Boston College
Lynch School of Education and Human Development

Department of Teaching, Curriculum, and Society

Curriculum and Instruction

USING ELEMENTS OF A SCREENPLAY TO PROMOTE VISUALIZATION AND INCREASE READING COMPREHENSION IN STUDENTS WITH DISABILITIES AND STRIVING READERS

Dissertation

by

LORI ANN COMPAGNONE DUNN

submitted in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

May 2021

Abstract

Using Elements of a Screenplay to Promote Visualization and Increase Reading Comprehension in Students with Disabilities and Striving Readers

Lori Ann C. Dunn

Dissertation Chair: David Scanlon

Improving reading comprehension for middle school students with disabilities and others who struggle with reading, referred to here as striving readers, is challenging. Formal reading instruction typically shifts from skills acquisition to application in middle and high school, providing inadequate support in the skills for comprehension (Chall, 1983; Klingner et al., 2007). Further, both students with disabilities and striving readers can have negative school experiences which impact their reader identities and cause them to become disengaged from learning. It is increasingly challenging for secondary teachers to provide interventions which explicitly teach and reinforce critical comprehension skills while sustaining student engagement.

An experimental screenplay intervention designed by the researcher to increase visualization and promote reading comprehension was used. The intervention was based on research by Snyder (2005) identifying elements of a screenplay, similar to story grammar. Movies were used first as a novel way to engage learners; visual supports were gradually reduced as students transferred visualizing skills to texts of increasing complexity. The readers used plot diagrams to organize the elements graphically in support of their comprehension.

Seven middle school students with high incidence disabilities and striving readers

learned to identify seven elements of a screenplay in a 3-week online researcher-developed intervention. A mixed-methods case study design was used to identify reading-related outcomes and students' experiences (attitudes and behaviors) of reading as they learned the intervention. Data were collected for reading comprehension, recognition of screenplay elements, and visualization skills. Reading behaviors, attitudes, identities, and motivation for reading were also assessed.

Findings revealed whole-class mean score gains in passage and sentence level comprehension, pre-to-post. Students also learned the screenplay elements and were proficient in finding examples within a text. Further, the students reported greater details at post-test when reporting their visualizations and when describing elements. Case studies of three students representing three reading proficiency levels upon entrance to the study revealed distinct experiences for each. Implications for reading instruction are discussed.

This dissertation is dedicated to my grandparents, Salvatore and Mary Compagnone. Thank you for giving me faith, teaching me the value of hard work, and showing me, in the words of Benjamin Franklin, that 'I can do anything I set my mind to.'

Acknowledgements

When I began this adventure, I had no idea where it would take me. Through this amazing process, there were many challenges and many discoveries, and I was blessed to encounter so many wonderful people along the way. There are so many people to thank, and so much more to say than is written here.

Dr. David Scanlon, thank you for your guidance and support on this academic journey. You are an incredible educator and advisor. Thank you for believing in me and developing me into a scholar. I will take the lessons, patience, and true concern you have shown me, and pass it on to my students. I would never be where I am today without your encouragement and I will be forever grateful.

Dr. Jon Wargo and Dr. Emily Gates, thank you for your guidance and your encouragement through every step of the dissertation process.

Dr. Susan Bruce, and the faculty and staff at the Lynch School, thank you for answering all my questions, guiding me in discovery and checking in to see how things are going. The halls of Campion have always felt like home to me.

Dr. Judith K. Voress, and the Board Members at the Hammill Institute on Disabilities, thank you for your support and your guidance.

Dr. Marcy Zipke, Dr. Susan Skawinski, Dr. Lynne Ryan, Dr. Kate Keating, and the ESE Department at Providence College, thank you for opening your doors to me, giving me valuable learning opportunities, and supporting me in every step of my training.

The parents, students and research assistants who participated in this dissertation, thank you for sharing part of your summer with me and devoting your absolute best effort to all we did. It was such a pleasure to watch you learn.

Melita Malley, thank you for your friendship and inspiration, and for always having an open door for me. My friend and colleague, Haerin Park, thank you for your incredible encouragement, calming words, and boundless optimism. My mentors, Dr. Allison Nannemann and Dr. Heidi Paisner-Roffman, thank you for being such amazing role models and friends. My cohort members and doctoral student colleagues (far too many to name individually), I am so appreciative we were able to travel this journey together.

My dear friends, Kerry Peters, Roseanne Trapani, Carol Cipollini, and Lori Araujo, your friendship and love through the years has meant so much. Thank you for the prayers, text messages, voice mails and sticky notes which kept me going.

My mom, Anna Compagnone, thank you for your love and grace. Thank you for your prayers and continuous faith in me.

My family: my grandparents, Salvatore and Mary Compagnone, my parents, Salvatore and Anna Compagnone, my sister, Sheri Compagnone, and my godparents, William and Deborah Signoriello, and Louis and Patricia DeFrances, thank you for your words of support and encouragement.

My children, Anthony T. Bateman, Jr., Jeanna Evelyn Bateman, Edward F. Dunn IV, Joseph Salvatore Edward Dunn, & Erik Dunn, the sacrifices you have made have not gone unnoticed. You are my whole world. Thank you for the beautiful pictures you drew, sticky notes you made, text messages you sent, and notes of encouragement you

wrote on my white board. I love you more than you will ever know, and I hope you truly believe that you can accomplish anything. There are no limits.

My husband, Edward F. Dunn III, this has been such a long and winding road, but you have remained committed to me and to this dream, giving me strength when I felt I had none. Thank you for your unwavering faith, unconditional love, and sense of humor. Thank you for believing in me every step of the way.

Table of Contents

List of Tables

Tables

List of Figures

Figures

This research was funded in part by the generous support of a Doctoral Fellowship by the Hammill Foundation on Disabilities

Chapter 1: Introduction

"Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society." – UNESCO

The Problem

The 2019 National Assessment of Education Progress (NAEP) findings indicate that only 34% of the nation's eighth graders are at or above proficiency in reading, and the average score for students with disabilities is under the basic skill level. This 39-point gap between the nation's average and the average for students with disabilities was consistent with the 2017 findings. Even more concerning is that the score for students with disabilities has remained mostly stagnant since 2009. Similarly, the nation's average reading score has remained 20 points below proficiency since 1992.

Despite these unacceptable trends in reading performance, in the United States most formal reading instruction occurs during elementary school and high school students are presumed to have already mastered the literacy skills necessary for academic achievement (Gorleweski, 2009). Unfortunately, many have not mastered those skills, particularly for readers who struggle, or as I prefer to say, striving readers (McCullough & Griffin, 2020; Reninger & Wilkinson, 2010) and students with high incidence disabilities (HI; attention deficit disorders, autism-level 1, emotional disorders, mild intellectual disability, and specific learning disability; Boyle & Scanlon, 2019). The difficult task of presenting motivating lessons to students while teaching them essential reading skills falls on teachers. Striving readers, including students with HI, will require

even greater supports than their peers to reach proficiency (Klingner et al., 2007).

Education in our country has been under siege for decades. *A Nation at Risk* (1983) cited grave flaws in our educational system and began the process towards standards-based learning and data-driven instruction. This ultimately created a whole new curriculum, which was derived from expert advice, observations, and analysis of data. Standardized tests began being used to measure students' progress. When the *Elementary and Secondary Education Act* (United States, 1965) was reauthorized as the *No Child Left Behind Act* (2001), school districts and ultimately, teachers, were held accountable for student success. Virtually all students in a state were measured by the same standardized tests and held to the same high standards, yet test scores continued to show that students were not proficient.

As can be seen from recent NAEP scores (2019), most students in our schools today are still struggling with reading. National and international studies show that a significant number of adolescents do not adequately understand complex texts (Barth et al., 2016). Additionally, "many students with disabilities enter middle and high school lacking the foundational skills to meet grade-level standards" (Cook & Rao, 2018). Reading is a multi-faceted process and classroom curricula need to focus on reading instruction that meets the needs of all learners. Students with HI and striving readers require scaffolded, strategic instruction to be successful (Klingner et al., 2007; Scanlon et al., 2009).

Comprehension is comprised of multiple processes and there is research supporting various ways to approach each component (Klingner et al., 2007). Interventions containing multiple components were highlighted in the results from The

Reading for Understanding Initiative ([RfU] Pearson et al., 2020). The RfU was created by U.S. Department of Education in 2010 in response to the stagnant reading comprehension scores and funded research in this area. Groups of researchers joined to design engaging interventions which would support the comprehension needs of students K-12. A report compiled findings and revealed that multi-component interventions were most successful in increasing reading comprehension. Additionally, findings indicated the direct relationship between motivation, engagement, and reading which must not be overlooked regarding comprehension instruction (Pearson et al., 2020).

It is vital to provide a motivating and inclusive approach to literacy instruction which will engage readers. Often "typical approaches to literacy instruction take a deficit view of adolescents and their literacies" (Gutiérrez et al., 2009 in Frankel, 2017, p. 447). Pearson and colleagues (2020) posited that "successful reading experiences help students maintain long-term motivation and positive affect" (p. 245). Understanding why reading is failing for these students is equally important as teaching them strategies to help them become successful (Conradi et al., 2013; Frankel, 2017; Guthrie & Klauda, 2014). With that knowledge, engaging interventions can be designed that value students' current literacy practices while empowering them with comprehension strategies to be successful readers.

Improving reading comprehension for secondary students with HI and striving readers can be challenging. "Despite extensive exposure children have to narratives from an early age, children with poor reading comprehension appear to be less knowledgeable about how narratives work" (Oakhill et al., 2015, p. 90). Students need to understand the structure of a text to fully comprehend it. Students with disabilities and striving readers

commonly show little or no concept of text structure (Stetter & Hughes, 2010) and require explicit strategic reading instruction (Boyle & Scanlon, 2019).

Teaching story mapping has been found effective for helping students to comprehend the structure of texts and to improve their reading comprehension (Klingner et al., 2007; Oakhill et al., 2015; RAND, 2002). However, there is a need for greater research on story mapping for students with disabilities and striving readers, specifically at the secondary level, where the effects are still limited (Boon et al., 2015). Explicitly teaching the elements of a screenplay using a plot diagram, essentially a story map, may provide students a useful graphic representation of the narrative that builds their skills in mental imagery involved in comprehending text structure.

Despite the importance of using visualization to make meaning from text (deKoning & ver der Schoot, 2013; Klingner et al., 2007; Kocaarslan, 2016; Oakhill et. al., 2015; Parsons, 2006; Wang et al., 2015; Wilson, 2012) there are few studies on the effects of mental imagery training on reading comprehension for adolescent students who are striving readers, including those who have HI. This study will answer important questions on the usefulness of visualization and story mapping in reading comprehension instruction for this population and has the potential to contribute a novel intervention practice.

Statement of Purpose and Research Questions

The purpose of this study was to investigate an engaging, multi-component, researcher-designed intervention which includes story mapping and visualization. The intervention was designed to build on effective reading comprehension research using multiple components in an engaging and creative format. Additionally, this study will

address this gap in the research on the impact of visualization on reading comprehension, specifically for students with HI. It presents an engaging and unique approach through readers' identification of elements of a screenplay, first in movies and then in literature of increasing complexity, with gradually reduced visual supports.

The following research questions guided the study:

1. To what extent and in what ways does the screenplay intervention improve reading related learning outcomes?
    a. Do participating students, including students with HI and striving readers increase their reading comprehension?
    b. Do participating students, including students with HI and striving readers increase their mental imagery while reading?
    c. What reading-related outcomes do students experience from participating in the screenplay intervention?
2. In what ways and to what extent do students' reading identities and experiences (i.e. attitudes, behaviors) of reading change from participating in the screenplay intervention?
    a. How do students experience the screenplay intervention?
    b. Do students' attitudes toward reading, reading behaviors, and reading frequency change?
    c. What are students' reading identities and how, if at all, does this change?

Methods Overview

This dissertation research was conducted using an intervention in a mixed methods design (Creswell, 2015). The constructs of reading comprehension, mental imagery, motivation/engagement, and knowledge of story elements were measured. For the purposes of this study, reading comprehension was defined as the process of constructing meaning from text (Klingner et al., 2007). Mental imagery was defined as the "ability to process visual informal in the absence of a visual stimulus" (Wang et al., 2015, p. 436). Motivation and engagement in relation to reading were defined respectively as "beliefs, values, and goals related to reading [and] time, effort and persistence in reading activities" (Guthrie & Klauda, 2014).

The intervention and data collection occurred virtually via Zoom. The participants included seven students who were rising fifth and sixth graders throughout the United States. They were students with diagnosed disabilities and striving readers. The students were classified as readers at three levels of proficiency: Benchmark, At-Risk, and Intervention, based on Individualized Education Program data, standardized test scores and teacher reports. For the purpose of the study, students in the Benchmark category were reading at grade level. Students in the At-Risk category were reading up to one year below grade level and students in the Intervention category were reading more than one year below grade level. Three of the students were selected as case study participants.

The intervention took place daily, in eleven one-hour lessons, virtually. Two days each, were allotted for pre-testing and post-testing. The researcher delivered the intervention with support from three research assistants. In the intervention, the students worked in whole class and small group configurations to learn seven elements of a

screenplay. They transferred the skills they practiced in visualizing the elements from movies to simple reading texts, and then grade-level appropriate texts with diminishing visual supports.

Data were collected for reading comprehension using the Massachusetts Comprehensive Assessment System Reading Comprehension Test ([MCAS] Massachusetts Department of Education, 2019), DIBELS MAZE test ([MAZE] Good & Kaminski, 2002), student interviews and the research staff's observations in reflective journals. Data regarding the elements of a screenplay were collected using a researcher-designed Element Mastery Test and a plot diagram, which is similar to a story map. Data regarding visualization were collected using the Ability to Make Mental Images Questionnaire (Wyra et al., 2007) and Think-Alouds. Information on reading behaviors, reading attitudes, reading identities and motivation for reading was collected using student interviews, review of student work, research staff observations, and the Middle School Reading Attitude Survey (McKenna et al., 2012).

Trends for whole class data were reported. Case Studies highlighted how students learned the intervention and what reading-related outcomes and non-reading related outcomes transpired. Additionally, the case studies provided a greater level of detail to answer the second research question, on the impact of the intervention on students' reading motivation, reading identities, and reading behaviors. This study took place during the summer of 2020.

Contribution to the Field

Improving reading comprehension for secondary students with HI and striving readers can be challenging. The intervention I have designed and used in this study

explicitly taught the elements of a screenplay using a plot diagram, which is a novel approach to story mapping. It provided students a graphic representation of the narrative. A review of the literature shows there is a need for greater research on story mapping for students with disabilities, specifically at the secondary level (Boon et al., 2015). This study addressed this gap in the research on the impact of visualization on reading comprehension, specifically for students with HI. It presents a unique approach through the identification of elements of a screenplay, first in movies and then in literature of increasing complexity, with gradually reduced visual supports.

Organization of the Dissertation

The problem statement and rationale for the study are explained in this introductory chapter. Additionally, the research questions are outlined. Following, Chapter 2 highlights a review of relevant literature pursuant to the research questions. The theoretical framework for the study is discussed as well as current scholarship related to reading comprehension, reading motivation and engagement, and reader identity. Chapter 3 details the methodology, including participants' demographics and criteria for being chosen for the case studies, intervention, data collection, and data analysis procedures. Next, whole class findings are presented in Chapter 4 which answers Research Question 1 (RQ1). Chapter 5 presents the three case studies, and a cross-case analysis, which answers Research Question 2 (RQ2). Discussion of the findings and implications of the study follows in Chapter 6.

Chapter 2: Review of the Literature

"No reasonable proponent of decoding has ever equated decoding and reading, for we recognize that what is decoded must also be understood" (Gough & Tunmer, 1986, p. 7).

In this dissertation, I studied a researcher-created intervention which focused on increasing readers' visualization, the ability to make mental images, to improve reading comprehension. The intervention focused on identifying elements of text structure to help increase visualization, first within a movie and then within texts of increasing complexity. Additionally, the intervention encompassed effective teaching practices such as the use of discussion and think-alouds, and using story maps, or plot diagrams in identifying text structure. Further, this dissertation observed the reading behaviors, reading identities, motivation, and attitudes of adolescent readers, especially striving readers and students with HI.

Throughout the dissertation I use the term "striving reader" to describe learners that have difficulty with reading. This term replaces "struggling reader" which is commonly used in schools today (Dudley-Marling, 2001). While the terms essentially have the same definition, research has shown that "struggling reader" has a negative impact on reader identity and unfairly positions students within the classroom (Enriquez, 2011; Frankel, 2017; Frankel et al., 2015; Skerrett, 2012).

Theoretical Perspectives on Reading Comprehension

Transactional Theory

Rosenblatt (1969) asserted that the act of reading was not a simple, stimulus-response situation. She rejected the notion that the reader merely interacted with the text.

As she gave her class at Barnard College a poem to which they needed to respond, she analyzed interpretations, confirming this belief. She found "there was an active, trial-and-error tentative structuring of the responses elicited by the text, the building up of context which was modified or rejected as more and more of the text was deciphered" (p. 37). This type of active encounter in which the text and the reader engaged, was termed a "transaction" (Dewey and Bently, 1949 as cited in Rosenblatt, 1993). "Transaction" referred to a relationship in which "each element, instead of being fixed and predefined, conditions and is conditioned by the other" (as cited in Rosenblatt, 1993, p. 380). When the reader engaged with the text, the text changed for the reader, based on the reader's perceptions.

Transactional theory asserts that a reader draws upon their experiences, emotions, and attitudes in response to a text (Rosenblatt, 1982). Before readers can analyze the text, they need to become engaged and fully experience it with their senses. Rosenblatt stressed this was essential to textual meaning-making. Ricketts et al. (2013) concurred and stated that "in order to fully understand texts, a reader needs to go beyond what is explicitly stated to make a range of inferences… in some cases this involves integrating what is conveyed in the text with general knowledge" (p.808).

Transactional theory differs from traditional reader-response theory in that the reader determines the transaction between the stances within the text, depending on purpose for reading and focus of the reader's attention. Further, activities such as drawing, painting, acting and dance, can enhance the transaction, essentially giving form to what the reader has experienced within the text. "Reading is a two-way process involving a reader and a text at a particular time under particular circumstances"

(Rosenblatt, 1982, p. 268).

Rosenblatt (1982) posited that there are two stances at work when deciphering a text. The non-aesthetic or efferent stance was primarily concerned with analyzing and gathering information to be retained from the text. The aesthetic stance had a more intrinsic purpose, and included "the personal, the qualitative, kinesthetic, sensuous inner resonances of the words" (p. 271). These two stances were not a dichotomy but acted in a continuum. Further, Rosenblatt argued that both stances should be explicitly taught to students.

The aesthetic stance in the transactional process allows for the reader to fully experience the text with all senses. "[It] heightens awareness of the words as signs with particular visual and auditory characteristics *and* as symbols. What is lived through is felt constantly to be linked with the words" (Rosenblatt, 1982, p. 29). The process of creating these visual and auditory images from text is further described by dual coding theory (Paivio, 1986).

Dual Coding Theory

In order to comprehend text, a good reader must navigate its duality. According to Paivio's (1986) dual coding theory, there are two separate systems that were necessary for comprehension of a text. One system processes language and the other processes nonverbal objects and events. These systems are distinct and work independently or in tandem for the reader to effectively make meaning from the text (Sadoski & Paivio, 2001). Verbal representations involve words for objects or events. For example, "school" could invoke the words: pencil, paper, bell, desk. Non-verbal representations consist of sensory images that "to some extent retain the main perceptual features of whatever is

being represented" (DeKoning & van der Schoot, 2013 as cited in Sadoski & Paivio, 2001, p. 264). For example, the same concept of "school" could invoke a picture in your mind of your elementary school with associated objects like specific people or school supplies. The non-verbal representation not only includes the visual, although most research is conducted with the visual. "School" could also invoke other senses like feeling crowded in the halls, the smell of the cafeteria food or the sounds of students laughing or teachers yelling (Sadoski & Paivio, 2001).

There are three levels of processing cognitive tasks that occur within the dual coding theory. Representational processing transpires when you see a word or picture and it immediately activates the verbal or non-verbal system. Associative processing occurs when you see a word or picture and it immediately activates words or images related to the word or picture. Referential processing occurs when a word or picture is said, and it activates many references in both nonverbal and verbal systems together (Sadoski & Paivio, 2001).

Sadoski and Paivio (2001) contended that mental images played a key role during reading in organization and retrieval from memory. They described the role of visual imagery as a comprehension strategy using the conceptual peg hypothesis. The pegs served as hooks for the mental images and helped with remembering and organizing information. Further, the system that processed nonverbal representations was responsible for creating and maintaining mental imagery, which was crucial for the reader to fully experience the text (Rosenblatt, 1982).

Researchers agree that a text with visuals can help all students better comprehend. The visuals act as a scaffold as readers create mental imagery. Students that have strong

comprehension skills are easily able to form mental imagery from reading the text. These images are quick to bring parts of the text together to form a complete understanding of the story (Oakhill et al., 2015; Sadoski & Paivio, 2001). Conversely, students who have weak comprehension skills, generally have difficulty with visualization. They have trouble creating gestalt images because their sensory processing from imagery is slow, which often results in fragmented images causing poor comprehension (Wang & Li, 2019).

Reading Comprehension Instruction

In the simple view of reading, the two main components of reading are decoding and comprehension (Gough & Tunmer, 1986). As the strands of these two separate processes are woven together, readers begin to make meaning of the words printed on the page. Early readers were thought to rely primarily on decoding to understand text. More experienced readers were expected to bring background to the text and to integrate this with the new knowledge learned to support further comprehension (Oakhill et al., 2015; RAND, 2002). Now we know that these processes are integrated at a much earlier age and "successful reading comprehension ultimately requires the coordination of an array of different kinds of skills and knowledge" (Pearson et al., 2020, p. 44). Thus, comprehension is a multi-faceted process (Klingner et al., 2007; National Reading Panel [NRP], 2000; Oakhill et al., 2015; RAND, 2002) in which readers interpret text by rapidly monitoring many concurrent elements (Klingner et al., 2007).

Irwin (1991, as cited in Klingner et al., 2007) described five basic comprehension processes: microprocesses, integrative processes, macroprocesses, elaborative processes, and metacognitive processes. Within these categories, processes and subskills are

articulated, respectively: chunking and micro-selection; understanding anaphora, understanding connectives, and inferences; organizing and summarizing; making predictions, prior-knowledge organization, mental imagery, higher-level thinking, and affective responses; and comprehension monitoring, study skills and selection of strategies. Delineation of these categories of processes and subskills helps to breakdown the complexity of comprehension. This delineation can also guide teachers to address each of these processes, which are used fluidly to construct meaning.

Teachers cannot assume students have adequate skills for comprehending text. Approximately 80% of students with learning disabilities exhibit difficulty in reading as the primary manifestation of their disability (National Joint Committee of Learning Disabilities [NJCLD], 2008). Explicitly teaching comprehension strategies is important for all learners, but especially striving readers and those with high incidence disabilities (HI; attention deficit disorders, autism requiring support, emotional disorders, mild intellectual disability, and specific learning disability; Boyle & Scanlon, 2019) that impact reading (Cooper et al., 2006; deKoning & van der Schoot, 2013; Klingner et al., 2007; NRP, 2000; RAND, 2002). Comprehension instruction should include strategies that enable students to access background knowledge, understand text structure, and self-monitor their reading (Crabtree et al., 2010; NRP, 2000; RAND, 2002). Additionally, using the gradual release of responsibility model (Pearson & Gallagher, 1983) is very effective in strategy instruction (Allington et al., 2009) and using graphic organizers, especially story maps, can significantly increase the ability of students with HI to comprehend (Grünke & Leidig, 2017; NRP, 2000).

Mental imagery as a tool to increase comprehension

Comprehension difficulties can limit students' abilities to experience reading as a sensory experience, create mental images, or visualize (DeKoning & ver der Schoot, 2013). Vivid mental imagery can significantly contribute to meaningful reader-text interaction (Boerma et al, 2016; Kocaarslan, 2016; Parsons, 2006; Wang et al., 2015; Wilson, 2012). Therefore, students with difficulties in comprehension can benefit from imagery training because it exposes them to a different way of integrating information in the text (Oakhill & Patel, 1991).

Many processes are involved in creating mental images from a text (Kraal et al., 2018). Kraal and colleagues studied 87 young readers in second grade and found that those with poor comprehension fell into two categories in regard to ability to create mental images from text: struggling elaborators and struggling paraphrasers. The authors found all students who struggle with comprehension have difficulty creating mental images and sustaining those images over time as they are reading. Struggling paraphrasers, broke the text into small pieces and the images are fragmented and dull. Struggling elaborators were able to give detailed images but they are inaccurate in regard to events in the story. While this study focused on students at the elementary level, these outcomes can help inform instruction at all levels.

Instructional approaches which focus on creating mental imagery while reading, has led to increased scores in reading comprehension (Joffe et al., 2007; Johnson-Glenberg, 2000; Lucariello et al., 2012). Even though all studies showed gains, not all were statistically significant, and they varied in the aspects of reading comprehension they measured. Johnson-Glenberg (2000) showed third through fifth graders who

completed small group visualization instruction made significant gains in eleven measures (i.e., question generation, predictions, explicit and implicit open-ended questions). A visualization training study with children with specific language impairments (SLI) found slightly different effects as the training significantly increased their scores on literal questions but not inferential (Joffe et al., 2007). The authors contended that students with SLI did make gains in inferential questions, but the gains were not significant. They suggested this could be the length of the study and students may have needed more practice in the imagery technique.

A similar study focused on visualization, used a researcher-created curriculum to teach mental imagery to urban third graders, where 89% of students qualified for free and reduced lunch (Lucariello et al., 2012). Findings were significant of visualization and making inferences compared to the control group. The grade level reading comprehension tests did not show any changes. Even though students were split evenly between control and experimental group according to reading ability classification levels including students with disabilities and "struggling readers," the authors did not report results for these subgroups. Still, the curriculum yielded positive results.

Imagery training has also been used with older students, to increase reading comprehension (Kavani & Amjadiparvar, 2018; Wang et al., 2015). Wang et al. (2015) discussed images that were constrained and not constrained. Constrained images included details of the text which allowed the reader to fully capture the central idea. Images that were not constrained did not hold these qualities and therefore did not lead the reader to full understanding of the text. Wang and colleagues examined the possibility of training English as a Foreign Language (EFL) students to develop constrained images of text and

posited this would lead to increased reading comprehension. Findings showed a significant, positive influence of constrained visual imagery training on reading for these adolescents and young adults. No published studies have reported on these image categories from Wang et al. for students with high incidence disabilities. There were no studies found at the middle school level, however findings from the previously mentioned studies can help to inform intervention design.

