for this population.

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Appendix A

Story Elements Checklist

Story Elements Checklist													
Student	Date and pages read	Setting		Characters		Goal/Problem		Process to solve problem or meet goal		Resolution		Theme	
A													
B													
C													
D													

Appendix B

Student Survey

Student Survey

Please circle the answer that best matches how you feel.

1. Listening to audiobooks while reading helped me improve my comprehension.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

2. Listening to audiobooks while reading helped me to retell the story with more detail.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

3. Using a story mapping strategy when I was listening to audiobooks while reading helped me improve my comprehension.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

4. Using a story mapping strategy when I was listening to audiobooks while reading helped me retell the story with more detail.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

5. I recommend continued use of audiobooks while reading.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1

6. I recommend using the story mapping strategy when listening to audiobooks while reading.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
5	4	3	2	1