Story mapping

Another important reading comprehension strategy is identifying story grammar and using story maps. As students read, they need to develop the ability to connect ideas (Alturki, 2017). Story mapping is an explicit strategy that provides them with a graphic representation of the text structure and a structure for creating mental images of story elements (Parenti, 2016). When completing a map, students identify the main elements within the story, such as characters, setting, problem and solution. These elements are commonly referred to as story grammar, yet the specific named elements can vary (Gersten et al., 2001). Still, the overall concept is that the story grammar includes specific parts of the narrative text structure. Story maps, which graphically display the story grammar, enable students to reduce cognitive load and help make connections within text (O'Donnell et al., 2002). Alturki (2017) contends that story maps improve reading comprehension by allowing students to see the information sorted. Moreover, story maps can help students with HI and striving readers retain and clarify information leading to improvements in reading comprehension (Isikdogan & Kaigin, 2010; Omar & Bidin, 2015).

Studies show positive results for using story mapping as a reading comprehension

strategy at all age levels. Grünke et al. (2015) found that the use of story maps increased recall and comprehension of the text in elementary students aged eight to ten with specific learning disability. There was a significant difference between baseline and intervention mean scores. Further, students were successfully able to use the story map to identify story grammar after instruction was withdrawn at levels close to the intervention phase. A similar study, implementing a story mapping intervention, also showed success for elementary aged students between eight and eleven with learning disabilities and "struggling readers" (Alves et al., 2015). Students in this study also improved comprehension scores when using a story map from baseline to posttest. Additionally, scores at maintenance after two weeks, remained above baseline. Authors contended that explicit instruction of story grammar using a story map was necessary for student success.

Chavez et al. (2015) studied story mapping in a 5-week intervention with 6 students with ADHD. Authors measured reading comprehension and found that the mean test averages based on a reading basal score, improved 16% with the story mapping strategy. The authors assessed multiple constructs in this study besides comprehension, including on-task behavior and positive attitudes. Findings showed positive effects for all constructs. The researchers posited that the story mapping strategy is engaging because it actively requires students to identify story grammar and then write the specific parts of the narrative on the story map. This is beneficial for students with HI. The story map keeps the students focused and breaks the narrative into manageable parts.

At the secondary level, research on story mapping is sparse (Fore III et al., 2007). Praveen and Premelatha (2013) studied 70 students in middle school in a quasi-

experimental design comparing the use of graphic organizers to a control group. Findings revealed that students who used graphic organizers scored significantly higher pre-test to post-test. Additionally, authors measured specific types of comprehension questions. The post-test results revealed that students in the experimental group improved in all types when using story maps: identifying main idea, finding supporting details, dealing with vocabulary, fact and opinion, and making inferences. Thus, graphic organizers were an effective tool to help students navigate text structure.

Alturki (2017) studied sixth grade students with learning disabilities. Ultimately, students who used story mapping performed better on measures of reading comprehension than the control group. Grünke et al. (2013) found similar results at the middle school level. They used a multiple baseline design across subjects with six students between ten and fourteen years old with intellectual disabilities. Findings showed that students "dramatically increased the number of correct responses from M= 3.88 during baseline to M= 8.97 during intervention" (p. 61). Further, Boon and colleagues (2015) found that direct instruction on story mapping increased scores on reading comprehension for four eleventh graders.

Boon et al. (2015) reviewed story mapping instruction for secondary students with learning disabilities and found only twelve studies, two of which are within the last ten years, only one of those two recent studies had positive results (i.e., Crabtree et al., 2010). Stetter and Hughes (2011) used computer-assisted technology to teach story mapping to high school students with learning disabilities. In that study, results varied with some students not showing much difference between baseline and intervention phases. The authors posited that this could have been from lack of motivation.

Story mapping has also been called a schema-building technique. The map aids students in constructing mental images or creating a visual representation of story grammar. It encourages them to see the images in order to summarize and then categorize the parts of the story (Sorrell, 1990).

Screenplays and story mapping

Elements of a screenplay are similar to the story grammar elements within a text (Field, 2005). Field (2005) posited that a screenplay was simply a story told with pictures. “Screenplays have a basic linear structure that creates the form of the screenplay because it holds all the individual elements or pieces of the storyline in place” (Field, p. 37, 2005). Field (2005) further contended that the paradigm of dramatic structure in a screenplay, the three acts, was equivalent to the story parts of beginning, middle and end. Act one is the set-up of the story where the characters and setting are introduced. Act two becomes the confrontation where the problem is magnified and act three is where the problem is resolved.

Snyder (2005) agreed with Field (2005) regarding the importance of structure within a screenplay and contended that while the three-act structure was crucial to the structure of a screenplay, it was not enough to guide the writer in creating a quality product. He further divided Field’s (2005) three-act structure of a screenplay into 15 elements, five elements within each act (see Figure 1) and used the elements to help screenwriters engage their audience.

Figure 1

Elements Within a Screenplay

The elements that Snyder (2005) developed can also help readers. These elements allow readers to identify each component of text structure. Oakhill and colleagues (2015) contended that research links the identification of text structure even at an early age, to later increased reading comprehension ability. Further, they posited that research shows students with poor reading comprehension having decreased abilities in identifying text structure. Using story mapping to identify text structure, can help students with HI and striving readers to gain essential reading comprehension skills.

The aforementioned studies all used text to demonstrate story mapping and its positive effect on reading comprehension. This is consistent with the fact that it is common for teachers to use text to explain concepts (Meyer et al., 2014). However,

"learners' ability to perceive, interpret and understand information is dependent upon the media and methods through which it is presented" (Meyer et al., 2014, p. 54) and text can be difficult for students with disabilities. Movies, which are the products of screenplays, can be more engaging for students (Derado et al., 2010; McNeal et al., 2014). "When content is represented through two or more mediums of text, image, video, or audio, learners' strengths and interests in all of these media become potential avenues for success and engagement" (Meyer et al., 2014, p 54). Using movies as alternate means of representation to teach the elements of a screenplay can make the concept of story grammar more accessible for all learners ("UDL Guidelines" n.d.).

Discussion and Think-Alouds

Another valuable reading comprehension strategy is discussion, which is an important tool to evaluate understanding and encourage connections with text. In a text-processing comprehension study of 134 "struggling readers" in grades 6-8, researchers used text-based discussion (Barth et al., 2016). Even though the effects were not apparent in traditional standardized test scores, findings indicated small to moderate effects of the intervention on the skills that were explicitly modeled. Moreover, the discussion yielded significant gains on measures of vocabulary and main idea. Further, students and teachers reported a high level of engagement during the task. They enjoyed talking about the text.

Reading is a social process (Bloome, 1985; Ivey, 2014) and teachers should capitalize on this to engage students. As students get older, this sharing is a valuable interchange (Rosenblatt, 1982). Ivey (2014) contended that emphasizing the social side of reading did not minimize the other important aspects of strategic instruction and close reading. In her observations of a middle school classroom, she found that the students

were participating in a variety of social literacy activities such as literature circles (Daniels, 2002). Moreover, students were strategic in their reading. They were reading closely and discussing complex ideas. She concluded when students were allowed to participate in activities with the text that promoted social interaction, they were strategic and engaged.

Another engaging classroom instructional tool is a think-aloud. In a think-aloud, teachers can model as they describe what they are thinking when they read, which helps to spark class discussion. During the process teachers can demonstrate strategies and ask questions, modeling how they monitor their own comprehension while engaging with text. Students can practice strategies through think-alouds with peers (Bulut & Ertem, 2018). This can be a motivating opportunity for students, and it can allow them to practice so they can become proficient in this strategy which can help their comprehension when they read independently (Davey, 1983). In a study of struggling adolescent readers, findings showed that poor comprehenders were motivated by think-alouds (Davey, 1983). Students' attitudes toward reading and towards themselves as readers improved after practicing with this strategy.

Who are students as readers and what sustains their reading?

Reader Identity

Reading entails a combination of social, cultural, and cognitive activities which are inherently linked to values, practices and beliefs within the culture (Abodeeb-Gentile & Zawilinski, 2013; Bloome, 1983). Students' reader identities are entangled within these larger systems. The very nature of standardized testing and our reading instruction in schools today classifies students as above average, average, or below average readers.

These labels contribute to the formation of identities and play a role in literacy development both explicitly and implicitly. For the purpose of this study, the intervention is focused on striving readers. In order to understand the complexity of a striving reader, it is important to fully understand how this identity may impact the reader as a learner.

Readers' identities also contribute to reading as a social process and to ways that students may struggle to interact with different types of texts. Dudley-Marling (2001) coined the term "struggling reader" as an inoffensive way to describe students who are not reaching proficient standards, to identify their needs within the classroom. As he began to reflect on this label, he understood that in actuality, the term unfairly positioned students within the classroom (Enriquez, 2011; Frankel, 2017; Frankel et al., 2015; Skerrett, 2012). "To identify a student as a 'kind of reader in school (for example, "good reader", "avid reader", "struggling reader" invokes certain values about reading and learning in that context" (Enriquez, 2011, p. 92).

Consequently, it is the school that applies the "struggling reader" label to students, a consequence of standardized test scores or even teachers' personal beliefs about a student's background which are not school-based (Enriquez, 2011; Skerrett, 2012). Alvermann (2001) posited that as a culture we can label a student as a "struggling reader" because they do not succeed in the literacy practices that exist in schools. This is faulty as it does not value the holistic view of literacy as practices within and outside of the school environment. Students need to see the value in out-of-school literacy practices and know that in-school literacy practices are not difficult to acquire.

Negative reader identities can cause students to become disengaged in the classroom. This was the case for a study of two eighth-grade students within an urban

middle school (Enriquez, 2011). For one student, the author noted this lack of participation was not due to a disinterest with literacy activities but an "avoidance… because it served as a constant reminder of her exclusion from a classroom context that exalted good readers" (p. 99). The author labeled the students' reactions as "melancholia, a mourning of something denied" (p. 101) and suggested looking closely at out-of-school literacy practices which could have revealed a more inclusive picture of students' performance as readers, and impacted teacher perceptions. Further, these positive literacy experiences could have helped reconstruct their reader identities.

Reframing reader identity can be a challenging process. In a ninth-grade classroom study, Frankel (2017) found that practices in one classroom strengthened the identity of a student classified as a "poor reader." She posited that teachers need to examine the instructional practices within the classroom to be sure they are not privileging specific reader profiles. To help address classroom literacy practices, researchers in another study designed a program in partnership with a turnaround high school and studied practices which enabled and constrained the mentor-mentee positions (Frankel et al., 2018).

While the Frankel et al. study focused on the mentor-mentee relationship and practices that enabled and constrained it, the activities developed did foster positive relationships between the students in 10th and 12th grade around literacy practices. Students were able to choose the text and have a conversation with their mentor about it. Both the mentor and mentee found these activities engaging. Choice of activities was found to be a practice that enabled a positive mentor-mentee relationship and encouraged positive reader identity because of this relationship. Conversely, the authors found that

the institution itself shaped some of the practices as non-negotiable, which negatively affected the mentor-mentee relationship.

It is critical to understand the contexts in which students engage in literacy practices in school and consider this when analyzing and designing curriculum and instruction (Dudley-Marling, 2011; Frankel et al., 2015). Alvermann (2001) suggests that coaching students in their perceptions of themselves as a reader can help reposition the label of "struggling reader." Further, showing students that in school literacy practices relate to their out-of-school literacy practices can assist with increasing motivation and achievement. Skerrett (2012) researched a teacher's impact on "struggling reader" identity in a ninth-grade classroom using a case study design. The author observed the teacher guiding students to understand their current identity as a reader and reconstruct it as necessary. In summary, experiences of being labeled as a "struggling reader" can affect motivation and achievement and teachers need to be aware of the labels that are found in classrooms.

Motivation and Engagement

Most reading difficulties in middle and high school are due to challenges with comprehension, and it can be particularly challenging to engage adolescents in reading strategy instruction due to their low motivation (Deshler et al., 2007; Melekoglu, 2011). "Motivation is defined in terms of beliefs, values, needs and goals that individuals have" (Pitcher et al., 2007, p. 377). The goal of literacy instruction is to match tasks to these values, needs and goals to sustain motivation in learning (Pitcher et al., 2007).

Motivation can be defined as "the psychological force that enables action" (Touré-Tillery & Fishbach, 2014) however, there are many parts of which it is comprised.

There is outcome-focused motivation, which is directed towards the completion of a goal, and there is process-focused or intrinsic motivation which refers to the motivation derived from the process of goal pursuit and not the end goal itself (Touré-Tillery & Fishbach, 2014). Intrinsic motivation can be divided into three parts: enjoyment/interest, value, and perceived competence. Enjoyment and interest are inextricably intertwined with motivation. If students are enjoying what they read, they will read more often and develop stamina for reading over longer periods of time. Value is defined as being important to the reader. Students need to see value in what they read in order to be motivated to read it and sustain that motivation. Moreover, students need to have a perceived competence that they will be able to complete the literacy-related task. If students do not believe it is possible to achieve, they will not attempt it, or will not sustain effort.

These three parts of intrinsic motivation need to all be present for students to be successful readers (Guthrie & Klauda, 2014). Therefore, it is vitally important that teachers address each of these areas within the classroom. Research maintains there is a relationship between reading achievement and student attitudes/motivation (Conradi et al., 2013). Consequently, research shows that there is a decline in reading motivation as students progress through middle school (Gillet et al., 2012; Pitcher et al., 2007). Targeting intrinsic motivation within instruction can help to mediate the effects of this decline as students progress throughout school.

Capitalizing on students' intrinsic motivation will sustain their interest in literacy. Research identifies specific instructional practices that are more engaging to students in regard to reading, including activities that promote social interaction and student choice,

such as literature circles, silent sustained reading and discussion, and choosing books in literacy centers (Ford-Connors et al., 2015; Pitcher et al., 2007; UDL Guidelines). Further, if students see value in the literacy activities and how the activities are beneficial to them, they will be engaged (Guthrie & Klauda, 2014). Teachers can help with this by explicitly linking classroom activities with real-world experiences, making them authentic learning opportunities for students. Likewise, students need to be able to relate to the stories they are reading (Thomas & Stornaiulo, 2016). If students do not identify with the text, teachers need to be aware that students may re-story "identity [and] change the characters to reflect the diversity of the world" (Thomas & Stornaiulo, 2016, p. 321). Allowing students to create these personal text-to-self connections is another way to encourage engagement and motivate students to engage in literacy practices.

To understand why students are struggling with reading, we need to understand their feelings about it. Several researchers designed instruments to measure motivation to further this understanding. One study classified literacy activities by purpose and medium in terms of academic, recreational, digital, and print (Conradi et al., 2013). Authors contended that the classification system within the survey can assist teachers in identifying students' interests when designing instruction. Further, by capitalizing on the subscales in the survey, teachers created class profiles. These profiles led to creating differentiated activities by choice, thereby engaging more students.

Learning more about students' literacy interests and how they view themselves as readers is important for teachers to know. One study, designed to test a survey and interview tool, found that students did not see themselves as readers at all because they were only defining literacy in terms of academic context (Pitcher et al., 2007). The

researchers suggested this was because students did not see the same value in their out-of-school literacy activities. The survey and interview tool they designed allows teachers to give students a quick 10-minute survey about their literacy practices but also gives the option to follow up with a more in-depth conversational interview. The interview was designed to probe deeper into the survey questions and gain a better understanding about students' views of literacy.

Motivation and Reading Comprehension. Several researchers studied the connection between motivation and reading comprehension. Taboada et al. (2009) examined this relationship in a study of 205 fourth grade students and showed motivation was a factor which made a significant independent contribution to gains in reading comprehension. Further, findings showed that internal motivation was one of the significant and independent contributors to reading comprehension. Louick et al. (2016) also studied similar constructs among 112 struggling middle school readers. Findings showed that self-efficacy had a significant main effect on scores for initial reading comprehension tests. This means that students who had a greater perceived competence in their ability to read, achieved higher on initial reading comprehension scores (Louick et al., 2016, p. 266).

Not only is it essential to motivate students, but teachers need to explicitly teach them how to be strategic in such ways as using contextual cues and identifying text structure to promote comprehension (Deshler et al., 2007; Oakhill et al., 2015). These skills can assist students in both literal and inferential comprehension. It should be noted, however, that language will help readers construct and monitor understanding of text as well as play a role in answering comprehension questions. Students with HI and other

striving readers will need explicit instruction and guided practice in demonstrating understanding of a text (Boyle & Scanlon, 2019). Thus, developing strategic, motivating instruction will benefit striving adolescent readers.

Using Film as a Source of Motivation. Using screenplays and movies in reading-strategy instruction is engaging and may increase motivation and reading attitudes in students. In a freshman level college classroom, a study comparing the use of movies to traditional lecture found that movie viewing was the most engaging pedagogical practice (McNeal et al., 2014). Derado et al. (2010) used movies in a middle school mathematics classroom, encouraging students to visualize the relationship between two- and three-dimensional figures. During the unit on two- and three-dimensional figures students were divided into two groups. All students received the same instruction; however, the experimental group also saw a film which encouraged students to visualize these figures. Findings were positive, indicating 68% of students who saw the movie were able to identify more than two cross-sections of figures as opposed to 59% of students who did not see the movie. The authors posited that students who saw the movie had a visual model they could use. This model helped students create mental images of the cross-sections of figures on the assessment.

Film is a familiar and engaging format to students and can be a source of motivation during instruction (Diez et al., 2005). In a conversation about a recently released novel, adolescents will most likely have nothing to say but it is quite the opposite if asked about the latest movie released (Baines & Dial,1995). Discussion and curriculum around movies and film can be a source of motivation especially for striving readers (Diez et al., 2005). Discussion is a useful tool to help students articulate and

clarify ideas as well as make connections between texts, themselves and the world that can lead to a deeper understanding (Erdmann & Metzger, 2013). Movies use visuals to convey meaning. Even young viewers of movies can recognize the ways that the visual elements within movies carry information and shape responses (Domke et al., 2018). Therefore, older students may benefit from using movies as a motivating medium for increasing reading comprehension skills. "The more engaged and motivated our students, the more likely they are to succeed as literacy learners" (Lieberman & Looney, 2013, p.168).

Learning in a Virtual Environment

The COVID-19 pandemic which began in 2019, closed K-12 schools in many areas during the spring of 2020. The closures happened suddenly, and schools needed to find various methods to continue learning (Lake & Dussault, 2020). Distance learning, which included synchronous whole class instruction, was quite common. In these spaces, students attended live-lectures and interacted with other students in a virtual space (Dhawan, 2020). The school closures also amplified the pandemic for students and brought emotional challenges and academic complexities.

Teaching reading in virtual spaces was complicated, but not impossible. There were several factors that needed attention. Teachers needed to be mindful that students could find online teaching less engaging and may have had limited opportunities to practice skills effectively (Dhawan, 2020). Additionally, online classes may have large class sizes which can lead to less interaction and discussion among participants (Dwomoh, 2020).

Conversely, the online environment can have positive impacts for some students,

and many affordances have been reported across the pandemic, especially for students in special education. Primarily, the nature of online instruction places a heavy emphasis on technology. The technological resources of using a computer for word processing and assignment submission, or having a text easily read aloud, can be beneficial to learners (Dwomoh, 2020). Further, using engaging programs to reinforce skills, such as EdPuzzle or NearPod, which allow students to watch a video and answer questions while watching, can aid in comprehension monitoring. Online practice programs such as iReady and Achieve3000 can use engaging articles to help students practice passage comprehension skills at their reading level and then scaffold instruction according to their needs, thereby creating an individualized program. Other modes of instruction during synchronous classes can include the use of chat, where students who have difficulty participating can participate without anxiety. Further, using synchronous online instruction is very convenient for using slideshows, videos, and movies, which are engaging for students with reading difficulties (Elder-Hinshaw et al., 2006).

The Intervention

The screenplay intervention was designed based on the effectiveness of multi-component interventions which target reading comprehension (Boardman et al., 2015; Pearson et al., 2020; Wanzek et al., 2019). It comprised explicit instruction on mental imagery (De Koning & van der Schoot, 2013; Gorlewski, 2009; Kavani & Amjadiparvar, 2018; Klingner et al., 2007; Kocaarslan, 2016) and story mapping using elements of a screenplay similar to story grammar (Boon et al., 2015; Stetter & Hughes, 2010), two components which research has shown essential to increasing reading comprehension. To maintain student engagement, students learned the content first in movies, then children's

books, and finally short stories (Brenna, 2013; Derado et al., 2010; Diez et al., 2005; Domke et al., 2018; Pitcher et al., 2007; Wong, 2017). These media are shown to increase motivation, which then in turn can impact reading achievement (Guthrie & Klauda, 2014; Louick et al., 2016; McKenna et al., 2012; Melekoglu, 2011; Parenti, 2016; Troyer, 2017).

The intervention was divided into three instructional modules based on the three-act screenplay structure [review Figure 1 (Snyder, 2005)]. The model designed by Snyder (2005) was adapted to include a reduced number of elements (see Figure 2). Students met five days a week for three weeks to engage in the intervention. There were two days of pre-testing, eleven intervention lessons and two days of post-testing. Each lesson was approximately 60 minutes and included a warm-up, explicit instruction, and a wrap-up activity (see Appendix A).

Figure 2

Elements Contained in Each Instructional Module

Module	Element Name	Characteristics
1	Opening Scene	• Occurs within the first 5 minutes of the movie, very beginning of the story • May show characters, setting, tone
	Set-up	• Develops characters & setting • Defines protagonist and antagonist
	Catalyst	• An unexpected twist • Where the problem begins for the protagonist
2	Adventure	• Longest part of the movie • Movie trailer comes from this part • Details the journey of the protagonist as they try to solve the problem
	Low Point	• The protagonist is at their lowest • The protagonist will have to act to get out of the situation
3	Solution/Lesson	• The problems are solved with all characters • A lesson is learned
	Final Image	• The last scene • Can metaphorically represent the opening scene

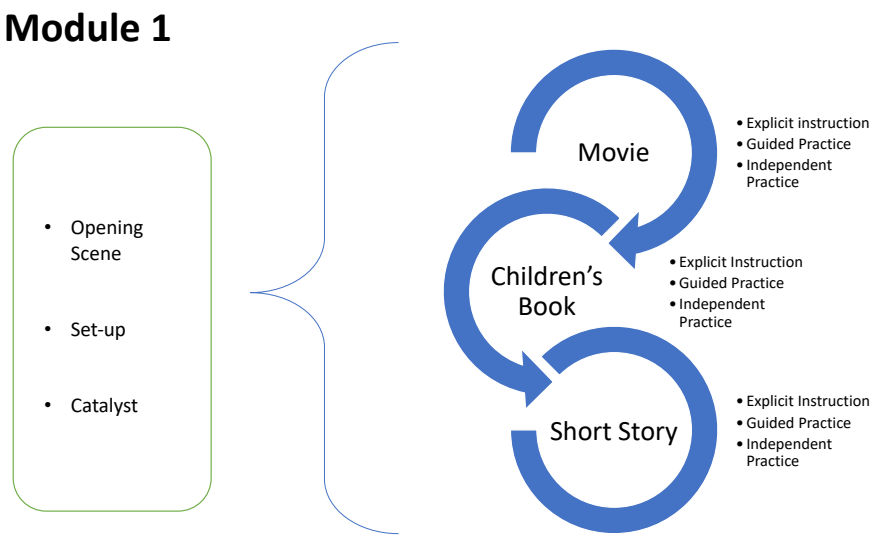
Students started to learn the elements within each module within a movie, a children's book, and then a short story (see Figure 3). Each instructional module contained opportunities for teacher modeling, guided practice, and independent practice, which follows the Guided Release of Responsibility Model (Pearson & Gallagher, 1983).

This instructional procedure is especially effective for striving readers and students with disabilities (Allington & Mc-Gill Franzen, 2009).

The researcher started each lesson with a warm-up activity to review or practice a skill taught, such as finding details within a text. A slideshow presentation which was displayed on the screen, contained graphics and text to support the explicit instruction of the lesson. Students also completed workbook activities designed to practice skills such as visualization, finding details, and story mapping. Students were assessed on the elements within one module before the researcher moved on to the next module.

Figure 3

Instructional Model Example



Conclusion

During the transactional reading process, Rosenblatt (1969) asserted that readers engage with and make meaning from the text. In using this aesthetic stance, the reader can create mental imagery to enhance the experience and deepen meaning (Rosenblatt, 1969). Dual coding theory highlights the two processes that come together to assist the reader in creating these images which is one part of the elaborative comprehension process that enables the reader to understand the text (Klingner et al., 2007). Concurrently, the reader must understand the structure of the text (Oakhill et al, 2015).

Students with HI and striving readers show little or no concept of text structure (Stetter & Hughes, 2010) and require explicit strategic reading instruction (Boyle & Scanlon, 2019). The intervention in this study combines multiple components such as mental imagery and story mapping, with the goal of increasing reading comprehension through explicit instruction. Although COVID-19 closed schools, the online learning environment afforded students opportunities to engage in discussion and learning with classmates from different areas of the United States. Students were also able to participate in online games and activities using various types of media to promote engagement, essential in reading comprehension (Dhawan, 2020; Dwomoh, 2020; Elder-Hinshaw et al., 2006).

Reading comprehension researchers are diligently trying to combine skills and provide strategic interventions, which are the best way to ensure student success in reading (Boyle & Scanlon, 2019). Still, national standardized test scores show that students with disabilities are significantly struggling in basic reading comprehension skills, even more so than peers (NAEP, 2019). Although studies have shown positive

results, there is a need for greater research on story mapping for students with disabilities, specifically at the secondary level. Correspondingly, despite the importance of using visualization to make meaning from text (deKoning & ver der Schoot, 2013; Klingner et al., 2007; Kocaarslan, 2016; Oakhill et. al., 2007; Parsons, 2006; Wang et al., 2015; Wilson, 2012) there are few studies on the effects of mental imagery training on reading comprehension for adolescent students who are striving readers including those who have HI.

Chapter 3: Methodology

This study was an exploration of an intervention designed to increase students' mental imagery while reading, by their recognizing the elements of a screenplay first through movies and then through texts of increasingly complexity. Increased mental imagery was theorized to enhance their reading comprehension and experiences. The study took place in an online format via Zoom with rising fifth and sixth graders, seven students total, each of whom was a striving reader. Although whole class data are reported, the study focused on multiple-case studies (Yin, 2018) and explored the effects of the intervention on students with HI and other striving readers. The following research questions guided the study:

1. To what extent and in what ways does the screenplay intervention improve reading related learning outcomes?
    a. Do participating students, including students with HI and striving readers increase their mental imagery while reading?
    b. Do participating students, including students with HI and striving readers increase their reading comprehension?
    c. What reading-related outcomes are experienced from participating in the screenplay intervention?
2. In what ways and to what extent do students' experiences (i.e., attitudes, behaviors) of reading change from participating in the screenplay intervention?
    a. How do students experience the screenplay intervention?

b. Do students' attitudes toward reading, their reading behaviors and reading frequency change?

A mixed methods design was ideally suited to answer the research questions and investigated how the intervention impacted student learning and experiences with reading.

Research Design

A pilot study of whether students with HI could learn the elements of a screenplay first through movies and then recognize the elements in a text for improved comprehension was conducted using a pre-post design, in the spring of 2019. That research informed the current study. The pilot study had ten participants with HI, ranging from age 15 to 19, in a suburban high school. The students participated while in their substantially separate English classroom and received instruction four to five times per week for 40 minutes, for approximately 4 weeks. Students were taught the same elements of a screenplay proposed in this current study and were successful in learning the elements and increasing the accuracy and quality of their responses to short answer reading comprehension questions.

The pilot study informed several decisions in regard to methodology for the present study. In the current study, it was determined that a mixed methods, intervention design (Creswell, 2015) would best answer the research questions and allow for replicability in order to test the intervention later with more participants. Trends are reported for the whole class. In addition to descriptively presenting pre-to-post class performance trends, multiple case studies were developed to provide a more comprehensive array of evidence that illustrates learning for students within each reading

achievement level (Yin, 2018). Specifically, three case studies were developed, representing readers from different reading achievement levels at baseline: at benchmark, at risk, and needs intervention. Cross-case analysis was applied to determine trends between cases.

This convergent intervention design allowed both qualitative and quantitative data to be collected concurrently (Creswell, 2015). The purpose of this design was to see a complete picture of how each learner benefitted from the intervention (Creswell, 2015). The quantitative analyses provided evidence of student learning in the form of scores representing growth. Various measures were used to collect quantitative data, including surveys and tests in reading comprehension.

The qualitative analyses helped in understanding how participants viewed their experience learning the intervention (Rossman & Rallis, 2017). The qualitative analysis was designed to include field notes, student interviews, and researchers' observations of student work. Both sources of data collection were chosen because they contributed to answering how well students learned the intervention as well as if they increased their quality and frequency of mental imagery and, in turn, increased reading comprehension. The data provided answers about their experiences during the learning process and changes in attitudes. Having both types of data provided a complete picture of learning the intervention, and its impacts from multiple angles (Creswell, 2015).

Participants

Initially, the researcher attempted to recruit a teacher who was willing to participate in the study with their class. The teacher was excited to learn new instructional techniques as well as present an engaging unit toward the end of the school

year when motivation can start to decline. Due to the COVID-19 pandemic, the originally planned teacher declined to participate. Consequently, the researcher emailed principals to seek another teacher and classroom. Additionally, an email was sent to schools of education in the northeast, and professional organizations (Council for Learning Disabilities, Hammill Institute of Disabilities), seeking teachers to participate. Further, the researcher utilized social media (Facebook), to seek teachers on her personal site as well as sites targeting teachers as members. There were no affirmative responses, which could have been due to the emergency and the sudden move to distance learning. Next, the researcher chose to recruit parents in order to personally deliver the intervention instruction.

Another recruitment flyer was designed and approved by the Institutional Review Board to recruit parents via Facebook. The researcher searched groups on Facebook with the search terms "special needs" and "parents of children with special needs." One hundred groups were found. As the researcher reviewed the search list, some groups were excluded because of geographical location. The study needed to include students in a specific grade level and the researcher planned to hold a class daily for three weeks. The geographical location, specifically time zones, could have hindered this. For this reason, the researcher excluded groups located outside the United States and in Mountain Standard Time or Pacific Standard Time. Additionally, the researcher selected groups from the search that specifically included members with children with special needs. Some of the groups excluded were comprised of members which were adults that had special needs or groups of parents with adult children with special needs.

Next, the researcher investigated each group on the search list to look for the

group administrator. The administrator of each group was contacted personally before a recruitment flyer was posted in the group. Based on the minimal exclusions, thirty-eight groups were selected to post the recruitment flyer. The researcher personally messaged each group administrator and asked to post the recruitment flyer. Ten groups responded positively. Some administrators requested that the researcher join the group before posting the flyer, to which the researcher agreed.

Once the flyer was posted, the researcher received thirty-one inquiries. The researcher then sent a digital recruitment survey to each respondent (Appendix B). Twenty people responded to the recruitment survey. The researcher analyzed the responses from the twenty prospective participants and chose the participants based on age and grade level. Nine participants were chosen because they were the greatest number of participants in the same grade/age level. These nine participants' parents were sent a welcome letter. Along with the welcome letter, the researcher sent an email which described the study in detail and asked the parents if they had any questions about the study. If parents had questions, they were encouraged to reach out to the researcher. If they did not have any questions, they were asked to complete the Parental Informed Consent form (Appendix C) which was sent to them via Qualtrics. Parents were also encouraged to share information about the study with their children.

One selected participant contacted the researcher and stated for personal reasons, they would not be able to participate in the study. Another selected participant did not respond to the welcome email nor two follow up emails and did not return the Parental Consent Form. The participants that were not selected for the study, were sent a letter thanking them for their desired participation.

After receiving the Parental Consent Form, the seven remaining parents and participants were invited to a Zoom meeting with the researcher and research assistants. During the meeting, the researcher introduced herself and the research assistants to the students. She then explained the study to the students using easy to understand language and followed the protocol outlined in the IRB forms regarding obtaining participant assent. The researcher ensured students understood the study and the ability to withdraw at any time, and asked students questions to gauge understanding during the meeting. Students answered the questions correctly and all participants' questions were answered during the meeting. The researcher then requested that parents assisted their children as they filled out the Student Assent Form (Appendix D) which was sent via Qualtrics.

The seven students who agreed to participate ranged in age from 10-11 years and were rising 5th-6th graders (see Table 1). Reading achievement levels at baseline were categorized based on standardized reading scores, IEP data, and informal reading assessments. For example, the standardized test to determine reading achievement in Massachusetts is the Massachusetts Comprehensive Assessment System ([MCAS] Massachusetts Department of Education, 2019). The MCAS divides student achievement into four categories: advanced, proficient, needs improvement, warning. The Advanced category indicates students demonstrate a "comprehensive and in-depth understanding" of reading; the Proficient category indicates students have "a solid understanding" of reading; the Needs Improvement category indicates students have "a partial understanding" of reading; the Warning category indicates students have a "minimal understanding" of reading (Massachusetts Department of Education, 2019). When the researcher placed participants into a reading achievement category, the researcher found

descriptors such as these within the respective standardized test category descriptions, the IEP or the informal reading testing results.

Table 1

Class Demographics

Characteristic	n
Race/Ethnicity	
Black	2
White/Non-Hispanic	3
Hispanic	1
Prefer not to say	1
Gender	
Female	4
Male	3
Age	
10	3
11	4
Grade	
5	1
6	6
Special Groups	
Economically Disadvantaged[a]	
English Language Learners[a]	
Students with Disabilities	5
Reading Achievement Level[b]	
Benchmark	2
At-Risk	3
Intervention	2

[a]Data not made available.
[b]Based on reading test results at baseline.

Students who participated in the intervention came from various states which included New York, Florida, Texas, Maryland, and Pennsylvania. Six students were rising sixth graders, one was a rising fifth grader, and were almost evenly divided between age 10 and 11. There was almost an even division between genders as well. Five students were diagnosed with disabilities, and all parents reported their child was struggling in reading. Students were almost evenly divided between achievement level categories. All students were struggling in reading comprehension as noted by their parents, teachers, or both.

All seven participants were initially grouped according to reading profile. Participants were placed into categories based on standardized reading test scores, Individual Education Program testing, and teacher formative testing results. For the purpose of this study, students in the Benchmark group, were at grade-level in reading as evidenced by standardized test scores, and/or informal reading assessments. Students in this group had difficulties in reading but their reading level when measured on formal and/or informal assessments was determined to be at grade level. Generally, students classified in the At-Risk category, were in danger of not meeting grade level benchmarks by the end of the school year (Pearson et al., 2020; Le Roux et al., 2020; Vaughn et al., 2018). For the purpose of this study, the researcher defined the at-risk category as students who read up to one-year below grade level as evidenced by standardized test scores and/or informal reading assessments. For the purpose of this study, students grouped in the Intervention category, were defined as reading more than one year below grade level as evidenced by standardized test scores.

Sophia[1]

Sophia was a ten-year-old, Hispanic female at the time of the study. She was a rising sixth grader who attended a public school in the Northeastern United States. Sophia had an IEP with a primary disability classification of Other Health Impairment (OHI) - Attention Deficit Hyperactivity Disorder (ADHD). The benchmark assessments at Sophia's school included the Dynamic Indicators of Basic Early Literacy Skills Next ([DIBELS] Good & Kaminski, 2002) which measures decoding ability and fluency and the Developmental Reading Assessment, Second Edition ([DRA2] Beaver & Carter, 2006) which measures decoding, fluency and comprehension. Sophia's most recent (2019-2020) DIBELS Next scores were consistent throughout the three testing periods for an accuracy score at the independent reading level for fifth grade (98%). This meant that Sophia decoded approximately 98% of the words correctly in the passages. However, her fluency scores were consistently below the expected benchmark for fifth grade. Specifically, her fall fluency score for words correct per minute (wcpm) placed her between the 25th-50th percentile for her grade level (111wcpm). Further, the spring score (103wcpm) placed her just above the 10th percentile for her grade level. This means that while Sophia read words correctly, she read slower than grade level expectations.

Sophia's DRA2 scores were somewhat contradictory to the DIBELS scores regarding grade level reading ability. The fall scores indicated testing at a level 38 in non-fiction. This level corresponded to an end of third grade level. On this level, Sophia received a score of 98% accuracy and 61% comprehension. The winter testing scores

[1] Pseudonyms were used for all participants.

indicated a testing level of 40 for fiction, which was appropriate for beginning fourth grade. On this test, Sophia received a score of 97% accuracy and 54% comprehension. Fluency scores were not reported for either test. These scores indicated that Sophia's instructional level was at least one year below grade level. Reading experts would have considered this in the at-risk category for reading difficulties (Pearson et al., 2020; LeRoux et al., 2020; Vaughn et al.,2018).

Sophia was receiving support for reading at school and her IEP indicated fluency as a goal to support comprehension as well as drawing inferences. Sophia's mother stated that even though her primary disability was OHI- ADHD, "her deficit truly is in reading" (S. Jones, personal communication, June 13, 2020). Her mother was pursuing further testing and suspected a learning disability in reading. She commented that "Sophia has always struggled with reading fluency. Her lack of fluency make comprehension difficult" (S. Jones, personal communication, June 24, 2020). This had led her mother to pair audiobooks with text to support comprehension.

Michael

Michael was an eleven-year-old African-American student at the time of the study. He was a rising sixth grader in the Southern United States. Michael began the 2019-2020 school year at a public school and then transferred to a private school in the same town. Michael received special education services through an IEP with a primary disability category of Autism Spectrum Disorder (ASD). Michael also had a secondary disability category, speech/language impairment. Within the category of speech/language impairment, his specific areas of needs were identified as pragmatic language and expressive language.

The scores reported on Michael's current IEP were from the 2018-2019 school year. Due to the COVID-19 emergency, the district had not administered standardized testing, as it usually did so in the spring of each year. The fourth-grade test scores reported here were from the Benchmark Assessment System ([BAS] Fountas & Pinnell, 2010), the State of Texas Assessment of Academic Readiness ([STARR], Texas Education Agency, 2019), and District Benchmark Assessments (DBA) which were unnamed.

The BAS testing yields a guided reading level based on a student's accuracy or decoding skills and comprehension skills. Guided reading is small group instruction based on students' needs. The guided reading levels based on the Fountas & Pinnell Guided Reading System are labeled A-Z+ for grades K-8. At the beginning of fourth grade, Michael was a level K. He remained consistently at a level K throughout the year. Typically, fourth graders start the year at a level Q and end the year at a level S. Level K correlates to a beginning second grade level (Fountas & Pinnell, 2017).

The STAAR testing, which primarily measures comprehension, was reported for the spring of 2019. Michael's reading scores were in the "Does Not Meet" category, which is the lowest category of the test. Scores indicated that he did at or better than 31% of fourth graders taking the test. Also, included in the standardized testing report were scores for District Benchmarks. These were unnamed except to be labeled "Reading." These District Benchmarks were administered in November of 2018 and Spring 2019. Michael's scores were in the "Not Met" category for both administrations, as he received scores in the 23rd percentile and 28th percentile respectively.

Despite Michael's challenges in reading based on standardized state and district

assessments and informal assessments, there were not reading goals on his IEP. Michael's mother described his reading struggles with comprehension, and explained that "he can read, but the reading comprehension is not to his level. He struggles with understanding what he reads" (M. Smith, personal communication, May 27, 2020). She continued to describe his present level of reading at approximately a third-grade level.

Callie

Callie was an eleven-year-old, White female at the time of the study. She was a rising sixth grader from the Southeastern United States who attended a public school. She did not receive special education services nor any accommodations in school via a 504 plan. Her mother explained that Callie's difficulties in reading were primarily in "vocabulary knowledge and comprehension."

Callie's school had not administered standardized assessments during the 2019-2020 school year, due to the COVID-19 emergency, because they were scheduled for the spring. The reports here were from Callie's fourth grade Florida Standards Assessment ([FSA] Florida Department of Education, 2020) administered in May of 2019, which measured reading comprehension, vocabulary, grammar, and spelling. The FSA reports scores by five categories of achievement: inadequate, below satisfactory, satisfactory, proficient and mastery. Callie's composite scaled score was 309 which correlated to an achievement level score of 2. This fell into the "below satisfactory" category, and indicated she needed substantial support during the following school year (Florida Department of Education, 2020).

Callie had not received her supply box at the beginning of the study. All the supply boxes were mailed together and sent with a receipt. When the researcher

investigated the issue, she was told that due to a hurricane and COVID, mail was delayed to Callie's hometown. The researcher sent Callie another box of supplies, however, it had not reached her in time to complete the MAZE pre-test, which was included in the box of supplies. For this reason, Callie did not have MAZE test results. The researcher emailed Callie's mother a copy of the study workbook, which she printed out for Callie. The researcher also mailed an additional box to Callie which she received during week 2 of the study. However, Callie was at a sleep-away camp during week 2 of the study. This had impacted her participation, as she attended all Zoom sessions and participated in a quiet space at a table within the camp. Still, Callie did not have the supply box until she returned from sleep-away camp during week 3.

Ben

Ben was a ten-year-old white male from the Northeastern United States at the time of the study. He was a rising sixth grader and attended a public school. Ben had a diagnosis of ADHD- inattentive subtype and received accommodations through a 504 plan. Although the 504 plan had not afforded special education services, it provided accommodations such as ensuring the teacher checked for understanding and provided organizational resources for Ben. Ben's disability caused him to have difficulty focusing in school which could have been challenging in any subject area.

Ben's school administered Measures of Academic Progress ([MAP] Northwest Evaluation Association, 2015) tests several times a year. MAP tests are computerized adapted tests and are used to show growth throughout the year. The MAP test in reading measures foundational skills, vocabulary, informational text comprehension, and literature comprehension. Ben's overall score for the MAP tests administered in fifth

grade, was 213, which placed him in the 69th percentile. This indicated that Ben's score was in the average category. Additionally, the score report indicated that this score compared with previous scores, showed typical growth. Ben's mother indicated that he had difficulty with fiction texts. She reported that "he struggles making inferences and relaying information from the text" (R. Johnson, personal communication, June 13, 2020).

John

John was a ten-year-old white male who was a rising fifth grader from the Northeastern United States at the time of the study. John attended a private special education school. His IEP listed his disability category as Multiple Disabilities, although John's mother mentioned that he was previously diagnosed with ASD, ADHD, Anxiety, and Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections (PANDAS). John was placed in a substantially separate classroom and his school year was extended year-round.

Different tests were used for different students, due to the unique nature of their abilities, in order to have progress assessed and re-eligibility determined for special education services. John's school used standardized testing that was best used for evaluation on IEPs. John's last re-evaluation was in the spring of 2019 and test scores were reported from this date. On the test of Oral and Written Language Scales, Second Edition ([OWLS-II] Carrow-Woolfolk, 2011), John received a Standard Score of 69 in Listening Comprehension, a Standard Score of 65 in Oral Expression Scale, and a Standard Score of 65 on Oral Language Composite. The OWLS-II test of Listening Comprehension measures receptive language. The test of Oral Expression Scale measures

expressive language. There are 5 descriptors on the OWLS-II which correspond to various score ranges. Both of John's scores on the OWLS-II corresponded to the range of < 70 which was labeled deficient.

On the Comprehensive Test of Nonverbal Intelligence-2 ([CTONI-2] Hammill et al., 2009), John received a Full-Scale Composite IQ Score of 71. The CTONI-2 uses nonverbal formats to measure general intelligence. The mean standard score is 100 and the standard deviation is 15. This meant that John's score was greater than two standard deviations below the mean. The Kaufman Test of Educational Achievement, Third Edition ([KTEA-3] Kaufman & Kaufman, 2014) measures various academic skills. John received a Standard Score of 91 on Letter and Word Recognition. This corresponded to the descriptive category "Average." He received a Standard Score of 78 in Nonsense Word Decoding, which corresponded to the descriptive category "Low."

John's mother described his present performance in reading as "struggling with comprehension. His ADHD really impedes his ability to work. He reads [words] at a third-grade level and his comprehension is at a first-grade level." His IEP goals included work at a second-grade level and answering basic "who, what, where, when, why and how questions" (L. Hamel, personal communication, June 13, 2020).

The researcher administered pre-tests to John. During testing, it was evident that John had difficulty with expressive and receptive language as indicated in his IEP. During the MCAS reading comprehension test, the researcher read the multiple-choice questions and possible answers. John often responded that the last possible choice was the correct answer to the question and did so quickly after the choices were read. It was unclear if John genuinely thought this was the answer to the question, or if he just

repeated the last choice. Additionally, during the surveys which used Likert-type scales to answer, John had great difficulty understanding how to answer. Consequently, John's mother provided him with a visual representation of different faces and the researcher associated the faces with a number on the Likert-Scale. For example, the sad face indicated the lowest number on the scale. The face with no emotional expression, just a horizontal line for a mouth, indicated the middle number of the scale and the face with a large smile indicated the highest number on the scale. This meant that not all the numbers were used as choices for the student.

After reading John's IEP, the researcher knew that his disabilities were not consistent with high-incidence disabilities. Still, John was an active participant and enjoyed the intervention. The researcher believed that John would still benefit from interacting with the students within the classroom. John struggled throughout the intervention to learn the elements of a screenplay although, he made gains. Further, John's mother sat next to John during each session and offered John prompts as he responded to questions and participated.

John was assigned to Research Assistant C (RAC) for post-testing. RAC stated in her anecdotal notes about the testing, that "she wasn't sure how accurate the post-testing was because John's mother was helping him answer the questions". For all the reasons stated above, the researcher decided not to include John's data in the data analysis.

Amelia

Amelia was an eleven-year-old African American female who was a rising sixth grader at the time of the study. She attended a public school in the Southeastern United States. Amelia did not have a diagnosed disability. Her mother reported her reading

struggles and said, “last year she struggled with reading comprehension skills and has been working with a tutor to strengthen her literacy and comprehension skills” (E. Davidson, personal communication, May 28, 2020).

Amelia’s tutor assessed her using the Qualitative Reading Inventory-6 ([QRI-6] Leslie & Caldwell, 2017). The QRI-6 is an informal reading inventory which can give teachers an accuracy and comprehension score to approximate an instructional reading level for each student. Amelia was tested at the 6th grade level in June of 2020. She scored at the instructional level for narrative text and frustration level for expository text. Even so, her retell score was 43% for narrative text. Her tutor noted that she “has difficulty retelling narrative and expository texts that she has read without prompting. She does not seem to remember details of what she reads to be able to retell the story or the information she has read” (L. Hanson, personal communication, August 6, 2020).

Laura

Laura was an eleven-year-old, rising sixth grader from the Northeastern United States. She attended a public school where she received special education services via an IEP for ADHD. Laura’s mother suspected that she had dyslexia and described her continued struggles in reading. “She has trouble decoding and deciphering words and trouble comprehending what she reads.”

Laura’s district used the Pennsylvania System of School Assessment ([PSSA] Pennsylvania Department of Education, 2020). The latest test results were reported from Spring 2019 in grade 4. Due to the COVID emergency, assessments were not given during her 5th grade year. On these most recent test results, Laura scored in the overall proficient range in reading with a score of 1015. The range for the proficient category

was 1000-1107. Laura's score was at the low end of the proficient range. Additionally, in the descriptive subcategories, Laura scored in the "Medium Strength Profile" for "Key Ideas and Details" and "Craft and Structure/Integration of Knowledge and Ideas". However, she scored in the "Low Strength Profile" for "Vocabulary Acquisition and Use". As mentioned, these scores were from the Spring 2019 administration of the PSSA. Due to rising concerns from her parents about her reading progress Laura had an additional evaluation in January of 2019. On the Feifer Assessment of Reading ([FAR] Feifer & Nader, 2015) her overall index Standard Score was 87, which placed her in the 19th percentile for her age. On the subtests measuring "Phonological Index," "Fluency Index" and Comprehension Index" she received Standard Scores of 89 which placed her in the 23rd percentile for her age. She had a relative strength in "Silent Reading Fluency," scoring in the 86th percentile and a relative weakness for "Nonsense Word Reading," scoring in the 8th percentile.

Laura's IEP listed accommodations and modifications to address challenges in reading, and included teaching text structures, using graphic organizers, and developing active reading strategies. The IEP also indicated at baseline that "Laura is scoring at level 4 (a year below grade level) with 80% average on comprehension questions and is not able to complete the retell at this time".

Research Staff

Due to the COVID-19 emergency, the researcher was unable to find a teacher to deliver the intervention. Thus, the researcher delivered the intervention and recruited three research assistants. The researcher is a white, female, certified teacher in elementary and special education as well as a certified reading specialist in grades K-12.

The researcher has over twenty years of experience in teaching in total, including ten years in middle school.

The research assistants were chosen from students at the college where the researcher worked. The researcher had each student in a class previously and knew their work habits. The three were undergraduate elementary and special education dual majors, two were in their junior year, one in her sophomore year. All were female, their ages ranged from 19 to 21. One identified as White, one identified as African American/Black and White, and one identified as Latino. Each had completed an introduction to special education course. The junior research assistants had completed a reading instructional methods course as part of their major requirements, none professed knowledge of ways to teach mental imagery or elements of screenplays. Once the research assistants agreed to work on the project, they completed the IRB training through CITI. Fidelity training is explained in the Validity and Reliability section.

Supplies

Students were sent a box of supplies before the intervention began. The supply box included a researcher-created workbook which corresponded to activities, crayons, colored pencils, pencils, pencil sharpener, and snacks. Within the supply box were two envelopes containing the MAZE (Good & Kaminski, 2002) tests. They were clearly marked “Pre-test” and “Post-test” and “DO NOT OPEN.” The envelopes were sealed with brightly colored masking tape, blue for pre-test and orange for post-test. The research assistants were also given supply boxes with a workbook and samples of the tests. Also, included in the supply box was a self-addressed, postage-paid envelope for the parents to return the workbook and MAZE tests at the conclusion of the study. The

supplies were mailed well in advance of the study commencement. However, Callie did not receive the box of supplies in time for the MAZE assessment pre-test. There was not enough time to send another box before the study began. Due to the mailing issue, Callie did not participate in the MAZE testing. Callie used plain sheets of paper for the first lesson's activities while a second box was sent. Callie received this box during the second week of the study. Participants' parents needed to only return the workbook and MAZE tests at the conclusion of the study. All workbooks and MAZE tests were returned.

Setting

The intervention took place via Zoom due to the COVID-19 emergency. The researcher surveyed parents to find a common time which all parties were available. It was decided that the intervention would take place 10:00am – 11:00am EST Monday through Friday for three weeks in July. Participants needed to be available for the entire three weeks. Parents were requested to have the students seated at a table/desk in a distraction-free room. On their work surface were the supplies they received in the supply package which included pencils, erasers, colored pencils, and crayons. The computer camera was placed in front of them, and the researcher requested that their camera be turned on.

Measures

The measurement tools provided comprehensive data to answer the research questions (see Table 2). Each measure was focused on a specific construct which corresponded to the research questions. Some measurement tools were administered in a digital format, others were given in a paper/pencil format. All measures were given to

students in a one-to-one Zoom session with the researcher or a research assistant. Most measurement tools were administered pre- and post- intervention (see Figure 4).

Table 2

Measurement Focus and Format

Focus	Measure	Format
Reading Comprehension	Massachusetts Comprehensive Assessment System Reading Test ([MCAS] Massachusetts Department of Elementary & Secondary Education, 2019)	Untimed test which includes a short narrative passage with multiple choice and open response (writing) questions
	DIBELS ([MAZE], Good & Kaminski, 2002)	3-minute timed test- students choose the most appropriate word to fill in the sentences of the story
Knowledge of Elements	Element Mastery Quiz	Researcher-created quiz with multiple choice questions to assess knowledge of the elements taught within the instructional module
	Plot Diagrams	Researcher-created tool that asks students to match the elements to the appropriate space on the diagram and find an example of the element within an accompanying short story
Motivation/Attitude	Middle School Reading Attitude Survey (McKenna et al., 2012)	Likert-type scale with 18 items that measure reading behaviors/attitudes
	Student interview	Semi-structured interview containing 29 researcher-created questions
Mental Imagery	Ability to make images questionnaire ([AMI] Wyra et al., 2007)	Likert-type scale with 12 questions measuring image quality, imaging frequency and imaging performance
	Think-Alouds	Students self-report (verbal) mental imagery they "see" as they listen to the story.

Figure 4

Measurement Timeline Within Each Instructional Module

	Pre-test	Module 1	Module 2	Module 3	Post-test
Reading Comprehension					
MCAS	X				X
MAZE	X				X
Knowledge of Elements					
Element Mastery Quiz		X (end)	X (end)	X (end)	
Plot Diagram	X				X
Motivation/Attitude					
Middle School Attitude Survey	X				X
Student Interview	X				X
Mental Imagery					
AMI	X				X
Think Alouds	X				X
Combination					
Field Notes	X	X	X	X	X
Review of Student Work					X

Quantitative Instruments

The reading comprehension tests were taken from the Massachusetts Comprehensive Assessment System tests for fifth grade or fourth grade depending on grade level completed in June of 2020 ([MCAS] Massachusetts Department of

Elementary & Secondary Education, 2019). This measure included a grade level, narrative reading passage of approximately 1500 words, which was read aloud to students. Students then answered literal and inferential multiple-choice and open response comprehension questions based on the passage. The research staff read the short story to the students so that decoding would not impede comprehension (Joffe et al., 2007; Oakhill & Patel, 1991). The passage was displayed on the screen so students were able to follow along as the passage was read. The questions were also read to the students and the passage was displayed on a shared screen in Zoom so that students could refer to it via a Google Form while responding to the questions. For the multiple-choice questions, the research staff read the questions and item response choices to the students, students orally responded with their answer choice. The research staff then clicked on the answer that corresponded to the letter which the student chose. For the open response questions, the research staff read the question to the student and then scribed the student's response on the screen as the student read along. The passages were sent to parents in advance so they could print them if they felt students did better with the printed versions.

The Dynamic Indicator of Basic Early Literacy Skills- 8th Edition MAZE test ([MAZE]; Good & Kaminski, 2002) measured reading comprehension at the sentence level. The test asked students to read a passage silently while filling in the blanks that are presented with the appropriate word choice. The test was timed for three minutes and the goal was to see how quickly students read and inserted the correct word for appropriate comprehension. This test was not available to administer online. As noted, participants received two envelopes with their supply boxes. Research assistants received the same envelopes. During the pre-test, the research assistants modeled which envelope to use.

After students were instructed to open the envelope, research assistants reviewed directions and timed the test for three minutes. At the end of the test, the research assistants instructed students to return the completed test to the envelope. Tests were mailed back, except for Callie's, and scored by the researcher according to the previously mentioned specifications.

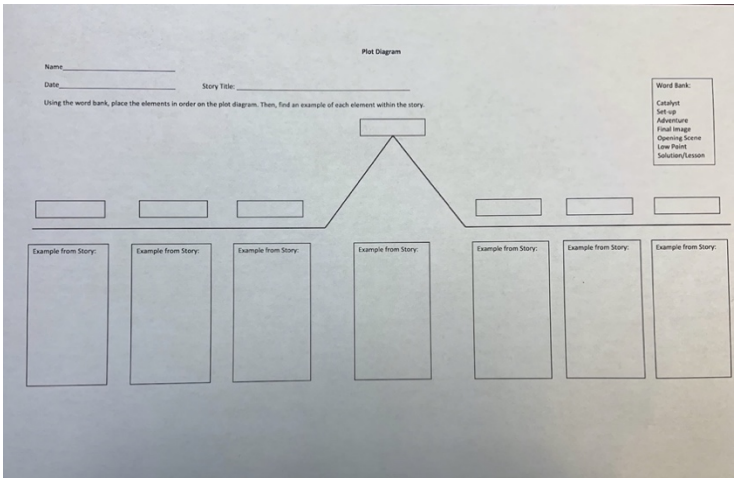
Students completed an Element Mastery Test at the end of each instructional module. This measure indicated whether students were able to define each of the elements. Students identified each element in a multiple-choice format. Each question told a description of the element and students chose from one of three choices, which element the sentence described. The researcher-created test was examined by three 'highly proficient' English teachers at the high school during the pilot study. Revisions were made based on feedback from the teachers, who gave final approval to the test. Students who scored below 100% for the module test, received additional instruction. For them, a review module was created and delivered by a research assistant in a separate scheduled one on one session. After the session, the research assistant repeated the Element Mastery Test with the student.

Blank Plot Diagrams (Figure 5), similar to story maps, were given pre-intervention and post-intervention and assessed knowledge of the 7 revised elements based on Snyder's (2005) 15 "beats," and assessed students' ability to find the elements within a short story. The elements assessed included: Opening Scene, Set-up, Catalyst, Adventure, Low-Point, Solution/Lesson and Final Image. The research staff read the students a grade level short story of approximately 500 words from DePaul University Center for Urban Education teacher resource website (Appendix E). Parents were sent the

story in advance and given the option to print it for their students to read along. Additionally, research assistants displayed the passage on the screen as they read to each student. The plot diagram was displayed on the screen using a PowerPoint slide background. Students saw the blank plot diagram and the research staff typed the students' responses directly into the plot diagram on the screen as it was shared with the student. Students chose from a list of the seven elements and placed them in the appropriate places along the plot diagram for the passage that was read to them. Students also found examples of the elements within the reading passages.

Figure 5

Plot Diagram



The Ability to Make Images Questionnaire ([AMI]; Wyra et al., 2007) measured students' self-reported ability to create mental imagery as they read. This Likert-type survey had 12 questions in three different categories: image quality, image frequency and image performance (see Appendix F). Students self-reported using the Likert-type scale with options from "never" (1) to "always" (5). This survey was converted to a Google Form. Research staff displayed the form on the shared screen. They reviewed directions

and read the student each statement and the student indicated the response from 1 to 5. The research staff then clicked the response that corresponded with the students' verbal response to each statement.

The Middle School Reading Attitudes Survey- Adapted (McKenna et al., 2012). was used to self-report attitudes towards reading. In the original survey, there are 22 questions. The questions use a Likert-type scale ranging from 1 ("very bad") to 6 ("very good"). There are an even number of responses to avoid a neutral stance and there are no descriptors for scores of 2 to 5 (see Appendix G). The researcher shortened the survey and included 18 questions which measured reading attitudes/behaviors in four categories: Academic Digital Print, Academic Print, Recreational Print, and Recreational Digital Print. The survey was shortened due to time limitations during testing. This survey was converted to a Google Form and research assistants displayed the form on a shared screen and read statements to each student. The research assistant clicked on the number that matched the verbal response from the student.

Qualitative Instruments

The student interview was semi-structured and included 22 questions (see Appendix H). The research staff rephrased the questions listed if students did not understand them. The staff also asked additional and/or clarifying questions, but recorded verbatim any additional questions which were asked. The questions covered topics such as: thoughts about reading, reading behaviors, early reading behaviors, reading frequency, reading interest, reader identity, and perceived family beliefs about and behaviors around reading. The research staff interviewed students at pre-intervention. They gained a context of their thoughts about reading and learned about previous

experiences. Questions 1 through 8 provided reading history and perceived family importance about reading, they were asked only pre-intervention. Questions 9 through 16 provided information about reading behaviors, reading frequency, and reading interest, and included strategy use. These questions were asked pre-intervention and post-intervention. Questions 17 through 22 provided thoughts about the intervention experience and were asked only post-intervention. The interview was recorded and transcribed by the research staff at a later time.

Think-Alouds were used successfully in several intervention studies and evaluated students' strategy use (Botsas, 2017; Bulut & Ertem, 2018; Crabtree et al., 2010). The act of thinking through the strategy aloud, told the researcher what the participant was thinking. This measure was also effective to record mental imagery (Oakhill & Patel, 1991). The same story read to students as they completed the Plot Diagram, which consisted of approximately 500 words from DePaul University Center for Urban Education website, was used for the Think-Aloud measure. The story was read to the students and shared on the screen during the Zoom meeting. The research staff paused three times as they were reading the story. At each pause students were instructed to answer the question: "What did you see when you heard the story?" The pauses were timed to coincide with the 3-act structure of the narrative, which was the basis of the intervention. The researcher paused at the end of Act 1, which encompassed the Opening Scene, Set-up, and Catalyst. Another pause occurred at the end of Act 2, which included the Adventure and Low-Point. Finally, the third pause occurred at the end of the story, which included the Lesson/Solution and Final Image. As the assistants paused at these specific times, the researcher compared the visualization between the three acts. The

Think-Aloud responses were recorded before students completed the Plot Diagram. The responses were recorded and transcribed at a later time.

The researcher made field notes as she taught daily. The researcher also designed an observation protocol which was used by the research assistants daily as they observed the class (see Appendix I). The observation protocol organized evidence of reading comprehension, evidence of visualization, evidence of knowledge of the elements, evidence of reading attitudes, evidence of motivation/ reading behaviors and any other observations.

The researcher reviewed student work at the conclusion of the intervention when the workbooks were returned. Workbook pages provided further evidence of student learning. The researcher looked for evidence of student learning (e.g., correct responses on tasks), and student engagement (i.e., level of detail and to what degree the task was completed). The researcher also took note of any patterns or any observations that seemed of interest pursuant to the research questions. To help with analysis of student work, the researcher used an Analysis of Student Work Protocol (Appendix J) from the National School Reform Faculty (2015), which focused on what the work revealed about the student. The work protocol asked questions like: "What seems to be the student's thought process?" What tasks are the student trying to accomplish?"

Implementation Reliability

The researcher took several steps which ensured fidelity of implementation for the intervention. The research assistants met with the researcher and learned the intervention and study protocol. The researcher held three meetings with the research assistants, each two hours in duration. During the first meeting, the researcher described the study and the

measures which included administration of the measures. The second meeting familiarized the assistants with the observation protocol (Appendix I). The researcher explained each dimension of the protocol and gave examples of behaviors that fell under each category. The assistants studied the administration of the measures and observation protocol. During the final meeting, the researcher asked the assistants questions about the procedures and administration which ensured understanding.

Meetings were held every week during the study to discuss protocol. Again, the researcher asked the assistants questions throughout which ensured understanding. Every evening the researcher sent the research assistants a daily PowerPoint. The PowerPoint contained detailed information about the day's lesson. When the research assistants took students into breakout groups, the information about what they were to do within the breakout group was on the PowerPoint slides in the "Notes" section. The research assistants met with the researcher every morning before the daily lesson. She reviewed the PowerPoint slides, and answered any questions. Additionally, the researcher and assistants communicated via text message during the breakout groups if questions arose.

Procedures

After obtaining parental and student consent, the students completed the pre-intervention measures. The order of intervention and data collection procedures is displayed in Figure 2. Each assessment was given individually. Research assistants were assigned two students each at pre-test, the researcher also was assigned a student. Research assistant A (RAA) collected individual data from Amelia and Michael. Research assistant B (RAB) collected data from Laura and Callie. Research assistant C (RAC) collected data from Sophia and Ben. The researcher collected pre-test data from

John. The researcher and research assistants set up individual Zoom session and administered pre-tests. Students participated in two Zoom sessions for pre-testing. All research assistants were trained as noted in the Validity and Reliability section, on administration of pre- and post-testing procedures. There were written instructions provided along with this training so the research assistants could refer to directions during the administration.

In the Zoom session on day one, students completed the MCAS Reading Comprehension Test, the DIBELS Maze test (DIBELS; Good & Kaminski, 2002), and the Student Interview. Students were greeted in the session and the agenda of the assessments for the day was explained. During the MCAS Reading Comprehension test, the research staff shared their screen so that students saw the test as it was being read aloud. Research staff explained the directions of the test, and read verbatim the directions written on the test from the publisher. The research staff read the test aloud. After reading the passage, the test questions were displayed on the screen. The test questions were written in a Google Form. Research staff wrote the name of the student on the test form. Research staff read each test question aloud along with the answer choices to all the multiple-choice questions. Staff then checked the box of the chosen answer for the students. For the short answer questions, staff again read aloud the question. As students responded to the question, staff scribed the answers verbatim. Students were instructed that they may request at any time, that the research staff go back to the passage to re-read a section. None of the students asked for this.

After the MCAS was completed, students took the MAZE test. The MAZE test was mailed to students along with study supplies. The MAZE pre- test was in a large,

sealed yellow envelope. There was a strip of blue duct tape along the seal, to distinguish the pre-test from the post-test, which had orange duct tape. The pre-test envelope was clearly marked “Pre-Test: DO NOT OPEN ☺”. There was also a grade level indication on the top right corner of the envelope. This distinguished the rising sixth grade test from the rising fifth grade test in packing. All research staff also had copies of the yellow envelopes, labeled, and sealed the same way, so they could provide a visual to students when they gave instructions for the MAZE test.

Research staff asked students to bring the yellow envelope with blue tape to the screen, and they showed the example. Students found a pencil and opened the envelope. Students put their name and date on the test where indicated. Research staff read through the directions as stated in the teacher’s edition of the MAZE test and completed two practice examples with the student. Staff asked students if they had any questions about the procedure. Students were then timed for 3 minutes and completed the test. When the three minutes were finished, students placed the test back in the yellow envelope and sealed it if possible. Students then placed the test in the return envelope with the researcher’s name on it. Research staff had copies of these envelopes as well, and visually demonstrated for the students.

After both tests were completed, research staff started the interview. Research staff recorded the interview on Zoom and transcribed it or scribed answers verbatim on the interview sheet, and included any follow-up questions they asked. Research staff opened a google document with the student’s name on it and scribed the answers for the questions. Research staff were permitted to rephrase questions for students and asked follow-up questions if necessary. Staff recorded these questions on the interview

transcript. If the interview was transcribed, staff included the transcription in the same document file as the interview.

On the second day of testing, students completed the Middle School Reading Attitude Survey ([MSRAS] McKenna et al., 2012), the Ability to Make Images Questionnaire ([AMI], Wyra et al., 2007) and the Think-Aloud/Plot Diagram. Research staff had directions for Day 2 Assessments, similar to Day 1. These assessments were also completed via Zoom, individually with staff. Staff were assigned the same students to administer the assessments.

The surveys took approximately 10 to 15 minutes each. The AMI was completed first and was written on a Google Form. First, staff shared their screen with students. Next, they typed in the name of the student with whom they worked and read the directions. The AMI uses a Likert scale, and this was explained to students prior to starting the survey. Following, staff read each item and the student responded as staff marked the corresponding box on the screen. The staff defined any words that students had not understood during administration. The next survey completed was the MSRAS. This survey was administered in the same way as the AMI. The screen was shared, name put on the form, direction read, each item read, and staff checked off the appropriate box for the answer given by the student.

Following the surveys, students completed the Think-Aloud with Plot Diagram. For this measure, a short story was read aloud (Radner, 2008). The short story was part of a collection from DePaul University, organized by grade level (review Appendix E). Research staff shared their screen with students as the story was read aloud. The story was divided into three parts prior to administration. The three parts were equivalent to the

elements in each of the modules which would be taught during the intervention. After each part, the research staff stopped and asked: “What did you see when you heard the story?” The research staff then transcribed the students’ responses verbatim. Research staff were not allowed to ask qualifying or follow up questions. The same procedure was followed with each of the three stops. Following the last stop and answer to the question, students completed a Plot Diagram of the story. The Plot Diagram was displayed on the screen using a PowerPoint slide. Research staff filled in the answers for students. The staff first wrote the name of the student on the top of the slide. Then research staff read the names of the elements, which were listed on the right side of the slide. The elements were not listed in order. Staff asked students where to put each element name on the Plot Diagram. The students responded to staff and staff scribed the answer in the box indicated by the student. Following, students were instructed to give an example of each of the elements within the story which was just read aloud. Staff specifically asked: “Thinking back to the story, which part of the story would be the (stated element)?” Research staff did this for each element along the Plot Diagram in the order previously given by the students. The student said the answer aloud and staff scribed verbatim in the indicated box below the given element name (review Figure 5).

The assessments were divided as such which ensured students only listened to one story per day, to avoid confusion. Also, the assessments were divided so that each day’s tests were approximately one hour in length. Immediately following the two days of the pre-intervention measures, the intervention instruction began.

Prior to each day’s lesson, the researcher prepared the PowerPoint slides. The lesson plans were previously created and stored in a Google document. The researcher

checked off each component of the lesson plan as the slide show was created which ensured she had each component of the intervention within the lesson plan. The evening prior to the intervention, the researcher emailed the PowerPoint slides to the research assistants. The research assistants reviewed the slideshow. Every morning ½ hour before beginning class, the researcher met with the research assistants and reviewed the slides. The researcher delivered the instruction. The research assistants repeated directions and facilitated small group work in breakout rooms during the class. During the morning meeting, the researcher ensured the research assistants understood the lesson as she asked questions and clarified any misunderstandings.

Each lesson was approximately 60 minutes and included a warm-up, explicit instruction, and a wrap-up activity (review Appendix A). The intervention was divided into three instructional modules based on the three-act screenplay structure (Snyder, 2005). Each module addressed specific elements (review Figure 2). The first instructional module contained six lessons, which was the most for any module. This was because the first module also included getting-to-know-you activities and instruction about the three-act structure of a screenplay. Additionally, it was predictable that students would take longer to adjust to the format of the instruction, as they transferred the skills from the movie to the children's book and then the short story. The second and third modules included two and three lessons, respectively. These modules were much quicker because students were accustomed to the format of the intervention.

The daily lessons started with a welcome and a warm-up activity. The warm-up activities were engaging and designed to practice skills that students needed for the intervention. In one warm-up activity students looked at a complex picture on the screen

and wrote details of the picture. The activity was timed, and students were placed in small groups as teams. The competition was engaging, and students enjoyed the activities. In another warm-up activity students played a game of "I Spy". During this game, students gave a descriptive clue about an item on the screen they chose, and others searched the picture displayed, for the item.

Following the warm-up, the main part of the lesson often included direct instruction about the elements within the module. The researcher always used PowerPoint slides as she instructed and followed the Gradual Release of Responsibility Model (Pearson & Gallagher, 1983). The PowerPoint included words and images designed to directly teach students about the characteristics of each element. Next, the researcher related the element to something already known to the students, like *Finding Nemo* (Stanton & Unkrich, 2003), a familiar movie. Next, the researcher asked the students to practice by giving examples in other movies they knew. Finally, the researcher played *National Treasure* (Turteltaub et al., 2005), while students independently identified the elements within the movie. After the showing, the class discussed what they found.

The same types of activities occurred when the researcher moved to the elements within the children's book and again within a short story (Radner, 2005; Radner, 2015). Before moving on to text with less visual supports, the researcher informally assessed the students' progress through discussion and questioning. Students created story boards with the text and described what they visualized in the stories as they were read aloud. When students worked in small group activities previously mentioned, they were assigned to the same group with the same research assistant. Research assistants grew to know their small group and students felt comfortable within the small group.

On the final day of each instructional module, students completed an Element Mastery Test, which assessed whether they had learned each element in the module. The tests were multiple-choice, and if students received a proficiency score below 100%, they were placed in a review session. The sessions were scheduled privately with their usual research assistant. The researcher designed a review PowerPoint, which supported treatment fidelity in the review sessions. The elements were reviewed by the research staff for additional practice and the test was given again to those students until proficiency was attained.

In addition to these measures, field notes were taken during the intervention by the researcher and research assistants. An observation protocol guided each observation (review Appendix I). The protocol contained categories for evidence of reading comprehension, visualization, knowledge of the elements, reading attitudes, and motivation/reading behaviors for each student during the whole class instruction and small breakout groups. Research assistants noted any behavior relevant to the intervention. Additional behaviors not mentioned in previous categories were reported under "other".

At the conclusion of the third instructional module, post-intervention measures were given for two days. Although the measures were similar to the pre-intervention measures, they were not exactly the same. Different texts were used for the MCAS, MAZE and Think-Aloud. These tests were similar in the number of words in each as well as grade level and genre. These post-intervention measures included: the MCAS Reading Comprehension Test, the Middle School Reading Attitude Survey (McKenna et al., 2012), Think Aloud/Plot Diagram (Radner, 2010), the Student Interview, and the Ability

to Make Images Questionnaire (Wyra et al., 2007). Students followed the same schedule for administration of the post-measures that they did for pre-measures. Thus, the post-measures were also completed individually via Zoom for an hour per session. The students were placed in the same groups with the same research assistants for testing. One exception was that John was placed with RAA instead of the researcher. The reason for this was that John was placed with RAA for all small group activities during the intervention.

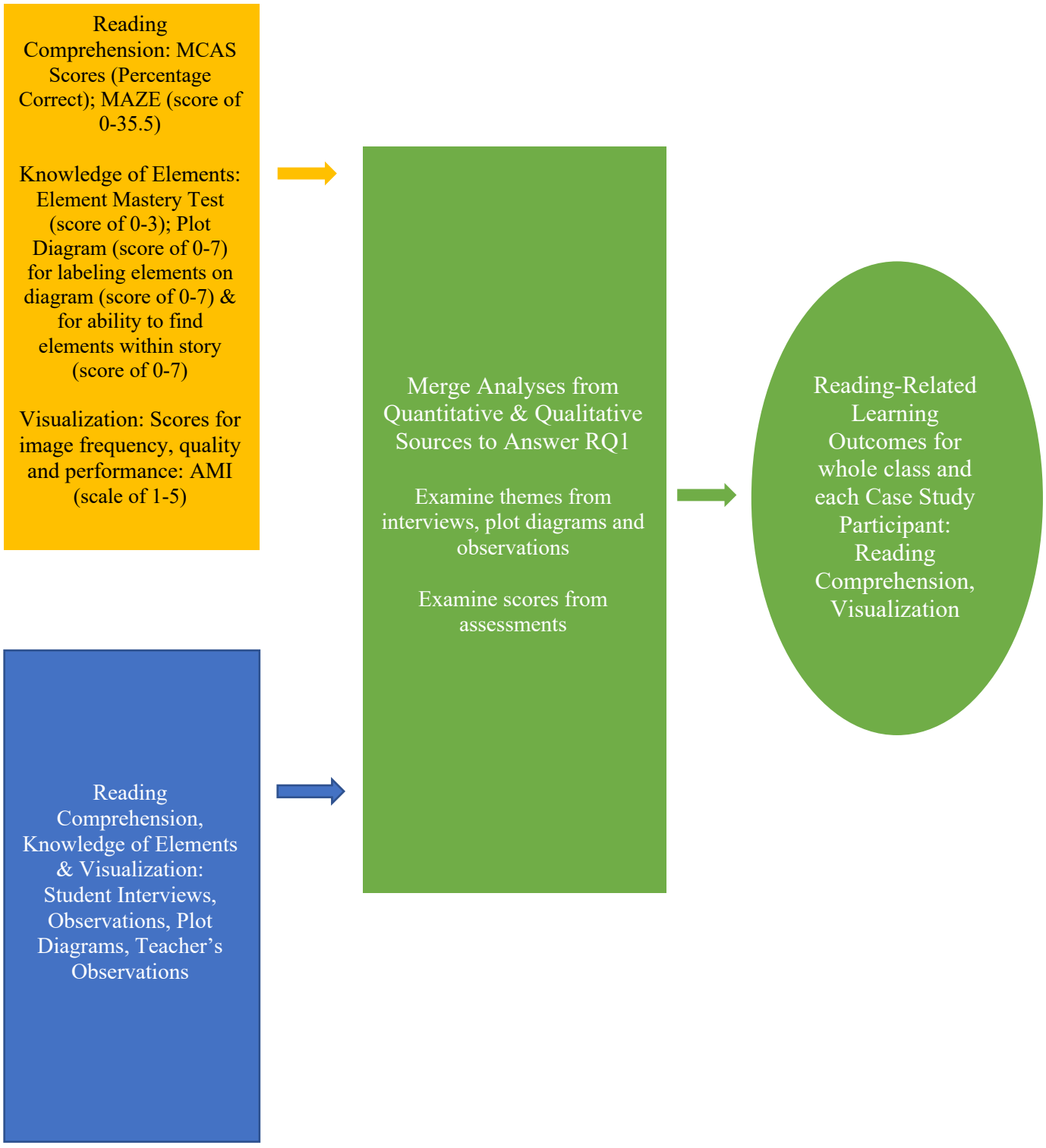
Data Analysis

This brief overview of data analysis for the research questions is followed by detailed explanations of the analyses of each measure. The analysis followed implementation using the convergent intervention research design. The data were analyzed separately for each research question as RQ1 was focused mostly on whole class trends and RQ2 was primarily focused on individual learning experiences as evidenced through the case studies.

For RQ1, the quantitative and qualitative data were analyzed separately. These data sources included the reading comprehension, visualization, and knowledge of elements measures. Once the data were scored, or coded in the case of the qualitative data, the results were merged, and further analyses took place together. The purpose of this further data analysis was to holistically answer RQ1 and determine how case study participants responded to the intervention in regard to reading-related outcomes (see Figure 6).

Figure 6

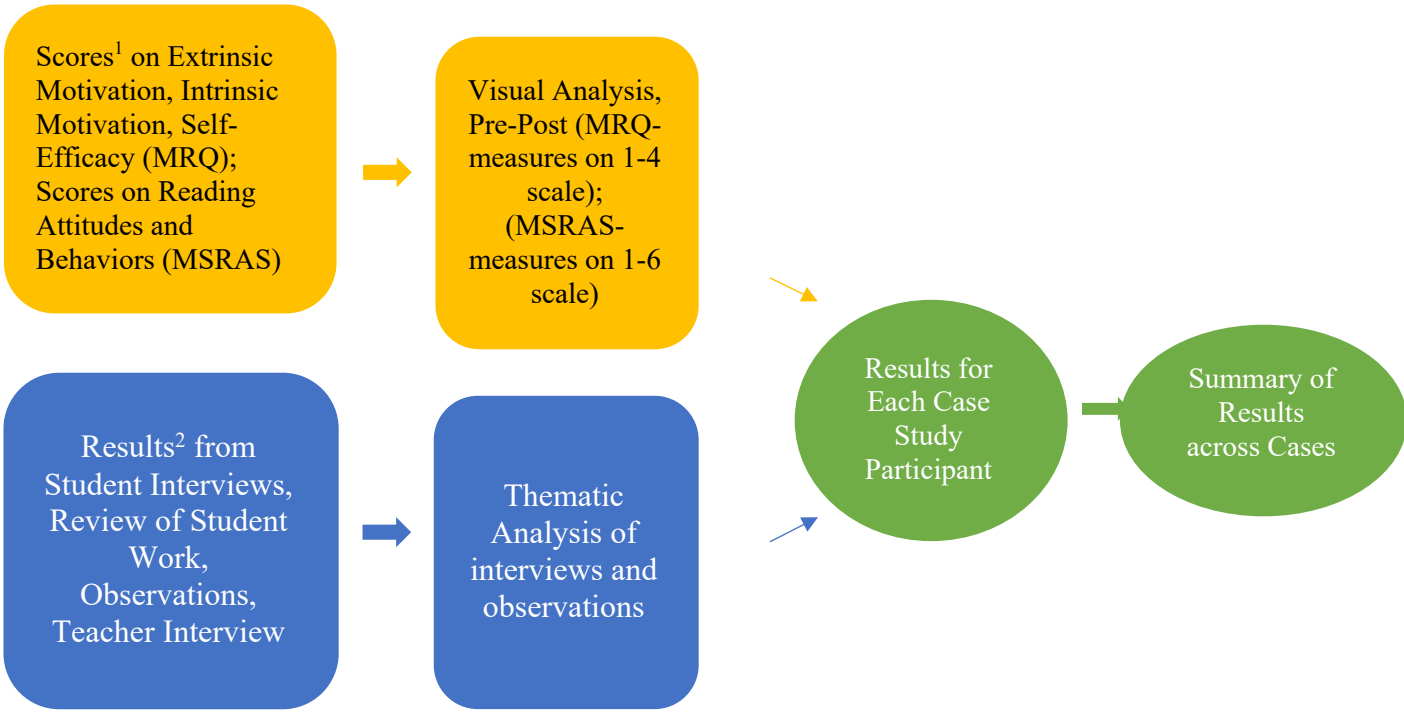
Convergent Data Analysis Question 1



For RQ2, the approach to data analysis was slightly different. The quantitative measures and qualitative measures were collected, scored, and analyzed separately. The data were then combined to describe how each case study participant responded to the intervention in regard to reading attitudes, reading motivation and reading behaviors (see Figure 7). Following, summary results across cases were reported.

Figure 7

Convergent Data Analysis Question 2



[1]Quanitative measures

[2]Qualitative measures

Reading comprehension

Students' reading comprehension were assessed with the grade-level reading comprehension MCAS tests and the MAZE test. The multiple choice MCAS test items were scored following a scoring guide from the MCAS test publisher and tallied for the number of correct multiple-choice answers, scored with a percentage (Massachusetts Department of Elementary and Secondary Education, 2019). There were nine multiple-choice questions associated with each passage. They were valued at approximately 11 points each, out of a possible 100 points. Each item included four response options. The open response questions from the MCAS were scored for accuracy based on 100 points. Accuracy was scored based on a rubric. Due to the study's small sample size, most statistical analyses were not appropriate. Instead, the pre-post MCAS data was visually displayed in tables for individual students, and observed for patterns. Average class scores with standard deviations were included for comparison purposes.

The MAZE test was scored following a scoring guide from the publisher which awards one point per correct answer (University of Oregon, 2020). The number of correct words was tallied based on a scoring guide from the publisher. According to the publisher's directions, the incorrect words were divided by two and then subtracted from the correct words which created the adjusted score of 0-35.5. This adjusted score was compared to a Benchmark Guide from the publisher which placed students into categories of: Negligible Risk, Minimal Risk, Some Risk and At Risk, based on the adjusted scores. The adjusted score, number of errors and number of words correct were all tallied. The scores were visually displayed in a table and observed for patterns. The mean adjusted score with standard deviation was also reported for the class.

Elements of A Screenplay

The Plot Diagrams and Element Mastery Tests were used to assess knowledge of the taught elements. Element Mastery Tests assessed formative knowledge of the taught elements within each module. Element Mastery Tests were comprised of three multiple-choice questions, each with three response options. The questions measured the definition of each element taught within that module. Tests were scored for a percentage of questions answered correctly. If students received a grade less than 100%, they attended a review session with a research assistant and re-took the test which ensured they knew the elements covered before moving on to new elements.

Plot Diagrams were used to assess knowledge of the elements from pre-intervention to post-intervention. Plot Diagrams also assessed reading comprehension and the sequence of the elements within a text. Additionally, Plot Diagrams assessed if students located the elements within a text, and how many details they used to describe the located elements. The Plot Diagrams were scored for accuracy in identifying the placement of the taught elements on the diagram with one point awarded for each correct placement. Further, the examples of the elements recalled from the short story were scored for relevancy (Shurr, 2012) and number of thought units, with one point awarded for each accurate thought unit (Bednar, 1991; Gambrell, 1982). Originally, thought units, developed by Hunt (1965) were designed to assess syntax within writing samples (Casey et al., 2016). However, researchers have since adapted the definition of thought units and fit them to the study purpose (McFarland & Shepard, 1995; Shurr, 2012). In the present study, a thought unit was defined as a descriptive, proper, quantitative, or sequential adjective, noun, adverb, or action verb. These parts of speech were chosen because they

are the most descriptive in the language which contributed to a more vivid description of the element. The same units were also used to score the Think-Aloud measure. Each part of speech was counted as one point. Results of the number of thought units contained within each element was tallied and displayed in a table to observe patterns. Average scores were also reported for the class.

Mental Imagery

Mental imagery was assessed by the Ability to Make Mental Images Questionnaire ([AMI] Wyra et al., 2007) and the Think-Aloud assessment. The AMI was a Likert-type scale from 1 to 5, which measured image frequency, image quality and image performance. The scores were divided into sub-scores based on the aforementioned categories and compiled into a table to observe patterns. The maximum subscale score for image frequency, quality and performance were 35, 10, and 15 respectively. Mean scores and standard deviations were calculated pre-and post-intervention. The Ability to Make Mental Images Questionnaire (Wyra et al., 2007) scores were analyzed pre-to-post to identify changes in mental imagery.

In the Think-Aloud measure, the story was read aloud to students, and the research assistants stopped three times and asked students "What did you see when you heard the story?" Research staff scribed the answers and the researcher counted individual thought units as defined above (Bednar 1991; Casey et al., 2016; Gambrell, 1982; Shurr, 2012). The thought units were counted for each stopping point as well as totaled for the entire passage. The scores were compiled in a table for visual analysis. Mean scores with standard deviations were calculated for the class at each stop and in total, pre-intervention and post-intervention. The scores were compiled in a table for visual analysis. The scores

pre-to-post showed if the intervention affected the students' abilities to create mental images as they read.

Motivation and Attitude

Motivation and attitude were assessed using the Middle School Attitude Survey (McKenna et al., 2012), student interviews, and observations. The Middle School Attitude Survey yields scores based on a Likert-type scale with a rating scale of one to six. The original survey was designed to include 21 items, somewhat evenly divided into four categories: Academic Digital, Academic Print, Recreational Print and Recreational Digital. For the purpose of this study and based on the limited time for pre-and post-testing, only four questions were used. Each question represented one category and focused on attitude towards the category. Survey responses were analyzed for pre-to post differences. A table of scores was compiled for visual analysis.

Interviews were administered pre- and post-intervention. Reading history questions were asked only pre-intervention. Questions about reading behaviors, frequency and mental imagery were asked pre- and post- intervention. Questions about the participant's experience of the intervention, including favorite parts, were only asked post-intervention.

As soon as the interview data were collected, they were pre-coded (Saldaña, 2016). The researcher underlined and circled as she read and highlighted significant quotes or passages that seemed to stand out. Criteria for this were phrases that were emphatic, or descriptive, or phrases that revealed the student's beliefs about reading. This process naturally led to In-Vivo coding. When data analysis began, the researcher used a simultaneous coding procedure.

First, in the simultaneous coding procedure, interviews were manually coded using In-Vivo coding widely used by Charmaz, and Glaser and Strauss (as cited in Saldaña, 2016). In-Vivo coding was used because it enabled the researcher to capture the participants' voices most authentically when they described their literacy histories, and experiences with the intervention (Saldaña & Omasta, 2016). Data were coded line by line and special attention was paid to pre-coding. Participant codes were always put in quotation marks, and "impacting nouns, action-oriented verbs, evocative vocabulary, clever or ironic phrases, similes or metaphors" were highlighted (Saldaña, 2016, p. 107). Words that were used often such as "I don't know," were coded as DK. These codes were noted to see if there was a pattern of this type of response/behavior and any change from pre-to-post intervention. In-Vivo codes were indexed by similar categories using a visual display (Miles & Huberman, 1994) which allowed the researcher to re-structure the codes as necessary throughout the analysis.

As the researcher moved from line-to-line coding, she chose the most relevant parts of the data for the study (Saldaña, 2016). These included types of conventions noted above as well as words or phrases from the participant that described the constructs that were the focus of the research questions: reading comprehension, elements of a screenplay, mental imagery, reading attitudes, and reading behaviors. Pertinent reading history data were also coded.

Next, the data were examined using a structural coding scheme. The researcher synthesized sections of data and determined categories. "Structural coding both codes and initially categorizes the data corpus to examine comparable segments' commonalities, differences, and relationships" (Saldaña, 2016, p. 98). The researcher again coded the

relevant data line by line in the interview transcript. These codes were topical, such as "reading history", "reading frequency", "reading attitude". These codes were also indexed using a visual display (Miles & Huberman, 1994) and the researcher re-structured them if necessary, to tell the most accurate story of the participants' experiences.

After the first cycle of coding was completed, a second cycle method was used to develop a thematic organization. This showcased any patterns which appeared (Saldaña, 2016). The first cycle data determined this organization, through the Structural Coding and the In-Vivo categories which were developed. Pattern categories conceptualized by Hatch (as cited in Saldaña, 2016), *similarity, difference, frequency, sequence, correspondence*, and *causation* were highlighted. The pattern categories led to theme development. The researcher read through the interviews many times until saturation occurred. Saturation, as defined by Birks and Mills (2015), and Urquhart (2013) was reached in each simultaneous cycle when no new codes occurred in the data.

Observation data was taken daily by the three research assistants. To ensure that observation data was taken effectively, the researcher developed an observation protocol (review Appendix I). The researcher analyzed this data similarly to the interview data, all observations were manually coded and analyzed in the same manner. First, the observations were coded using In-Vivo coding structure. In-Vivo coding, allowed for the participants' true voice to show. In some cases, research assistants quoted the students' responses. In other cases, the research assistants' voices had an interesting perspective on the intervention experience and needed to be noted. Codes which referred to participant experiences were categorized as such and codes referring to research assistants'

experiences or interpretations were categorized as such. Additionally, reflective memos (Birks et al., 2008; Dyson & Genishi, 2005) were written during coding and were used later as themes were developed. Similarly, to the interview analyses, the researcher moved through each observation methodically. Moving from student to student, the researcher coded student responses to the activities of each day. The coded responses were indexed, visually displayed, and organized into categories. This allowed the researcher to re-structure categories as necessary during the iterative process. The researcher read the observation notes several times until saturation occurred, where no new codes were presented (Birks & Mills, 2015; Urquhart, 2013)

This first coding cycle informed the second coding cycle. During the second cycle, patterns were observed among the indexed In-Vivo codes. Pattern categories from Hatch (as cited in Saldaña, 2016), *similarity, difference, frequency, sequence, correspondence*, and *causation* were used to sort.

Case Studies

Three case studies provided analytic portraits that illustrated learning for representative students (Dyson & Genishi, 2005). Students for the case studies represented different reading profiles: Intervention, At-Risk, and Benchmark as defined previously. All seven participants were initially grouped according to reading profile at the beginning of the study. Participants were placed into categories based on standardized reading test scores, Individual Education Program testing, and teacher formative testing results. For the purpose of this study, the two students in the Benchmark group were at grade-level in reading as evidenced by standardized test scores and/or informal reading assessments. The students had difficulties in reading, but their reading levels as measured

on formal and/or informal assessments were determined to be at grade level. Generally, students classified in the At-Risk category, were in danger of not meeting grade level benchmarks by the end of the school year (Pearson et al., 2020; Le Roux et al., 2020; Vaughn et al., 2018). For the purpose of this study, the researcher defined the at-risk category as students who read up to one-year below grade level as evidenced by standardized test scores and/or informal reading assessments. Three students fell into this category. For the purpose of this study, students grouped in the Intervention category, read more than one year below grade level as evidenced by standardized test scores. Two students fell into this category.

Michael and John were grouped in the "Intervention" category. John, however, was excluded from the data analysis in this study. John's educational placement was in a special education school and his disability diagnosis was listed as Multiple Disabilities. Thus, John was not placed in the high incidence disability category. Therefore, Michael was chosen as the representative student from the "Intervention" category.

Sophia, Callie, and Laura were all considered in the "At-Risk" category. Callie was excluded because she had not completed the MAZE assessment because the supply package had not arrived on time. This missing data would have impacted cross case comparison. Laura was excluded because of her lack of participation during the Zoom meetings. During the first few sessions, Laura had not turned her camera on. She often seemed to be distracted and hade not volunteered much information. The researcher believed that this may have impacted the assessment data. Therefore, Sophia, who had not presented any concerns, was chosen as the representative case in the "At-Risk" category.

Amelia and Ben were both categorized as “Benchmark”. While they were both on grade level as measured by standardized tests in their respective schools, Ben was diagnosed with ADHD and received accommodations via a 504 plan. Amelia had not received any modifications nor accommodations and was not diagnosed with a disability. Ben was ultimately chosen as the representative case because he participated more during the intervention. Choosing a student from this category allowed the researcher to explore the experiences of a student with a diagnosed disability, having difficulty in reading yet categorized as reading at grade level.

Individual cases. The unit of analysis in the case study research was each individual student (Miles & Huberman, 1994). The case analyses utilized a replication design, following the same data collection and analysis procedures for each case, which assured construct validity and overall consistency throughout the three cases (Yin, 2018). Comparative case analysis (Yin, 2018) highlighted trends among cases.

To begin case study analysis, a general inductive analytic strategy was used (Dyson & Genishi, 2005; Yin, 2018). The quantitative and qualitative data were thoroughly examined for each individual case. The researcher used a visual display (Miles & Huberman, 1994) and compiled quantitative results from MCAS and MAZE tests which measured reading comprehension. AMI and Think-Aloud scores which measured mental imagery, and Element Mastery Tests and Plot Diagrams which measured elements of a screenplay were also added to the display. The Middle School Attitude Reading Survey, which measured reading attitudes and behaviors, for each case study participant was included with the other scores. The test scores were displayed visually, and the researcher examined each individual test to see if there was any

additional, pertinent qualitative data.

The researcher used coding techniques previously mentioned to code the qualitative data in cycles. Results were initially displayed by the *reading comprehension, mental imagery, elements of a screenplay, and reading attitudes and behavior* categories, but the researcher re-structured the categories as necessary in order to tell the participant's experience of the intervention. The researcher then added the coded data from the interviews, and observations, as previously described, as well as any reflective memos compiled during data coding to the visual display. The reflective memos added to the interpretation of the data, which was useful as the cases were constructed (Birks et al., 2008; Dyson & Genishi, 2005). An inductive strategy supplemented the quantitative data with the qualitative data, "offering clues to the emergence of relevant or innovative concepts" (Yin, 2018, p. 169).

Within the inductive analytic strategy, the researcher found within-case patterns. As she reviewed the data for the selected student many times, "paying attention to any recurring ways of labeling, representing, or otherwise enacting differences" (Dyson & Genishi, 2005, p. 83) as each participant experienced the intervention. For example, within a case study, the researcher looked at the categories of reading comprehension and mental imagery. Were there any patterns as to how the student responded to each construct? Were there behavioral patterns which the student exhibited in multiple situations across different activities? How had these patterns impacted the student's experience of the intervention? These within-case patterns were highlighted to see "whether there appeared to be replicative relationships across case studies" (Yin, 2018, p. 196). When the cases were constructed, the researcher read through them multiple times,

looking for consistency in analysis.

Cross-case analysis. After within-case patterns were found, the researcher then looked across cases and determined similarities and differences between cases (Yin, 2018). Based on methodology outlined by Stake (2006), the researcher used the research questions and created a list of *a priori* topic codes: reading history and identity, reading attitudes, and reading behaviors, and intervention experience. Reading history and identity were defined as students' early experiences with literacy at home and in school. Reading attitudes and behaviors included reading preference and frequency as well as motivation and engagement. Intervention experience included reading skills and strategies exhibited or learned during the intervention. These included skills related to reading comprehension such as discussion, questioning, and think-aloud. It also included skills related to mental imagery and visualization and other topics related to reading such as writing. Next, the researcher re-read each case and used a worksheet (Appendix K), adapted from Stake (2006) as she identified the synopsis of each case, and its uniqueness as well as any situational constraints. Additionally, on the same worksheet, the researcher listed the themes by number and identified any examples of the theme and the prominence of those examples, within the case. If there were other themes that manifested during the within-case analysis, they were also listed on the worksheet.

The researcher took the worksheets from the three case studies and compiled them into another worksheet (Appendix L). This worksheet listed each theme and the prevalence of the theme within each case. It also listed the additional themes found within the cases combined. The researcher analyzed this worksheet for similarities, differences, and unanticipated insights (Braun & Clarke, 2006 as cited in Newell et al.,

2017). “Although any one Case will be similar to other Cases in many respects, it will have unusual features” (Stake, 2006, p. 57). It was these unusual features which guided the researcher in understanding the complexity of learning which transpired during the intervention. Competing explanations for themes across cases were also investigated (Yin, 2018). Cross-case analysis can find “competing stories for the same happening, not because some are ‘truth’ and some are not, but because participants are differently positioned in relationship to teaching and learning” (Dyson & Genishi, 2005, p. 111).

Data Analysis Summary

In summation, the data collected and analyzed in this study contributed to a mixed methods approach which answered the two interrelated research questions. The “pre-post” analyses documented immediate impacts of the intervention on the participants’ reading skills and attitudes. It was not expected that meaningful changes in a reader’s profile could be accomplished in a three-week period, instead these data documented whether the readers employed the skills taught and any initial attitudinal changes about reading that may be related as they used those skills. The elements skill data (e.g., the plot diagrams) documented that the students learned the elements and related skills which the researcher theorized contributed to changes in reading skills and attitudes. Finally, the case studies provided in-depth, holistic portrayals of how the students engaged the skills taught and how their reading processes, behaviors and attitudes related to those changes.

Validity and Reliability

In order to address the research quality, researchers need to address validity and reliability within the study. Further, researchers who use a mixed methods design have to

consider specific threats to validity unique to mixed methods (Creswell, 2015). Several steps were taken in the design process, which ensured this research was of good quality.

During the design, most instruments chosen for use were found in a literature review. These instruments were rigorously tested in previous research which ensured they were valid measures. Additionally, the instruments were used in this study for the same purposes for which they were tested in previous research. It should be noted that in some surveys, items were deleted due to time constraints. Further, there were several researcher-created measures.

One instrument created by the researcher was the Element Mastery Test. This test, as previously mentioned, was vetted by three highly qualified English teachers in the English Department at a local public high school. All teachers held master's degrees and had been teaching for over 15 years. The teachers read the questions on the Element Mastery Tests and gave feedback to the researcher about the wording. The researcher revised the tests and sent them back to the teachers for another review. The teachers then determined that the tests measured the desired constructs.

Another instrument that was created by the researcher, was the student interview questions. These questions were designed to gather information relative to the research questions. The questions were vetted by the dissertation chair and the methodologist on this committee, both experts in their respective fields. The professors offered feedback to the researcher and the interview questions were revised based on the feedback until judged as acceptable.

Quantitative and qualitative data were used for parallel constructs. For example, data were collected for reading comprehension quantitatively using MCAS and MAZE

testing and qualitatively using student interviews and observations. Data analysis was approached in a consistent manner which allowed for replication of the study. For the case studies, data were collected and analyzed following the same procedure for each student.

Researcher Positionality

Research can certainly be impacted by the positionality of the researcher. It is best to be forthcoming with any information which may impact the research process. I am a mother of four biological children and one stepchild. These children have significantly impacted my beliefs on the teaching of reading. One of my children has autism and the desire to begin this research began when he was younger.

I taught in a public middle school as a reading specialist for many years prior to entering the doctoral program. In my role as a reading specialist, I encountered many children with autism in the remedial reading program. These students had significant challenges with reading comprehension but had no difficulty with decoding. I worked hard to find strategies that helped the students meet these challenges. I feel strongly about using engaging strategies to help students achieve and I am passionate about this intervention because of the impact I feel it could have on students with disabilities, especially with students on the spectrum.

Chapter 4: Findings for Research Question 1

Findings are presented for whole class data and individual students chosen for the case studies. Data analysis was based on the convergent intervention design, due to qualitative and quantitative data being collected simultaneously (Creswell, 2015), and is presented for each research question separately. Question one data, presented in this chapter, show whole class immediate results of the intervention for reading comprehension, mental imagery, and other reading-related outcomes. Question two data, presented in the next chapter, show students' behaviors and attitudes toward reading throughout the intervention. Case study data are presented for three students: Ben, Sophia, and Michael. These students represent a diversity of reading profiles at baseline. Each case tells a different experience of the reading intervention (Dyson & Genishi, 2005). The first research question is:

1. To what extent and in what ways does the screenplay intervention improve reading related learning outcomes?
    a. Do participating students, including students with HI and striving readers increase their reading comprehension?
    b. Do participating students, including students with HI and striving readers increase their mental imagery while reading?
    c. What reading-related outcomes are experienced from participating in the screenplay intervention?

Reading Comprehension

Students showed varying results on the measures of reading comprehension (see Table 3). The MCAS is a standardized test measuring passage comprehension with multiple-choice and open response questions. Results showed that students answered more questions correctly pre-intervention to post-intervention. The test included a grade-level passage which was read aloud by research staff. Students then had to answer multiple-choice and open response comprehension questions. Comprehension questions included basic recall and higher-level thinking skills. All questions were read aloud to students to reduce dependence on decoding (Joffe et al., 2007; Oakhill & Patel, 1991). This assessment measured passage level comprehension and scores for multiple choice questions showed a mean increase from 59.67 at pre-test to 81.67 at post-test. Additionally, the standard deviation reduced from 22.72 to 11.36 from pre-test to post-test, respectively.

Table 3

Reading Comprehension Assessment Scores (MCAS)

	Multiple Choice		Open Response	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Group				
Mean	59.67	81.67	41.67	58.33
(sd)	(22.72)	(11.36)	(37.64)	(20.41)
Benchmark				
Ben	34.00	67.00	50.00	50.00
Amelia	34.00	78.00	0.0	50.00
At-Risk				
Laura	89.00	78.00	0.0	50.00
Callie	78.00	100.00	100.00	100.00
Sophia	56.00	89.00	50.00	50.00
Intervention				
Michael	67.00	78.00	50.00	50.00

Note. Total possible score is 100 in each category.

Ben and Amelia, both in the Benchmark group, increased their scores on the multiple-choice questions. Ben noted in his interview, however, that the intervention "did not help him much understand the story better." Conversely, Amelia reported in her interview, post-intervention, the "the intervention helped me understand stories better." In the At-Risk group, Laura, Callie, and Sophia displayed mixed results. Laura's score on the multiple-choice questions decreased from pre-test to post-test, even though the score was relatively high, 89.00 and 78.00 respectively. In her interview, Laura noted that the intervention helped her to understand the story better. Callie and Sophia both increased their scores on the multiple-choice questions. Callie noted in her interview, post-intervention, that the intervention "helped her to understand the story better because she can picture it better now." Sophia concurred with this statement, also noting that "it

help[ed] me put the images easier in my brain". Michael, part of the Intervention designation, also increase multiple-choice scores, pre-to-post. In his post-intervention interview, Michael explained that the intervention "helped me so much, it helped me learn and create stuff. It helped me understand the stories better."

The open response questions were relatively difficult for the class. Still, the mean score increased from 41.67 at pre-test to 58.33 at post-test. Standard deviation was also reduced from 37.64 at pre-test to 20.41 at post-test. The results for the Benchmark group were mixed. Ben's scores were unchanged pre- to post. Amelia increased her score from 0.0 at pre-test to 50.00 at post-test. The At-Risk group had mixed results as well. Laura increased her score from 0.0 at pre-test to 50.00 at post-test. The open response scores from Callie and Sophia were unchanged pre-to-post. Still, the scores would be considered average to above average in achievement level. Michael's scores, as part of the designated Intervention group, were similar to the At-Risk category in that there was no change pre-to-post.

The MCAS test is a standard measure of reading comprehension, although not ideal for students with disabilities as multiple-choice questions can be confusing and open response questions contain difficult language as well (Klingner et al., 2014). In order to get a fuller picture of the impacts of reading comprehension, the MAZE test and plot diagram were added to the measures.

The MAZE test from DIBELS measures sentence level comprehension. In this timed test, students are asked to read a grade-level passage and complete the sentences by choosing one of three options; for example: "Every day John takes a school (art, bus,

work) to go to school." The test is timed for three minutes. Scores are compiled by counting the number of items completed. Correct items earn one point. The number of incorrect items is divided by two and subtracted from the total correct items, which creates an adjusted score. The adjusted scores are used to determine Benchmark Goals set by the publisher for beginning, middle and end of year administrations. The end-of-year goals were used in determining where the scores compared to the Benchmark.

Overall, students who scored above 21.00 or higher on the MAZE test are considered to be at negligible or minimal risk. The publisher recommends that these students continue to receive core support as all students will in the general classroom setting. Students who scored between 18.00 and 21.00 are considered to be at some risk. The publisher recommends these students receive strategic support in the general classroom. This would indicate small group instruction targeted to improve specific needs. Students who scored below 17.50 should receive intensive support. These students are at risk for reading difficulties. When looking at our overall class, the mean score was in the intervention category, as designated by the publisher. This is not surprising, as reading comprehension difficulties were part of the criterion for acceptance to the study. Still, several students achieved within the "some risk" category on this measure.

The mean number of words students were able to choose correctly in three minutes, increased from 13.60 pre-intervention to 16.60 post intervention which led to an adjusted score increase from 12.50 pre-test to 15.20 post-test (see Table 4). The standard deviation was greater post-intervention in number of words correct, 5.94 to 6.43 and adjusted score, 5.39 to 6.96. The overall results of this measure fell within two categories:

students who increased their scores, and students who decreased their scores. Amelia and Sophia both substantially increased their scores from pre-intervention to post-intervention. Amelia had a baseline adjusted score of 11.50 and increased to 19.50. Sophia similarly had a baseline adjusted score of 11.00 and increased to 19.50. Both students increased the number of words they read correctly from pre-to-post intervention. Amelia had the same number of errors pre-to-post and Sophia's errors increased slightly, pre-to-post. Laura also increased her adjusted score pre-to-post, but it was a very slight increase of 0.50. Even still, Laura made three less errors during the post-test than the pre-test. This could have indicated an increase in comprehension monitoring or overall focus.

Table 4

MAZE Sentence Comprehension Timed Test

	Number of Words Correct		Number of Words Incorrect		Adjusted Score	
	Pre	Post	Pre	Post	Pre	Post
Group						
Mean	13.60	16.60	2.20	2.80	12.50	15.20
(sd)	(5.94)	(6.43)	(2.49)	(1.48)	(5.39)	(6.96)
Benchmark						
Ben	16.00	15.00	0.0	2.00	16.00	14.00
Amelia	13.00	21.00	3.00	3.00	11.50	19.50
At-Risk						
Laura	22.00	21.00	6.00	3.00	19.00	19.50
Callie						
Sophia	11.00	20.00	0.0	1.00	11.00	19.50
Intervention						
Michael	6.00	6.00	2.00	5.00	5.00	3.50

**Note. Publisher recommended core support only (21.00 or higher); strategic support recommended (18.00 or higher); intensive support recommended (17.50 or higher)*

Ben and Michael both had lower adjusted scores at post-test than pre-test. Ben's adjusted score at baseline was 16.00 and his score at post-test was 14.00. Further, Ben made two more errors at post-test. This could have been due to a lack of focus during testing. Michael had an adjusted score of 5.00 pre-test and 3.50 post-test. Even though this indicated a decreased in adjusted score. Michael read 8.00 words at pre-test and 11.00 words at post-test and his errors increased from 2.00 pre-test to 5.00 at post-test. Even though Ben's and Michael's scores decreased on this measure, they both increased on the MCAS multiple-choice measure. Additionally, their open response scores remained the same at pre-test and post-test. This could mean that for Ben and Michael, overall passage comprehension was impacted slightly more than sentence comprehension during the study.

Knowledge of Elements

The intervention was designed to apply knowledge of screenplay elements, based on Snyder (2005) to movies and ultimately, text. Students were taught and assessed on the seven elements: Opening Scene, Set-up, Catalyst, Adventure, Low Point, Lesson/Solution, and Final Image. These elements were broken up into three modules. At the end of each module, students took an Element Mastery Quiz. Students who did not receive a perfect score on the Element Mastery Quiz, needed to attend a review session with a research assistant and re-take the Element Mastery Quiz until they received 100%. All students only required one review session to score the needed 100% score in order to progress. The researcher designed a review session slide show which presented the information in the module using additional examples. The slide show was scripted so all

research staff read the same script to students as they progressed through the slides to review the material. This ensured fidelity to implementation and consistency in review among students.

In the first module, which included: Opening Scene, Set-up, and Catalyst, four out of six students achieved 100% on the Element Mastery Test (see Table 5). Amelia and Laura each had one incorrect answer on the first module test, and each attended a private review session with a research assistant. After completion of the review session, each student was given the same multiple-choice test and scored 100%. The incorrect answers on the first module test were not similar among participants.

Table 5

Element Mastery Quiz- First Attempt for Each Module

	Module 1	Module 2	Module 3
Group			
Mean	88.67	88.67	88.67
(sd)	(17.56)	(17.56)	(17.56)
Benchmark			
Ben	100.00	100.00	100.00
Amelia	66.00	100.00	66.00
At-Risk			
Laura	66.00	66.00	100.00
Callie	100.00	100.00	100.00
Sophia	100.00	100.00	100.00
Intervention			
Michael	100.00	66.00	66.00

Note. Highest possible score is 100.

In the second module, which included: Adventure and Low Point, four out of six students achieved 100% on the Element Mastery Test. Laura and Michael each had one

incorrect answer and attended a private review session with a research assistant. After the review session, each student was given the same module two test and achieved 100%. Similarly, during the third module, which included the Lesson/Solution and Final Image, four out of six students achieved 100% on the Element Mastery Test. Amelia and Michael attended a review session and subsequently achieved 100% on the re-take. Amelia, Laura, and Michael each had to re-take two Element Mastery Tests during the study. Students who had not achieved 100% proficiency during the first administration of the Element Mastery Tests, did not show any patterns relating to the module elements, or type of question on the test.

Pre-intervention and post-intervention, research staff read students a story, and asked them to complete a Plot Diagram. This diagram asked students to sequence the elements of a

screenplay as well as find an example of each element within the story. The average scores of sequencing elements and finding examples both increased from 4.33 pre-intervention to 7.00 post-intervention (see Table 6). Post-intervention, students were all able to locate the elements of a screenplay on the Plot Diagram. Additionally, most individual students increased their ability to locate examples of each element within a text. When scoring the examples of the elements within the text, some students were able to partially identify an example of the element within the text, so they received partial credit.

Table 6

Identification of Elements

	Sequencing on Plot Diagram		Finding Examples within Text	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Group				
Mean	4.33	7.00	2.08	5.33
(sd)	(2.34)	(0.0)	(1.63)	(1.72)
Benchmark				
Ben	2.00	7.00	3.00	7.00
Amelia	3.00	7.00	1.00	4.00
At-Risk				
Laura	7.00	7.00	4.00	6.50
Callie	7.00	7.00	3.00	7.00
Sophia	5.00	7.00	3.50	3.00
Intervention				
Michael	2.00	7.00	0.0	4.50

Note. Highest possible score in each category is 7.

Ben and Amelia, in the Benchmark group, both increased sequencing and ability to locate elements with a text. Ben achieved perfect scores on both measures at post-test. Amelia achieved a perfect score on sequencing and increased her ability to find examples within a text from 1.00 at pre-test to 4.00 at post-test. In the At-Risk group, Laura, and Callie both started with perfect scores in sequencing and maintained that knowledge through post-test. Sophia started with a score of 5.00 at pre-test and increased to 7.00 at post-test. The ability to locate examples of the elements within the text was more challenging. Laura and Callie both increased their scores from 4.00 to 6.50 and 3.00 to 7.00 respectively. Sophia's score slightly decreased from pre-to-post, 3.50 to 3.00. It is not clear why Sophia's scores decreased. It could have been a misunderstanding within the story, or it could have been because Sophia needed more practice with this skill

before it was assessed.

Michael, classified in the Intervention group, substantially increased his ability to sequence the elements of a screenplay on the Plot Diagram from 2.00 at pre-test to 7.00 at post-test. He also increased his ability to find examples of the elements within a text from 0.0 at pre-test to 4.50 at post-test. Although this indicates some misunderstanding of the elements within a text, it is still an increase.

Most students learned the elements within the module as evidenced by the achievement of 100% on the Element Mastery Tests. Those students who needed to retake the test, scored 100% after the review module. Additionally, students did very well sequencing elements on a Plot Diagram post-intervention. This showed that students were able to define and sequence the elements of a screenplay.

The Plot Diagram was also scored for the number of text-relevant details reported for the identification of each element within the text, at pre-test and post-test (McMaster et al., 2012; Shurr, 2012). Students were asked to find an example of each element within a text. The text was read aloud to the students and displayed on the screen for reference. Research staff scribed the answers for students. The same method used for counting the number of details within the think-aloud, was used for this assessment. The researcher counted each noun, action verb, adjective (descriptive, proper, quantitative, and sequential), and adverb as one detail. These details were called Thought Units. All students increased the number of details which they reported when identifying examples of the elements within a text (see Table 7). As was expected, scores increased pre-to-post as students learned the elements of a screenplay during the intervention. Prior to the

intervention, most students were not familiar with the language/definition of the elements. This is evidenced by low pre-test scores of element identification, which had an average of 4.33 out of 7.00. Post-test, all students were able to identify the elements of a screenplay as noted above.

Table 7

Number of Details when Identifying Examples of Elements Within Text

	Opening Scene		Set-up		Catalyst		Adventure		Low Point		Solution		Final Image		Total	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Group																
Mean (sd)	2.33 (4.32)	7.00 (5.62)	0.0	5.17 (4.02)	0.0	5.83 (3.87)	1.67 (2.66)	8.00 (3.52)	1.67 (2.66)	4.67 (3.56)	4.17 (4.92)	8.00 (5.40)	4.00 (6.03)	6.67 (3.88)	13.83 (13.60)	45.33 (23.78)
Benchmark																
Ben	0.0	7.00	0.0	4.00	0.0	5.00	0.0	14.00	0.0	4.00	10.00	16.00	0.0	9.00	10.00	59.00
Amelia	2.00	3.00	0.0	0.0	0.0	0.0	0.0	4.00	0.0	0.0	0.0	5.00	0.0	6.00	2.00	18.00
At-Risk																
Laura	1.00	5.00	0.0	7.00	0.0	7.00	4.00	10.00	6.00	7.00	0.0	10.00	1.00	4.00	12.00	50.00
Callie	0.0	18.00	0.0	12.00	0.0	12.00	0.0	7.00	4.00	10.00	10.00	10.00	9.00	13.00	23.00	82.00
Sophia	11.00	6.00	0.0	4.00	0.0	5.00	6.00	7.00	0.0	5.00	5.00	7.00	14.00	6.00	36.00	40.00
Intervention																
Michael	0.0	3.00	0.0	4.00	0.0	6.00	0.0	6.00	0.0	2.00	0.0	0.0	0.0	2.00	0.0	23.00

The Plot Diagram did show that all students, with the exception of Sophia were able to identify more elements within a text at post-test than pre-test (review Table 6). In this measure, the researcher counted the details which were reported in each element. The means revealed that all students increased the total number of details reported when describing the elements within the story.

In the Benchmark group, Ben, and Amelia both increased total details from pre-to-post testing. Ben's scores increased from 10.00 at pre-test to 59.00 at post-test as he was able to report at least four details about every element within the story. Conversely, Amelia still had great trouble identifying details within the text. Although her details did increase from 2.00 at pre-test to 18.00 at post-test, she was still unable to recall any details for the elements of: Set-up, Catalyst, and Low-Point.

In the At-Risk group, Laura, Callie, and Sophia all increased in total details. Interestingly, Laura and Callie had substantial increases, from 12.00 to 50.00 and 23.00 to 82.00, respectively, while Sophia only increased from 36.00 to 40.00 pre-to-post. Sophia did increase the number of details reported on the following elements: Set-up, Catalyst, Adventure, Low-Point and Solution; however, she decreased in the number of details reported for the Opening Scene and Final Image.

In the Intervention group, Michael substantially increased the total number of details reported of elements within a text from 0.0 at pre-test to 23.00 at post-test. He increased in each element category, with the most substantial increases in: Catalyst, and Adventure where he was at 0.0 for pre-test and 6.00 for post-test.

Mental Imagery

The students' ability to visualize the story elements was measured by the Ability to Make Images Questionnaire (AMI), a self-reported survey based on a Likert-type scale. The survey measured image frequency, image quality and image performance on a scale of one to five, least to most. In all three categories, mean scores were higher during pre-test than post-test (see Table 8). However, the differences between the mean scores pre- and post-were very small.

Table 8

Ability to Make Images Questionnaire

	Image Quality		Image Frequency		Image Performance		Total	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Group								
Mean	7.83	7.67	27.83	26.83	10.67	10.17	46.33	44.67
(sd)	(1.47)	(0.82)	(2.04)	(4.07)	(2.50)	(2.32)	(5.24)	(6.38)
Benchmark								
Ben	7.00	8.00	25.00	24.00	8.00	7.00	40.00	39.00
Amelia	6.00	7.00	26.00	27.00	8.00	9.00	40.00	43.00
At-Risk								
Laura	7.00	7.00	28.00	25.00	11.00	10.00	46.00	42.00
Callie	8.00	7.00	30.00	30.00	13.00	11.00	51.00	48.00
Sophia	9.00	8.00	28.00	33.00	14.00	14.00	51.00	56.00
Intervention								
Michael	10.00	8.00	30.00	22.00	10.00	10.00	50.00	40.00

Note. Total possible points: Image Quality= 10; Image Frequency= 35; Image Performance= 15; Total = 60

In the Benchmark group, Ben's and Amelia's scores increased slightly pre-to-post in image quality. Ben's scores slightly decreased in image frequency and image performance. Conversely, Amelia's scores slightly increased pre-to-post in all sub-

categories. Laura, Callie, and Sophia had a similar pattern. Each participant in this At-Risk group had a sub-category score which remained consistent pre-to-post. However, the categories which remained consistent were different for each student. Similarly, even though scores dropped pre-to-post in most sub-categories in this at-risk group, the scores only dropped minimally. Additionally, Sophia's score in image frequency, increased from 28.00 pre-test to 33.00 post-test. This was a large gain, compared to other participants' scores on this measure during the intervention. In the intervention group, Michael decreased his scores in both image quality and image frequency. The image frequency score dropped substantially pre-to-post. The reasons for this drop are unclear.

Additionally, visualization was measured by a think-aloud exercise. Research staff read the participants a story. The staff stopped in three places and asked the participants "What did you see when you heard the story?" The three stops coincided with the three modules of instruction. Each stop included the elements in the story addressed within that module. This is similar to a method used by Gambrell (1982) in a writing exercise measuring mental imagery. The researcher counted the thought units in each stop. In the present study, the definition of though unit included any text-relevant nouns, adjectives (descriptive, proper, quantitative, and sequential), action verbs, and adverbs. These parts of speech were chosen because each is able to add more description to the thought (McMaster et al., 2012).

After the research staff scribed the think-aloud answer, the research counted these words, giving one point to each of the previously mentioned parts of speech within the answer. The researcher avoided counting words twice, as is common practice in using

this method (McFarland & Shepard, 1995; Shurr, 2012). For example, if the student said "very, very bright," it would receive two points. Additionally, if the student said "more and more," it would receive one point. If words were used that were not relevant to the text, they were not counted.

Table 9

Thought Units Reported Pre-Post

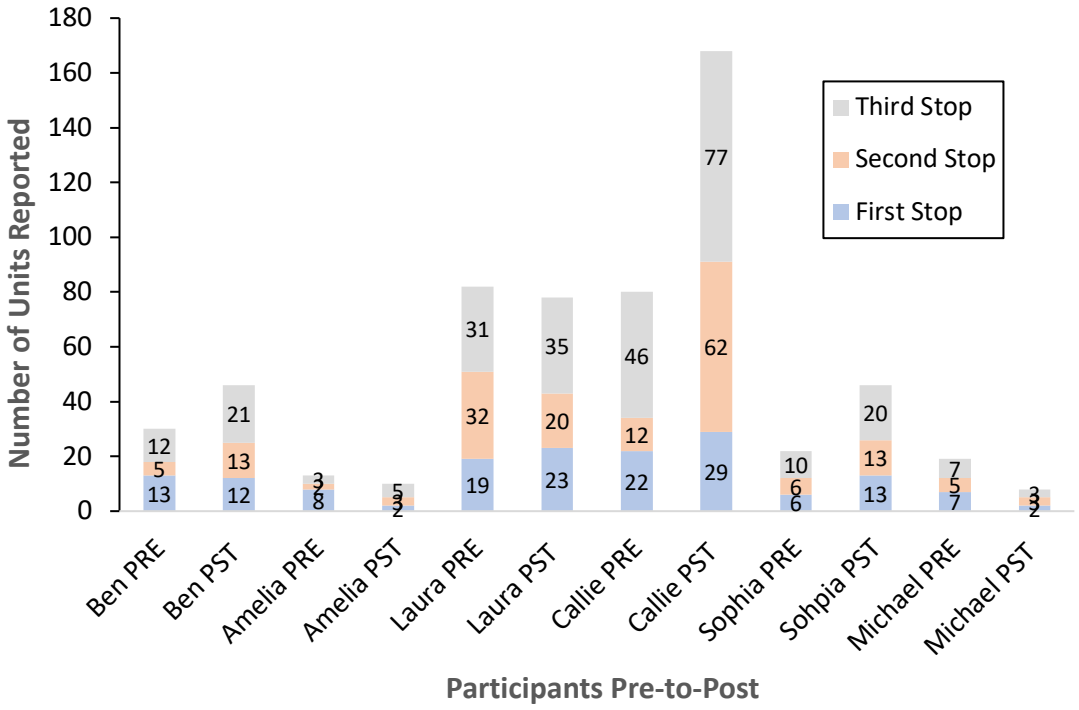
	First Stop		Second Stop		Third Stop		Total Thought Units		
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Dif.
Group Mean (sd)	12.50 (6.72)	13.50 (10.93)	10.33 (11.11)	19.00 (22.06)	18.17 (16.73)	26.83 (27.24)	41.00 (31.47)	59.33 (59.30)	+18.33 (27.83)
Benchmark									
Ben	13.00	12.00	5.00	13.00	12.00	21.00	30.00	46.00	+16.00
Amelia	8.00	2.00	2.00	3.00	3.00	5.00	13.00	10.00	-3.00
At-Risk									
Laura	19.00	23.00	32.00	20.00	31.00	35.00	82.00	78.00	-4.00
Callie	22.00	29.00	12.00	62.00	46.00	77.00	80.00	168.00	+88.00
Sophia	6.00	13.00	6.00	13.00	10.00	20.00	22.00	46.00	+24.00
Intervention									
Michael	7.00	2.00	5.00	3.00	7.00	3.00	19.00	8.00	-8.00

The mean scores of the thought units increased pre-intervention to post-intervention (see Table 9). However, there were wide ranges of differences (see Figure 8). Some students increased substantially, and some students decreased substantially. Students who increased their overall scores included Ben from the Benchmark group, and Callie and Sophia from the At-Risk group. Callie substantially increased her score from 80.00 pre-intervention to 168.00 post-intervention. Most of the score increase was due to the second stop, from 12.00 pre-intervention to 62.00 post-intervention. Overall, Callie's

think-aloud post-intervention was very descriptive. She was able to give an incredibly detailed report about her mental imagery. This could have been because of the exercises during the overall study.

Figure 8

Number of Thought Units Reported During Think-Aloud



Ben reported in his post-intervention interview that he creates "more images now and the quality is pretty good." During her interview pre-intervention, Callie indicated that she does create pictures in her head while reading. "It is pretty easy to do but sometimes it's hard to picture things that aren't real, like fantasy things." Further, Callie notes that she feels it is pretty easy to visualize. Even so, post-intervention, Callie said

that she “learned more about picturing images, so she does it more now.” Callie also noted that she creates more images now and believes the “quality of the images has gotten better.” Sophia, also noted in her pre-intervention interview, that she creates pictures in her mind while reading. She recalled that it is easy for her to do this and the image quality is good. “I can really see it.” Despite having self-reported that her visualization skills are good, post-intervention, Sophia described the intervention as helping her to create mental images of the text in her mind as she read. She said that she creates more images now and the image quality is better.

Even though Laura, also in the At-Risk group, decreased her overall score from pre-intervention, 82.00, to post-intervention, 78.00, it was not a substantial percentage of the overall details which she recalled. It was clear that even at pre-intervention, Laura was able to give a detailed report of her mental imagery. Laura self-reported this within her pre-intervention interview, noting she could create pictures in her head while reading but “it depends on how much detail is mentioned.” She further explained that “the image quality is pretty good.” Post-intervention, Laura noted that the intervention helped her create more images now although the “image quality is about the same.”

Students who decreased their scores pre-to-post included Laura, Amelia, and Michael. Amelia decreased her overall thought units reported from 13.00 at pre-intervention to 10.00 post intervention. Amelia’s biggest decline was after the first stop, 8.00 at pre-test to 2.00 at post-test. After the first stop, Amelia indicated she saw “the boy and his wife.” This description lacked much detail. It is unclear whether Amelia lacked the detail in the mental imagery, or had difficulty reporting the images. Amelia did report

in her pre-intervention interview that although she does create pictures in her mind as she reads, “it is kinda hard.” Post-intervention, she did report that the intervention helped her create mental images of the text in her mind while reading. She also reported that she “kind of” creates more images now and the image quality is better.

Michael decreased his scores in reporting thought unit details after each stop. The overall scores decreased from 19.00 pre-intervention to 8.00 post-intervention. This was a substantial decrease. Michael’s responses on the think-aloud exercise were different pre-to-post. Pre-intervention, his responses were clearer and more objective. After the first stop, pre-test Michael responded: “The sun was too hot and covered the ground. The sun got bloated.” Post-intervention, Michael’s responses were vague and not specific. After the first stop, post-test, Michael responded: “His prayers have been answered.” There were no guidelines in place to prompt students, which was a limitation of this measure. If Michael was prompted, he may have been able to give more details. Still, during his interview pre and post, Michael reported that he does create pictures in his head while reading. “It is easy. They are clear.”

Interestingly, the scores from the think-aloud, which reported the actual images students described “seeing” as they heard the story, increased pre-to-post for most students. These mean scores increased overall and across each stop. These increases would suggest that even though these students self-reported that their visualization did not increase, it did for some students. Further, the post-intervention interview revealed that most students reported the intervention helped increase image frequency and quality.

Summary

Findings have been presented in this chapter on RQ1: To what extent and in what ways does the screenplay intervention improve reading related learning outcomes? The findings showed how students responded to the intervention in the areas of mental imagery and reading comprehension. Part of the research question also addressed other reading-related outcomes that may have come from this intervention, such as increases in fluency or the ability to answer questions during whole class discussion. Findings showed post-intervention gains in the areas of reading comprehension, mental imagery, and elements of a screenplay. Originally, the intervention was designed to take place in-person in a classroom and over the course of four to six weeks. The researcher anticipated looking for increases in other reading related outcomes such as fluency and discussion as she was observing small group discussion and interactions over time between the teacher and students. The Covid Emergency changed that plan. Due to the change in intervention presentation to a Zoom format, and a new timeline of 11 days of instruction, these data were not sufficient to show any appreciable changes.

Overall, the data showed positive trends in reading comprehension, both at the passage level and sentence level (see Table 10). Further, the data showed gains in learning the elements of a screenplay, both in identification and sequencing, as well as in finding examples of them within a text (see Table 11). Additionally, positive trends were noticed in creating mental images, as measured by the Think-Aloud measure (see Table 12). However, students self-reported decreases in their ability to create images in the area of quality, frequency, and performance as measured on the survey. Still, in the interviews,

most students reported an increase in their ability to create images when they were reading.

Table 10

Changes in Scores Measuring Reading Comprehension Pre-to-Post

	MCAS		MAZE
	Multiple-Choice (max. = 100)	Open Response (max. = 100)	Adj. Score (highest = 19.50)
Group			
Mean	+ 22.00	+ 16.67	+ 2.70
(sd)	(- 11.36)	(- 19.14)	(- 1.62)
Benchmark			
Ben	+ 33.00	0.0	- 2.00
Amelia	+ 44.00	+ 50.00	+ 8.00
At-Risk			
Laura	- 11.00	+ 50.00	- 0.50
Callie [a]	+ 22.00	0.0	
Sophia	+ 33.00	0.0	+ 8.50
Intervention			
Michael	+ 11.00	0.0	- 1.50

[a] This participant did not complete all measures.

Table 11

Changes in Scores Measuring Knowledge of Elements Pre-to-Post

	Plot Diagram		
	Identification (max. = 7)	Examples in Text (max. = 7)	Thought Units (highest = 82)
Group			
Mean	+ 2.67	+ 3.25	+ 32.50
(sd)	(- 2.34)	(+ 0.10)	(+ 9.16)
Benchmark			
Ben	+ 5.00	+ 4.00	+ 49.00
Amelia	+ 4.00	+ 3.00	+ 16.00
At-Risk			
Laura	0.0	+ 2.50	+ 38.00
Callie	0.0	+ 4.00	+ 59.00
Sophia	+ 2.00	- 0.50	+ 4.00
Intervention			
Michael	+ 5.00	+ 4.50	+ 23.00

Table 12
Change in Scores Measuring Mental Imagery Pre-to-Post

	AMI Questionnaire			Think Aloud
	Quality (max. = 10)	Frequency (max. = 35)	Performance (max. = 15)	Thought Units (highest = 168)
Group				
Mean	- 0.71	- 1.86	+ 0.57	+ 18.33
(sd)	(- 0.60)	(+ 1.34)	(- 0.22)	(+ 27.83)
Benchmark				
Ben	+ 1.00	- 1.00	- 1.00	+ 16.00
Amelia	+ 1.00	+ 1.00	+ 1.00	- 3.00
At-Risk				
Laura	0.0	- 3.00	- 1.00	- 4.00
Callie	- 1.00	0.0	- 2.00	+ 88.00
Sophia	- 1.00	+ 5.00	0.0	+ 24.00
Intervention				
Michael	- 2.00	- 8.00	0.0	- 8.00

Research Question 1: Overall Findings

Reading comprehension is complex, as previously noted, and is composed of many discrete skills. Overall findings for RQ1 revealed that the screenplay intervention ultimately helped students understand text. One subskill targeted by the intervention was identifying story grammar, in the form of elements of a screenplay. By successfully learning the elements, students increased their overall knowledge of text structure within a narrative. Increasing knowledge of text structure could have contributed to the increased passage comprehension scores pre-to-post. Students were understanding the story and how the characters interacted. They were starting to imagine themselves as part of the story and were able to understand it better.

Another skill students practiced throughout the intervention, was describing

details within images and text. Overall, findings indicated students did well with this skill and increased the number of Thought Units in reporting mental imagery and in describing story grammar within the text. Practicing this skill of describing details within the text could have also helped with passage comprehension and reporting mental imagery. Students will need to identify details in many parts of the comprehension process. There are details in the story elements but also details in predicting, sequencing, inferencing and monitoring. Increasing the ability to find details in an important reading skill.

Further, students practiced the skill of creating mental imagery. Findings revealed that students increased the number of text-relevant Thought Units in reporting mental imagery, although survey results in this category were inconsistent. Consequently, each of these discrete skills individually helped to contribute to overall gains in the areas of reading comprehension.

Chapter 5: Findings for Research Question 2

Findings related to Research Question 2: "In what ways and to what extent do students' experiences (i.e., attitudes and behaviors) of reading change by participating in the screenplay intervention?" document students' attitudes and behaviors toward reading throughout the intervention. The findings for Research Question 2 encompass individual case student trends and are based primarily on qualitative data and analyses. Typically, substantial change in reading comprehension takes a longer period of time than was afforded in this study (Al Otaiba et al., 2014; Wanzek et al., 2019). More practically, any gains in the constructs related to the Research Questions, would show initial indications that the intervention was effective and that further investigation is warranted.

This Research Question was asked to understand how individual students from various reading profiles experienced the intervention. To explore the answers more deeply to this research question, the following sub-questions were considered. "What are students' reading identities and how do their reading identities impact their experience during the intervention?" "How do students experience the intervention in regard to learning about mental imagery, reading comprehension and other reading-related behaviors?" "Is there any change in reading attitudes, or reading behaviors (frequency, engagement level)?" To answer these questions, each of the case study student's qualitative data was reviewed for a thematic analysis (Braun & Clark, 2006 as cited in Nowell et al., 2017), following which individual cases were constructed and then reviewed in a cross-case analysis (Yin, 2018).

Thematic Analysis

When coding the data for the thematic analysis that would inform the case studies, three *a priori* codes were established: Reading History & Identity, Reading Attitudes & Behavior, and Intervention Experience. Reading History & Identity encompassed early reading experiences at home and at school which led to beliefs in self as a reader and the definition of a good reader. Reading attitudes referred to beliefs about reading, motivation, and preferences towards reading material. Behaviors referred to actions exhibited during class time including emotional responses and engagement level with reading and reading-related activities, as well as those related to academic performance. Intervention Experience was defined as how the intervention impacted various components of reading comprehension for each student. This included the measures and observations of passage and sentence comprehension, mental imagery, questioning, and discussion.

From the *a priori* topic codes, themes emerged. Thematic analysis allowed the researcher to link the data together (DeSantis & Ugarriza, 2000, as cited in Nowell et al., 2017). Inductive thematic analysis was used which allowed themes to emerge from the raw data, however the *a priori* topic codes were used as a guide (King, 2004, as cited in Nowell et al., 2017). This analysis led to the development of several thoughts which captured different experiences students had as they participated in the intervention (Braun & Clarke, 2006, as cited in Nowell et al., 2017). The themes were organized by the *a priori* topic codes, however each told a different story (see Table 13).

Table 13

Themes

A priori Topic Codes	Themes
Reading History & Identity	Reading experiences at school and home contribute to reader identity. Reader identity impacts reading frequency. Students' definition of a good/bad reader fit themselves.
Reading Behaviors & Attitudes	Family beliefs in reading passed onto students can impact their desire to improve.
Intervention Experience	Literal thinkers do better finding examples of elements in the text.

Reading History and Identity

Reading Experiences at School and Home Contribute to Reader Identity.

Students' experiences, beginning with their earliest literacy experiences, shaped how they viewed themselves as a reader and consequently impacted their confidence in their reading ability. Ben's earliest reading memories were positive as he remembers his mother reading to him "in bed at night… a book about polar bears," however, most of his recollections associated with reading were negative. When responding to a question about how he experienced school as a reader, "I got one word to say for that, bad." Ben went on to talk about how he heard his mother call him a "struggling reader" and said, "I feel like she's correct." Ben also described the importance of reading to his family. The words "struggling reader" were impactful for Ben, impactful enough to remember them. Family beliefs combined with negative experiences in school and negative thoughts about

himself as a reader informed by his mother, contributed to a decrease in self-confidence as a reader, forming a negative reader identity. This was often apparent throughout the intervention as Ben would say, “I’m bad at this.” “I have a hard time explaining things.” “I have a hard time doing this.”

Conversely, Sophia and Michael had very positive early reading experiences and family experiences around reading. Both Sophia and Michael knew reading was important to their families and, thus, it was important to them as well. Interestingly, these positive experiences about reading were not the results of their abilities in reading. Sophia described, “some books [are] kind of confusing for me.” She went on to recall being a part of a remedial class when she was in school. While Ben described this experience as “feeling left out” of the classroom. Sophia described it as “good. It [made me] feel better about reading skills.” These different views of the remedial class were brought about because of the already developed reader identity. Sophia did not appear to lack confidence, although she was shy in the large group. Research staff reported that in the small group Sophia answered questions and participated. Similarly, Michael participated quite often and appeared very confident in his answers. He always volunteered responses and stated responses without hesitation. Michael’s mother described his reading ability as more than two years below grade level, and he just transferred to a special education school designed to service students with learning disabilities. However, Michael believed he was a strong reader. He described positive reading experiences when he was younger at home and in school. He described favorite books and how much he liked reading, “I just like to read.”

Reader Identity Impacts Reading Frequency. Sophia and Michael described a love of reading. Sophia had a positive reader identity. Her mother is a teacher and described reading to Sophia often, even now. In addition to the time she spent with her mother reading, Sophia stated that she read at least 50 minutes each day, both print and digital materials. She described her reading materials as "books, short stories." Similarly, Michael also presented a positive reader identity. He was confident and described how much he liked reading. His mother also commented that, "he reads comics a lot, practically the whole day." Michael agreed, saying "I just liked to read." Michael also wrote stories frequently and he was quite passionate about them. He often extended the activities we did during the intervention and created new short stories after class.

Conversely, Ben did not engage in recreational literacy activities often. He described his online reading as "like once in a while, like every 7 months or so." When asked about reading print materials, he said, "Not much, maybe once a month if mom tells me to at bedtime." Ben's lack of confidence as a reader was evidence of his negative reader identity. It is crucial that students perceive they can complete an activity in order for them to attempt it. Thus, Ben needed to feel he could be successful at reading, for him to want to read recreationally or academically.

Students' Definition of a Good/Bad Reader Fit Themselves. All students were asked the definition of a good reader both pre-and-post intervention. Some definitions changed slightly, and some remained the same. Interestingly, all students' definition of a good reader, reflected how they thought of themselves as a reader. Ben defined a good reader as "knowing words." He also said he was a good reader because "I know some

words and their meanings." Throughout the intervention, students completed many activities. During some activities students were remarkably successful and some activities were challenging, especially if students were practicing a new skill. Ben had little confidence in his ability but participated in the activities. The activities such as finding details within a picture, describing details to a fellow classmate to draw, or locating details within a movie, were novel activities. Most students had not engaged in these types of activities before this intervention. Ben had difficulty during the first activity when students needed to find details within a picture. He was only able to find one detail within the allotted time frame, and consequently was very discouraged. He improved this skill as he practiced it, as he did with other skills during other activities. However, throughout the intervention, Ben learned that there were specific skills that challenged him. He improved in most of these, but the duration of the intervention was short, and he did not improve in all of the skills. Ben had great difficulty with skills like distinguishing important and unimportant details within a movie, and there was not additional time to practice this skill. Consequently, at the end of the intervention, Ben adjusted his definition of a good reader to include "learning words, how to say the words, and knowing what they mean." Additionally, he also said "I wouldn't say that [I am a good reader], I would say I'm ok."

Sophia described herself as a good reader because her definition of a good reader was that "they keep on reading." This definition did not change from pre-to-post. Sophia described herself as someone who liked to read and read often. This was surprising to the researcher because she had difficulty reading. Sophia's mother would often read aloud to

her and described the use of audiobooks. Sophia found a way to enjoy reading, with the help of her mother, even if she had difficulty reading the words. Michael also thought he was a good reader and described a good reader as someone who "can sound out words." Michael read frequently, but his mother described him reading comic books all day. Pictures can provide students with clues to the meaning of the text and can support the process of decoding (Brenna, 2013; Wong et al., 2017). Michael chose books that he was comfortable with and could read easily. This supported his definition of a good reader.

Reading Behaviors and Attitudes

Family Beliefs Passed Down to Students Can Impact Their Desire to Improve. The family beliefs that were stated in the interviews impacted students' attitudes and behaviors during the intervention. All students described their families' beliefs in the importance of reading and in school. Ben described reading as "really important, always telling me to do my homework and read." Sophia stated "it's pretty important because my mom's a teacher. It's really important that I get a scholarship." Michael also said, "they want me to do good in school." These beliefs impacted students' attitudes throughout the intervention. All students were incredibly positive and completed all the activities. There were various levels of engagement during different activities, some were more engaging to students than others. However, overall, all students had a positive attitude about the intervention and all students wanted to do well in reading. All students, overall, were respectful to the researcher and research assistants and completed the tasks which were asked of them. Further, all students reported enjoying the intervention during the post-intervention interview. Ben remarked that "out of 100, I

would say an 85. It helped me out a little bit more but not a lot, just a tiny bit." Sophia said, "I enjoyed it because I got to interact with people from all over and play games. It help[ed] me put images easier in my brain." Michael said, "I loved it. It made me feel so much happier. It helped me understand stories better. It helped me learn and create stuff."

The impact from family beliefs also may have impacted their experiences with the remedial reading groups in school. The positive family environment that Sophia experienced caused her to frame the extra help in reading as a positive experience, contributing to her positive reader identity. The negative experiences that Ben had in school caused him to frame the remedial reading help as a negative experience, adding to his negative reader identity.

Intervention Experience

Literal Thinkers Do Better at Finding Examples of the Elements in a Text. The intervention was designed in a formulaic way for students to be able to identify the main parts of a narrative and visualize them as they read. The intervention began with characteristics of the elements and then the characteristics were shown to students in a movie so there was a visual model for students to remember. This was practiced and students learned how to find the elements in the movie using the characteristics. They then used the same characteristics to find the elements in a children's book. There were still visuals, but they were reduced. Finally, students transferred this skill to a short story on a second-grade level, without visuals. During this process, students used the same Plot Diagram to organize their descriptions. These constants helped them to generalize the process to different media and reduce visual supports.

Black and white thinkers appreciated this formula because it was clear. The characteristics were clear and the same in every type of media. Additionally, the same graphic organizer, the Plot Diagram, was used to assist students in finding examples of the elements within the text. Ben was characterized by his mother as a "black and white thinker. He has difficulty with inferences." Michael was also a very literal thinker as evidenced by his literal responses to questions in interviews:

RAA: Who read to you when you were little?

Michael: My mom

RAA: What do you remember about your first experiences around reading?

Michael: On the couch

Michael also was diagnosed with autism. Individuals with autism are characteristically black and white thinkers. Both Ben and Michael did very well pre-to-post intervention, improving their finding examples of the elements within texts. Sophia was a nonexample in this category. She was not described as a literal thinker and also did not increase her ability to find examples of the elements within the text, pre-to-post intervention.

General Findings

It was evident that the types of activities during the intervention impacted student engagement, which could have impacted achievement. An *a priori* code was engagement impacts achievement and/or participation. This was hard to measure and there was not enough evidence to substantiate this as a theme. However, it was evident that different activities impacted engagement throughout the classes.

Student engagement was high during what would be described as non-traditional

classroom activities, including playing games, watching movies, and using Chat and Whiteboard functions with all three students. This was evidenced by students mostly intently watching the activities on the screen and participating by answering questions. RAC noted "Michael was paying attention to videos." Additionally, RAC noted that "Games and competitions are very motivated for [Ben], he gets very excited." Sophia had a lot of difficulty showing engagement but RAA noted that, "[Sophia] participated in the Chat during the last clip," and "[Sophia] seemed engaged watching the movie." Students were not always engaged during these activities, but mostly engaged. Conversely, engagement was low during workbook page activities. This was evidenced by students looking away from the screen, and not answering questions. There were also times when students left the screen. Additionally, when the workbooks were returned it was revealed that Sophia did not complete many workbook pages. Research staff noted that Sophia was mostly disengaged while working on workbook pages. She also frequently looked away from the screen and appeared to be drawing. Evidence of doodling or drawing was not found when the workbook was returned, however. Michael's and Ben's workbooks were completed fully. However, Michael and Ben would often complain when the workbook activities were explained. Michael groaned, but seemed less upset when the option to draw rather than write was given. Ben also complained but not because he needed to complete the work, he often expressed his lack of confidence in his ability to complete the activity.

The Cases

Case studies are presented for three students: Ben, Sophia, and Michael, to

present rich descriptions of how the experience of reading unfolded for each. These students represent a diversity of reading profiles at baseline: Benchmark, At-Risk, and Intervention, respectively. Each case tells a different experience of the reading intervention (Dyson & Genishi, 2005). Even though reading comprehension was not expected to be significantly impacted, due to the length of the intervention, there were positive findings regarding attitudes and behaviors as students experienced the intervention, in all cases. Data related to the different themes captured students' unique experiences.

Ben

Ben is a male student and Native English speaker, who was almost 11 years old and a rising sixth grader when the study began. He attended a suburban, public school in the Northeastern United States. Ben's reading scores were in the average category based on his state's standardized testing, which placed him in the Benchmark category for the study. Ben had a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD): Inattentive subtype. He received accommodations in school through a 504 plan. The 504 committee recently met, prior to the beginning of the intervention, and wrote a new plan for the upcoming school year. Some examples of accommodations for instruction included simplifying language and checking for understanding. Further, accommodations were also recommended for organizational support, redirection, and testing. The 504 committee also noted that Ben was "smart and funny." The researcher concurred. Ben was a lively participant in the intervention. He attended every session as he sat on his sofa or reclining chair, and always told jokes. He also liked to share views of his home,

his pets, and favorite toys. Ben frequently chatted with other students through the Zoom chat feature, sometimes losing focus. Ben also enjoyed laughing and conversing with the other students before class began and after class ended. Ben was typically the last student to leave the Zoom meeting, as he frequently chatted with the researcher and research assistants after class each day.

Reading History and Identity. Ben described his early reading experiences during a pre-intervention interview. He said his "first experience with reading" that he remembered "a book about 6-7 years ago about polar bears." He described his house as having "quite a lot of books. We've got like five bookshelves full." His mother read to him as a child, mostly in bed at night. He stated that reading is "very important" to his parents. "My mom is always telling me to do my homework and read." Ben believed that reading is important, too, because "we need to keep up with knowing the facts" and "it makes our brains huge." Ben did not describe his early reading experiences as negative. He talked about his mother reading to him at night and the types of books she read. However, when asked about his experiences in school as a reader, he said "I've got one word for that: bad."

Ben's mother was primarily concerned with his reading comprehension. She described that "he struggles making inferences and relaying info from the text. He struggles with writing and deeper thought on what he's read." She shared that "he was in a reading group for kids who needed intervention" and she believed "he is a few reading levels below where he should be." The research staff discussed this group with Ben. He said that it "wasn't necessarily good or bad" yet said he had difficulty remembering the

specifics of the situation. He initially thought the remedial class was “fairly good. The teacher read books and after reading asked questions.” Ben liked the idea of the group because it was going to help him with reading. At the same time, Ben also said that the remedial class “made me feel left out of the classroom.” This added to the theme of experiences at school contributing to reader identity.

The research staff asked Ben about the term “struggling reader” and if that was ever used to describe him. Ben confirmed that the term was used to describe him, not by his teacher, though. “My mom said this. I feel like she’s correct.” This contributed to the theme of experiences at home impacting reader identity. Ben talked about the challenges he faced during reading, especially understanding what he reads. When he was asked how easy or hard it is for him to understand what he reads, he responded “0 out of 10,” indicating he does not understand at all. When he was asked what strategies, he used to understand what he reads, he responded “I haven’t solved that one yet.” Despite this, when asked if he thought he was a good reader during the pre-intervention interview, he responded, “ya, pretty good. I know some words and their meanings.” Ben did not seem confident in his ability to read. All of the experiences he and his mother described contributed to his reading identity (Abodeeb-Gentile & Zawilinski, 2013; Bloome, 1983). However, it was difficult to predict from the pre-intervention interview how Ben’s reading history and identity would impact his experience during the intervention.

Ben’s low self-confidence in his reading was evident throughout the intervention, and in response, the research staff tried to encourage him. Research Assistant C (RAC) administered pre-and-post tests to Ben and worked with him during small breakout group

sessions. She described him as being "very unconfident in himself. He is always saying he is bad at something." RAC said that in the small breakout group sessions, Ben was slightly more confident, but "in the main group he is always saying 'I'm bad at this.'" RAC tried consistently to encourage him. During one small group activity, students were timed and needed to write details while looking at a picture on the screen. The first time Ben did this activity he only wrote one detail. The second day he did the activity he wrote 25 details. This was a great improvement in the skill but even more it helped his self-confidence, as he noted:

> I can't believe I had 25. I thought I would only get 15 but I got 25. I thought I would only write down 15 but I got 10 more. I just had the one I did from yesterday. I just added on. Oh my God!

It was a rare occurrence for Ben, to express pride in his accomplishments. The research staff hoped this self-confidence would continue. However, even at the end of the second week of the intervention, RAC stated that Ben "seeks approval from me, continuously, He says he's bad at drawing or remembering but when I say it looked great or he's doing great, he feels more confident." By the third week of the intervention, the negative comments lessened but had not disappeared. In the post-intervention interview Ben said, "I have a bad memory" and "I wouldn't really say I'm a good reader, I'm ok."

Ben's definition of a good reader changed slightly from pre-to-post intervention. In the pre-intervention interview, he said that he was a pretty good reader because he knew some words and meanings. This supported the theme of students fitting the definition they gave of a good or bad reader. Ben could have realized during the

intervention that reading is more than decoding. In the post-intervention interview, he said that he would not call himself a good reader. “I don’t really know what some words are and also sometimes, I have trouble understanding words.” Ben began to explain which specific reading concepts were challenging for him. He also expanded his definition of a good reader to include “understanding words.” This showed that Ben’s definition of a good reader changed, and he was able to reflect on the skills which needed improvement. This also supported the theme of changing the view of himself as not a good reader because it did not fit with his definition. Additionally, in the post-intervention interview, Ben described his difficulty with visualization. He said that it was “pretty hard to imagine. It is so hard that I actually see things around me in the story line. I have to think very hard.” Here, Ben described how challenging it was for him to use mental imagery. This was different from the pre-interview where Ben stated that he had created pictures in his head and said “ya, like around a thumbs up” as he described his ability to visualize. While this statement was not overly positive, it did not infer the level of difficulty that was described post-intervention. This realization could be another example of Ben identifying specific reading skills in which he needed to improve.

At an early age, Ben knew school, and reading specifically, were important to his parents. Even though he was able to decode, comprehension was difficult for him, and that struggle must have been difficult. He described hearing his mother call him a “struggling reader” and how the remedial class made him feel “left out.” These negative experiences in school with reading could have impacted his self-confidence and reading identity (Enriquez, 2011; Frankel, 2017; Frankel et al., 2015; Skerrett, 2012).

Initially, Ben seemed to link the definition of a good reader with the ability to decode words. He mentioned this several times during the interview. However, that must have been confusing for him because he stated multiple times that he had great difficulty understanding what he read. It appeared that post-intervention, Ben was starting to see a change in the definition of a reader, acknowledging that he was not a good reader, just ok. Even though this may appear as a more negative self-identity, it is more awareness. Ben shared that he felt the intervention "helped me out a little but more, but not a lot, just a tiny bit." He also indicated that the intervention helped him create more mental images of the text as he was reading and that the quality of the images were "pretty, pretty good." When asked again about how good he is at understanding what he reads, he responded that "it's in the middle because I know the words and I know how to imagine them in my head, but it is kind of hard for me to put them on paper." It did seem that Ben was starting to identify areas of reading in which he could improve. While the intervention was too short for major changes to occur, this small change of increasing awareness, can lead to greater self-confidence.

Reading Attitudes and Behaviors. During the first days of the intervention class, students were getting to know each other. At first, Ben seemed nervous, but that quickly disappeared. He began to get very comfortable chatting with others, participating and volunteering answers. He usually appeared happy and energetic, especially during games. He loved participating in the games and watching the movies and during those activities he was focused, looking at the camera and completing the task. Whenever the researcher announced a new game Ben's face lit up and his mouth dropped open. Sometimes he

jumped up and down in his chair waiting for further instructions. Further, Ben had a positive attitude and appeared motivated from the beginning. After watching the first module of the movie *National Treasure* (Turteltaub, J., 2005) on day one, he came back to class the next day and announced he had finished the entire movie on his own, but he would not spoil the ending.

There were many exciting activities and games throughout the intervention. However, Ben's mood would shift when students worked on activities which would seem more academic in nature, like taking notes. His face became serious, and he appeared off-task, often playing with toys. In his pre-intervention interview, Ben indicated indifferent feelings towards reading, saying "I give it a half thumbs up." He also believed reading was important and knew his family thought it was important, but he struggled with understanding, so that brought up negative feelings for him. Additionally, the interview uncovered that he did not read often for pleasure nor academic purposes at home. In fact, he said that he had not read "much, maybe once a month if mom tells me to at bedtime." This indicated that despite his mother continuing to reinforce the importance of reading, Ben was reluctant to read independently. This was evidence supporting the theme of reader identity contributing to reading frequency.

The reluctance to read and Ben's struggles with understanding may have impacted his attitude throughout the intervention as related to typical academic tasks. However, there were times when his behavior was unexpected and did not seem to relate to any type of task. For example, the researcher noticed that Ben placed his hands in front of the camera, blocking the view of himself. Sometimes, he did this quickly and created a

flashing image. He also held up toys in front of the camera and at one point even angled the camera towards his dog on the sofa for approximately five minutes. The researcher ignored these behaviors and they eventually stopped. It was unclear if this behavior was caused by his inattention, low self-confidence in his ability, or if he was purposely trying to distract other participants.

There were several times when Ben made unexpected comments such as “I’m eating the most sugary cereal in my whole life.” He would also chat in the comments section of the Zoom meeting to initiate side conversations with other participants, especially Laura, who commonly made the same types of unexpected, off-topic comments. The research assistants monitored the chat room during the class to limit these activities. RAC observed, “Ben uses the chat mainly to discuss things not related to the movie or the study.” While there were other times when Ben was observed to be distracted with toys he had, or yawning, these behaviors were also observed in other participants at the same frequency as observed in Ben.

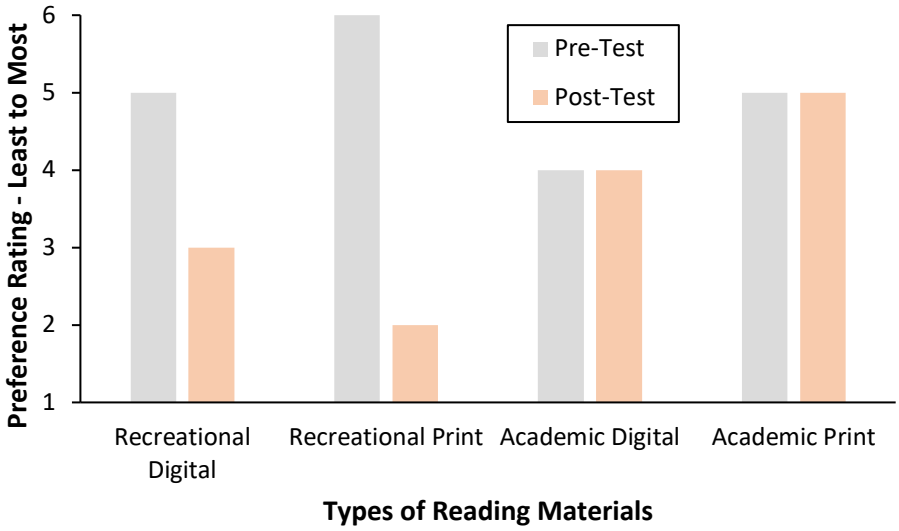
Overall, it was clearly evident that Ben was motivated and enjoyed the intervention. He consistently participated and liked to join conversations with classmates. Ben also expressed that he thought the intervention was “pretty good. Out of 100, I would say an 85.” This score seemed accurate as he loved watching the movies but did not like reading the short stories or writing. Ben did participate quite often in group activities, but his overall opinion of reading was not that high. He would often make unpleasant faces and slight groans when we had a written activity to do, especially if the activity was related to finding information from the texts. Some activities were based on the movies

and others based on texts. Ben clearly preferred the activities based on the movies. His face told it all. He would often smile or get excited in a silly way when there was something to do regarding movies. However, when we had to complete activities based on a text his face would tell a different story.

The Middle School Attitude Reading Survey (McKenna et al., 2012) was used to measure any change in reading preferences and frequency for recreational and academic digital and print materials, from pre-intervention to post-intervention (see Figure 9). The survey uses a Likert-type scale, from one to six, to measure a participant's feelings toward a specific activity. For example, one question would ask "How do you feel about reading anything printed in your free time?" Interestingly, Ben's preference and frequency for recreational materials, digital and print, declined from pre-intervention to post-intervention. This could have been due to the intervention occurring during the summer. Students usually appreciate summer break to have time off from anything academic and many students associate reading activities with school. Further, Ben previously expressed that he had not preferred to read frequently. Additionally, he reported during the first interview that he would only read at night if his mother forced him to do it. It is possible that the intervention provoked this change due to the increase in the requirement to read.

Figure 9

Ben's Preference for Reading Material



Ben's attitudinal scores for academic material remained the same throughout the intervention. Again, this could have been because the intervention was an academic activity, once a day for an hour for three weeks. Initially, Ben's mother expressed concerns prior to the intervention about Ben's attitude and participation. She stated in an email (June 20, 2020), "I'm just afraid he might push back because he is not used to having any type of school during the summer. I just want whoever is teaching to be aware that he might be challenging." Given Ben's previous reading frequency and attitude toward reading being somewhat indifferent, Ben could have thought that time spent on reading was going to take place only during the intervention time and not outside of that time. The survey could have indicated that he was not going to do any outside

recreational reading. However, the academic reading was already part of his day, during the study time, so that could be the reason for the survey scores remaining consistent. This could explain how his preferences relative to recreational versus digital reversed pre to post.

Even though his preferences and frequency for reading materials did not positively change throughout the study, Ben was usually motivated, enjoyed the study, and participated daily. In the daily observations, RAC noted that "the games and competitions are very motivating for him and he gets very excited." Mostly, Ben was energetic throughout the classes. Research Assistant A (RAA) noted that Ben was "very energetic at the beginning of the lesson" and "seemed motivated watching the movie." Further, there were several similar observations by RAA, such as Ben "participated often" and "seemed excited and engaged throughout."

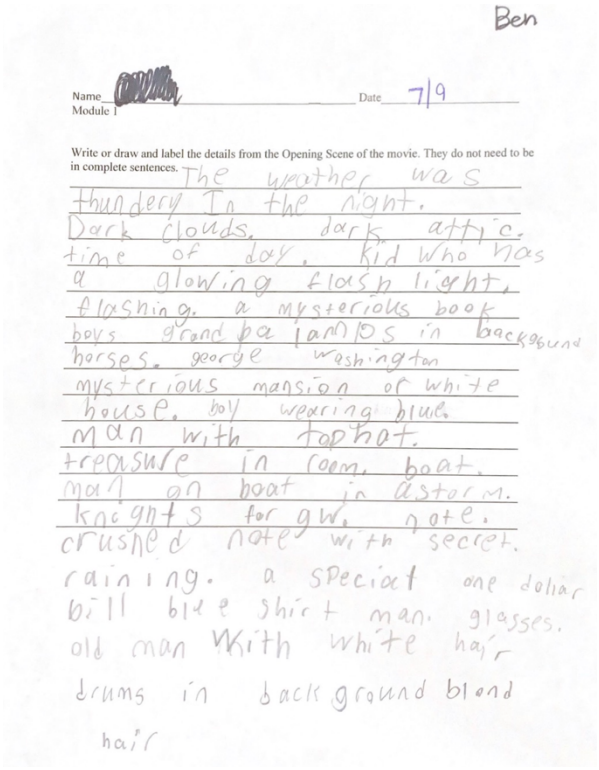
Overall, Ben frequently participated in the lessons and really loved the activities. Additionally, Ben would offer answers to most questions. In one whole class activity, students needed to write as many details as they could about a picture. Ben wrote many, and as Research Assistant B (RAB) described, Ben wrote the larger details (number of people in the scene, color of walls, furniture) and "pointing out small details" (detailed description of a person's clothing, names of books on the bookshelf) when most students only wrote the larger details. He clearly devoted a great deal of effort to the tasks, even when they were unpreferred.

Ben also enjoyed working together with other students in the small breakout rooms. In one of the small breakout room activities, one student needed to turn away

from the screen while the other students described a picture to them to draw. Ben excitedly worked with his partner to describe the picture to the other student. Further, Ben's motivation to participate was seen in how thoroughly he completed his workbook pages (see Figure 10). The pages were from different modules and representative of the degree of completion for most of the activities within the workbook. The workbook pages were difficult to monitor because the intervention was delivered in a virtual format. Students appeared to be working on the pages when directed but it was difficult to see the pages. When the workbooks were returned, the researcher saw how much effort was put into the pages. Some students did not complete any pages. Ben, however, completed all pages as directed. Ben also wrote quite a bit on the workbook pages. This level of completion shows that Ben was motivated to participate in the intervention activities despite his lack of preference for writing. This was evidence that the family importance of reading, which was passed down to him, led him to complete the activities and participate in the intervention. Ben wanted to improve his reading skills.

Figure 10

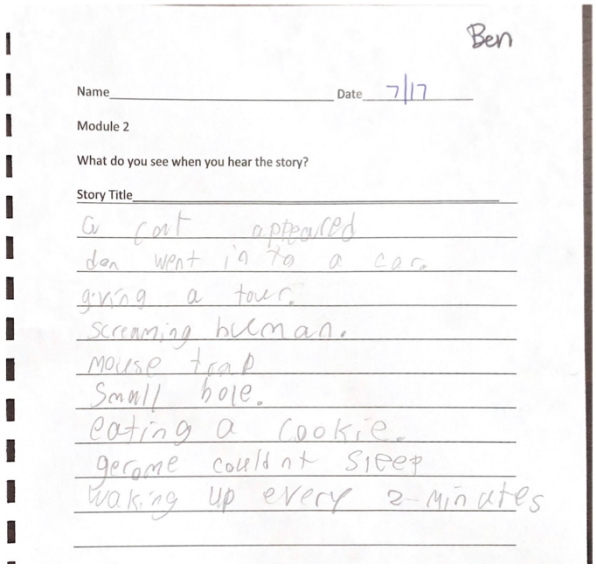
Examples of Ben's Workbook Pages



Ben

Name [redacted] Date 7/9
Module 1

Write or draw and label the details from the Opening Scene of the movie. They do not need to be in complete sentences. The weather was thundery In the night. Dark clouds. dark attic. time of day. kid who has a glowing flash light. flashing. a mysterious book boys grand pa lamps in background horses. george washington mysterious mansion of white house. boy wearing blue. man with top hat. treasure in room. boat. man on boat in a storm. knights for gw. note. crushed note with secret. raining. a special one dollar bill blue shirt man. glasses. old man with white hair drums in background blond hair



Ben

Name_____ Date 7/17

Module 2

What do you see when you hear the story?

Story Title_____

a cart appeared
dan went in to a car.
giving a tour.
Screaming human.
mouse trap
Small hole.
eating a cookie.
gerome couldnt sleep
waking up every 2 minutes

Intervention Experience. The intervention targeted the skills of mental imagery and reading comprehension. Mental imagery can be difficult for students to generate. Ben noted in his pre-interview that it was "pretty hard" for him to imagine while reading. Despite his claim, during the intervention Ben was able to share details of mental imagery during whole class discussion and small group breakout sessions. RAC reported that the "competition among teams to find the most details helped with his motivation." Additionally, during the post-intervention interview, Ben shared that he believed the intervention helped him create mental images while reading. He also shared that he created more images post-intervention, and the quality was "pretty, pretty good."

Ben was incredibly involved in discussions throughout the intervention. He answered questions about the elements related to defining them and finding examples of them within the movie and texts. He also contributed to discussion through a think-aloud. There was an occasion where the researcher asked students to chat their thoughts about the movie as they watched. Students engaged in conversation with the research staff through chat. Here the staff asked students questions to get them to think about the movie like "Why do you think Ian acted that way?" Ben could not access the chat and also see the movie on his device so the researcher asked Ben to say his thoughts aloud and she typed them in the chat. As Ben watched the catalyst element in the movie, he said:

> Why is he going to steal it? I don't think so. Don't shoot it. Don't shoot the gun! He is probably going to light the gun powder and explode the place. It's going to blow. Holy crap! Holy crap! The place is exploding. Why did he pull out an M9?

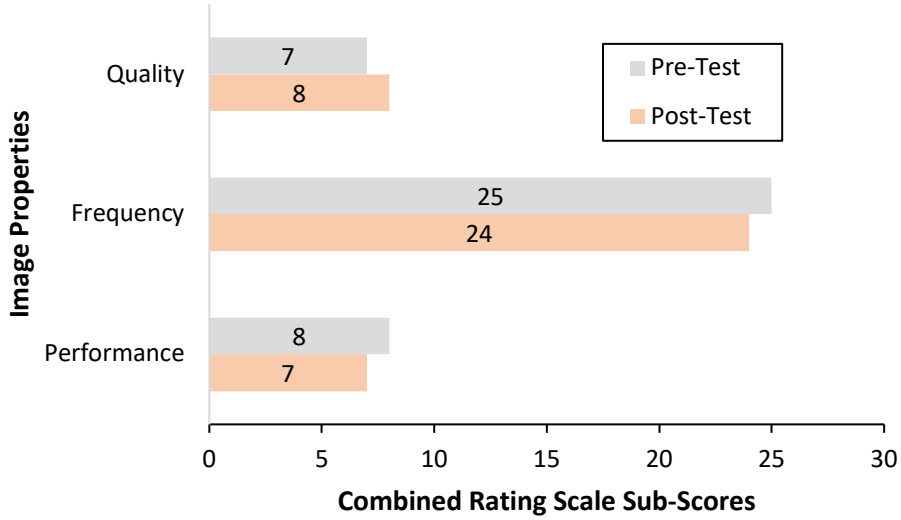
These thoughts showed that Ben was able to demonstrate skills as he was watching the

movie. He questioned the motives of the characters and events and predicted. The think-aloud activity was a way for the researcher to see what students were thinking as the events of the movie unfolded. This specific think-aloud activity was only practiced a few times during the course of the intervention due to time constraints.

Although in the small group activities Ben shared details of mental imagery, and he reported an increase in behaviors related to creating mental imagery on the post-interview, on the Ability to Make Images Questionnaire ([AMI] Wyra et al., 2007) Ben did not show any substantial changes from pre-intervention to post-intervention (see Figure 11). The AMI uses a Likert-Type scale to measure Image Quality, Image Frequency, and Image Performance. While Ben overall showed a higher score in Image Frequency relative to Image Quality and Image Frequency, these reading behaviors were virtually unchanged pre-to-post intervention.

Figure 11

Ben's Ability to Make Images Questionnaire



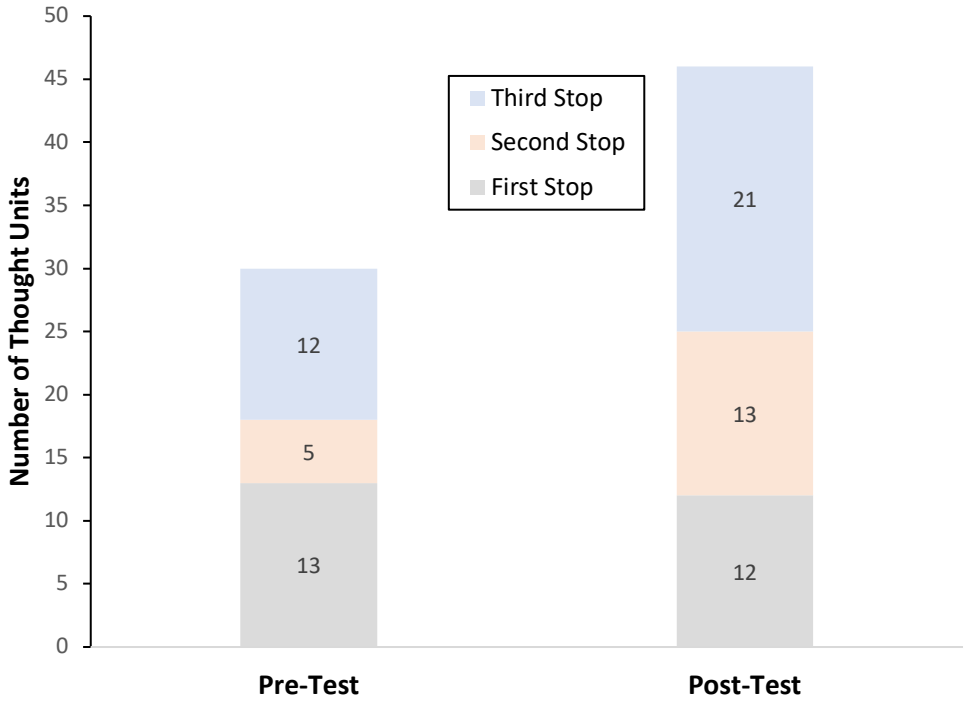
Note. The total possible sub-scores: Quality = 10, Frequency = 35, Performance = 15.

Still, Ben had improved his attention to details in general. RAC described Ben's progress as going "from 1 detail yesterday to 25 today," referring to an activity in which the participants practiced recalling details. He also did a great job describing details to a fellow group member in order to draw a picture. The increased attention to details can be seen in his pre-post scores in the Think-Aloud (see Figure 12). While details, named as Thought Units, after the first stop were about the same, they substantially increased after the second and third stops from pre-to-post. The first stop contains details for the elements opening scene, set-up, and catalyst. There may have been little change pre-to-post because it was easy for Ben to remember what happened in the beginning of the story. The beginning usually describes the characters, setting and problem, and these are

common story elements which students frequently practice in school. The total details increased from 30 at pre-test to 46 at post-test.

Figure 12

Ben's Description of Mental Imagery as Measured in Thought Units



An increase in details was also seen in the Plot Diagram (see Figure 13). Like the Think-Aloud, Thought Units were counted for each element as Ben gave the description of the element within the text. At pre-intervention, Ben was only able to identify an example of one element correctly within the text, the Solution, and described this element using 10 Thought Units. He partially quoted directly from the text. At post-intervention, Ben substantially increased his ability to find an example of each element within the text

and provide a better description, which yielded more Thought Units. He also did not use any textual quotes in his responses. Instead, his descriptions were original and utilized more adjectives to describe each element. For the Opening Scene element, for example, he stated, “a poor shoemaker who was working very hard to make shoes.” For the Adventure element he stated, “He kept making more money for more shoes and the elves kept working and working. The shoemaker and the wife found out the elves were the ones that made the shoes.” These descriptions also showed that Ben was able to summarize the elements and not just quote from the text. Ben’s total scores as measured in the number of Thought Units increased from 10 at pre-test. to 59 at post-test. Using more Thought Units indicated that Ben was able to describe the element with more detail.

Figure 13

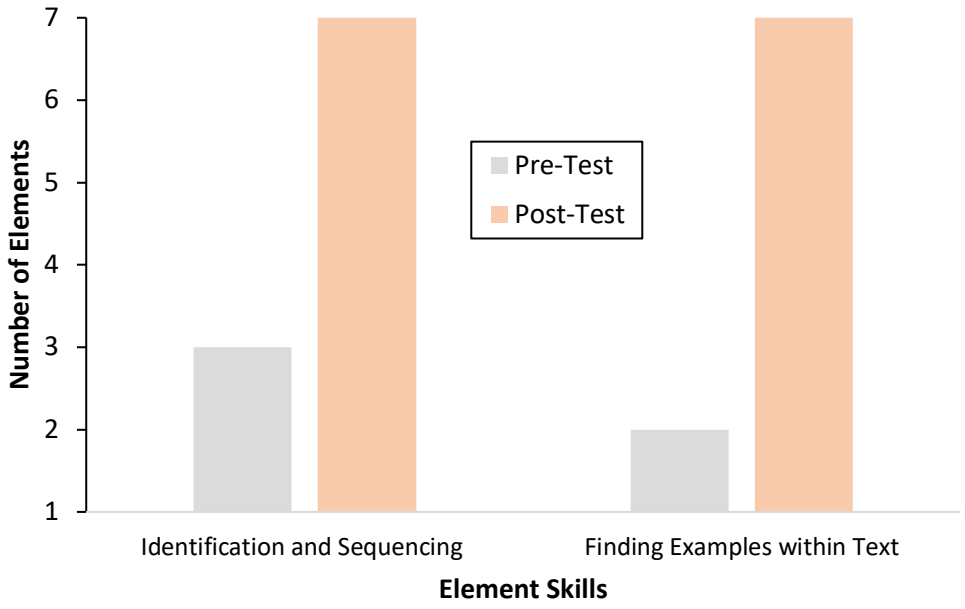
Ben's Description of Examples of Elements Within a Text

In the area of reading comprehension, Ben showed throughout discussions that he clearly understood the elements of a screenplay and was mostly able to identify the elements within the story. The elements are similar to story grammar, which helps students identify the main parts of a narrative leading to increased comprehension (Alturki, 2017; Fore III et al., 2015; Grünke et al., 2007; Isikdogan & Kaigen, 2010; Omar & Bidin, 2015). On the Plot Diagrams, Ben substantially increased his scores pre-to-post on identifying and sequencing the elements, as well as on finding examples of each element within the text (see Figure 14). Ben's mother noted he was a literal thinker. This supported the theme that literal thinkers did better on finding examples of elements

within the text, possibly because of the rules taught in order to complete that task. On the pre-test, Ben was only able to identify the Solution and Final Image in the correct sequence. Out of the two elements, he only correctly identified an example of the Solution within the story, as noted previously. Although Ben was able to identify elements and find examples, he did have some difficulty with identifying important and unimportant details within a text. During one of the small group activities, students were asked to list as many details as possible from a picture and then classify the details as important and unimportant. RAC commented that Ben had difficulty with the skill of classifying details in the breakout group. Unfortunately, due to time constraints, the researcher could not expand on this skill during instruction.

Figure 14

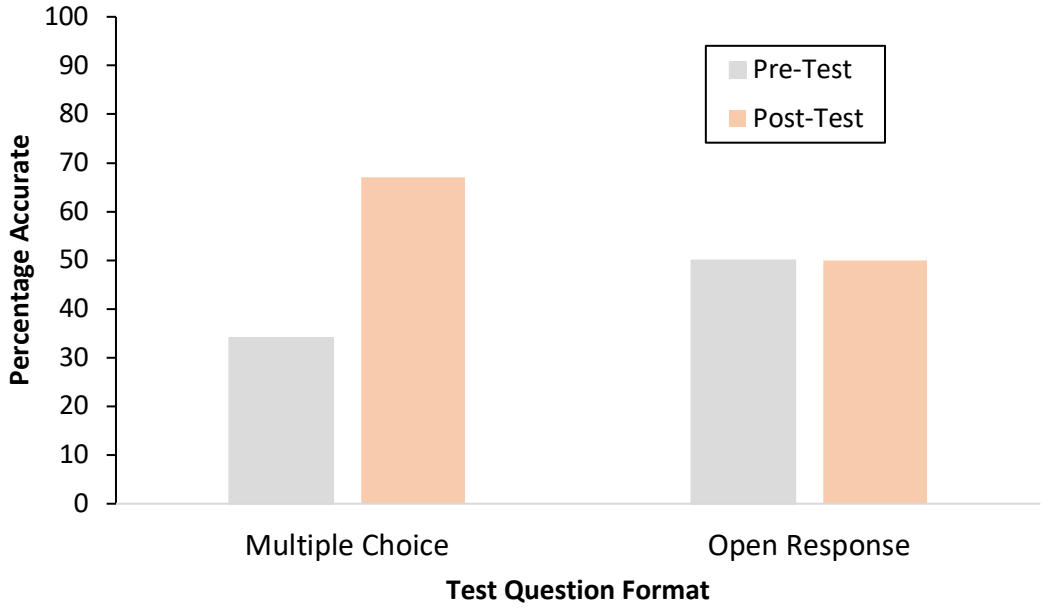
Ben's Knowledge of the Elements



Identifying, and sequencing the elements, and finding examples within the text, did not substantially increase Ben's reading comprehension scores on the MCAS (see Figure 15). The MCAS scores measured passage comprehension and included questions which were literal and inferential. The specific skills of answering questions within a passage were not explicitly practiced during the intervention due to time constraints. Answering literal questions was indirectly practiced through identifying story elements within passages. Ben had difficulty answering both the multiple-choice and open response comprehension questions on the MCAS. On multiple-choice questions, he increased his score from 34 out of a possible 100 points at pre-test to 67 at post-test. There was not anything remarkable about Ben's differences pre-to-post, however. While he increased his score pre-to-post on the multiple-choice questions, the scores were still low. On the open-response questions, Ben's score remained the same from pre-to-post, both at 50 out of a possible 100 points. The pre-test and post-test open response answers were similar. There was not much detail given in either, although in both cases Ben answered the question partially correctly.

Figure 15

Ben's Passage Comprehension Scores



The MAZE test measured sentence level comprehension (see Table 14). The MAZE test was the only measure which was not read aloud to students. Students needed to read this test aloud themselves. It measured fluency and sentence comprehension. The researcher wanted to see if increasing mental imagery could help with sentence level comprehension and therefore impact fluency. However, the researcher did not feel the intervention was long enough, due to time constraints, to measure this correlation as these skills take much longer to develop.

Table 14

Ben's MAZE Sentence Comprehension Timed Test

	Words Correct		Words Incorrect		Adjusted Score	
	Pre	Post	Pre	Post	Pre	Post
Group Mean (sd)	**13.60 (5.94)**	**16.60 (6.43)**	**2.20 (2.49)**	**2.80 (1.48)**	**12.08 (4.88)**	**13.50 (7.49)**
Ben	16.00	15.00	0.0	2.00	16.00	14.00

Note. The adjusted score is words incorrect divided by 2 and subtracted from words correct.

Ben's adjusted scores decreased from 16.00 at pre-test to 14.00 at post-test. Ben did not make any errors on the pre-test and made two errors on the post-test. This showed that he read slightly more words during post-testing but made a few more errors. Overall, there was not much of a change for Ben from pre-test to post-test in these scores. However, when compared with the class, his pre-test score was above the mean of 13.60 yet his post-test score was below the mean of 16.60. It is unclear why this pattern occurred. It is possible that Ben had difficulty with fluency, which was impacting his comprehension. It is essential that students are fluent readers, being able to decode words and use long phrases when reading, in order to create meaning (Chall, 1983; Cho et al., 2019). There were no decoding tests in this study, so the researcher could not determine if decoding was difficult for Ben, which could have impacted his comprehension.

Summary. Ben's attitudes and behaviors were impacted by the intervention. In thinking about the changes which occurred, it is important to remember Ben's reading

history and characteristics of his reading identity, which included previous negative experiences during school and not feeling successful when comprehending. These experiences shaped his attitudes and had the ability to impact his future success as a reader and participation in the intervention (Enriquez, 2011; Frankel, 2017, Frankel et al., 2015; Skerrett, 2012). The research staff tried to foster positive experiences surrounding comprehension throughout the study in hopes of helping Ben to re-write his reading identity. Ben's achievement during the study did not seem to be impacted by these feelings (Enriquez, 2011). However, Ben had made many statements indicating low self-confidence consistently throughout the intervention. The intervention was not exceedingly long, only approximately three weeks, and Ben would be expected to require a longer period of consistent, successful, motivating experiences to increase his self-esteem and positive thoughts about reading. It was evident that Ben did have positive experiences and his negative comments did lessen by week three in whole group instruction. Overall, positive reinforcement was helpful, but still did not completely convince Ben that he was doing a good job.

Ben's learning during the intervention may further help in understanding his attitude toward reading, as he gained valuable skills throughout the intervention period, as measured pre-to-post. Ben was a good learner, particularly when recognizing the elements of a screenplay. Ben sequenced and found examples of these elements within a movie and texts. Ben also increased the number of details he identified and described during the activities. Even though this was a short intervention, these exercises practiced skills which can be used in comprehending text (Scanlon et al., 1992).

There were only a few times where Ben showed difficulty in learning. RAC noted that during module 2 Ben had a hard time applying the elements to a story. RAC believed that Ben knew the definitions of the elements, as he had been able to repeat them and identify content within the text matched the element. However, when he was asked to identify the element within the text, he had difficulty. His silly and off-task behavior could have been used as a distractor, in order to draw attention away from his academic challenges. Commonly, this can be seen in students who exhibit undesirable behaviors in the classroom (Emmer & Evertson, 2017). Still, he did very well in most other tasks.

He clearly learned the elements, having achieved 100% on each of the module tests. He also increased his mental imagery in the number of details he used to describe the elements within the text on the Plot Diagram and again in telling the imagery during the Think-Aloud measure. Ben wanted to learn these skills to improve his reading because reading was important to him and his family. He knew it "makes your brain huge." One of the last questions on the post-test was 'Do you have any suggestions for improving the intervention?' Ben responded by saying "Do more topics instead of just have a visualized picture in your mind. Do other things other than movies to help." This indicates that Ben liked the intervention and wanted to learn more skills. He did learn many skills in the short period of the classes, and he did it in a way that was fun for him. He could have had this desire to improve because it was learned from the value his family put on reading.

In the end, Ben started to articulate some of his challenges and changed his definition of reading slightly. Ben started to see that reading is not just about saying

words. By recognizing that reading is a multi-faceted process, he can start to see there is much to learn. It is possible that when he becomes aware of the learning that needs to take place in order for him to improve and sees that he is able to improve once he learns these new skills, his self-confidence will increase, and he can begin to add positive aspects to his reading identity.

Sophia

Sophia is a quiet, Hispanic female, from the Northeastern United States. She is a Native English speaker and was ten years old when the study began. Sophia was also a rising sixth grader from a public school district and her standardized test scores placed her in the At-Risk category for the study. Sophia was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and qualified for an Individual Education Program (IEP) under the category of Other Health Impairment. Sophia's IEP noted that she was sweet and bubbly. It went on to paint a picture of Sophia which was slightly different than what we saw in our classroom.

> Sophia is respectful to both teachers and peers and has a great sense of humor. She works well with all classmates and loves opportunities to work collaboratively with other students. Sophia is a multi-sensory learner and thrives on opportunities to access information from multiple modalities. (Hamlet Middle School IEP Team, 2020)

This description painted a picture of Sophia that was energetic and engaging with peers. The Sophia we saw while still overly sweet, did not participate very much. She sat at the kitchen table during our Zoom classes. Throughout the intervention, Sophia stayed quiet,

rarely participating in whole group activities. Most often, she was seen on camera looking down and doodling. She also did not make frequent eye contact with the camera and it was difficult to discern whether she was very shy, or just disengaged.

Sophia's IEP described her present levels of performance and areas for improvement in Reading. Fluency was a primary area of concern, even though the IEP team reported that her level was "improving towards grade level expectations." The team mentioned "daily fluency supports" had contributed to her success, however these were not defined. Several DIBELS scores from the past year reported scores of 95 words correct per minute (wcpm), 101wcpm, and 103wcpm. Based on grade level norms, these scores placed Sophia between the 10^{th}-25^{th} percentile for her grade level (Hasbrouck & Tindal, 2017). Sophia's fluency rates could have contributed to her low comprehension scores on the DRA2 tests (Beaver & Carter, 2006). On fall (level 38) and winter (level 40) benchmark assessments using the DRA2, Sophia scored 61% and 54% respectively on the comprehension section. It is possible the winter assessment had a lower score because the level of the text was increased. The IEP team reported that:

> Sophia is able to answer comprehension questions in response to an independently read text at her instructional reading level and can provide details from the text to support her response. In addition, when provided with an independent level text, she is able to retell the story by providing specific sequential details from the text. (Hamlet Middle School IEP Team, 2020)

If this was accurate, the DRA2 (Beaver & Carter, 2006) may not have been the best measure of comprehension for Sophia. The IEP Team also described skills such as

inferencing and implementing a variety of reading strategies, as areas for improvement, "requiring teacher scaffolded support to apply this skill consistently."

Among the accommodations recommended were audiobooks, reinforcing prompts, graphic organizers, and "flexible seating within the classroom to support work completion and to sustain attention." It was possible that our lack of accommodations due to the virtual setting could have impacted Sophia's attention and impeded her progress.

Reading History and Identity. In our first interview, Sophia described her early experiences with reading as positive. She knew that school and reading, particularly, was really important to her family. "It's important because later in life you're going to need to know how to read." Further, she stated, "it's pretty important because my mom's a teacher" and "it's really important so I get a scholarship." When asked 'Who read to you as a child?' she responded, "my family, everybody." Sophia named favorite books when she was little as well as described experiences of her mother reading to her.

Clearly, reading was an important part of the household. Sophia described two large bookshelves in her house from where everyone reads. Sophia explained that she read online and print materials. "I like books, short stories." When asked about her reading frequency, she reported spending "20 minutes at least" daily on print materials and "probably 30 minutes" reading online daily. This supported the theme that reader identity impacts reading frequency. In pre-intervention interview, she noted someone would be called a good reader because "they keep on reading I guess." In the post-interview that definition remained the same, "someone who practices reading." Sophia certainly described herself as reading or "practicing" daily. This could have been a result

of her family beliefs of reading as a priority. It was not clear if the "practicing" was something she enjoyed or something she felt that she needed to do.

As Sophia progressed throughout school, she experienced some challenges with reading and her mother was concerned. Her mother described Sophia's reading difficulties in fluency and comprehension. Her mother is a teacher, and noted "I do suspect Sophia has dyslexia. She has had difficulty with reading since kindergarten and doesn't generalize the rules of decoding very well. We do a lot of her reading with her or offer audio supports" (S. Jones, personal communication, July 24, 2020). Sophia's mother also expressed her gratitude for the school and was pleased with the supports in place. "The school provided an amazing amount of support between the co-taught classroom and the extra reading support she receives." When I asked her mother about pursuing a diagnosis of Specific Learning Disability, she said that she felt it was unnecessary at this time because of these school supports already in place.

Sophia shared positive experiences at school related to reading. In the pre-intervention interview, Sophia described the challenges in school with reading. "It was sometimes hard for me to read aloud. Words sometimes would like trip me." She stated that she was never referred to as a struggling reader, however, described a placement in a remedial class. She felt this class was a good experience. "It impacts me to see sounds of words pronounce them better. Feel better about reading skills." This could have related back to her belief that good readers practice. In her post-interview when she was asked, 'Do you think you are a good reader?', she replied "Yes, because I practice reading all year." This provided evidence for the theme that students' definition of a good/bad reader

fit themselves. So even though Sophia had challenges with reading in school, her experience overall as a reader in school was positive. The IEP team described Sophia as a "motivated reader and works diligently both in school and at home to achieve her reading goals." (Hamlet Middle School IEP Team, 2020). Consequently, this supported the theme that positive experiences which Sophia had in school and at home regarding reading most likely contribute to a positive reader identity (Enriquez, 2011; Frankel, 2017, Frankel et al., 2015; Skerrett, 2012).

Reading Attitudes and Behaviors. During the intervention, Sophia often sat at the kitchen table, her hair pulled back into a ponytail. On the first day, the shades were drawn behind her, which could have possibly been to limit the light and the glare on the screen or reduce distractions. She had a blank look on her face when she entered the Zoom class. She was not smiling, nor upset and could have been nervous. She gave a slight smile when she introduced herself and then went back to the more serious expression. In the early days, this was how Sophia appeared, serious, and often looking down at the table. The researcher noted that Sophia was "looking down during instruction…fidgeting in her chair looking away… looking down, not sure how engaged she is." She volunteered answers once or twice a session during the whole group time. However, when there was a task assigned in the small group, Sophia typically participated. During the first task, RAC noted that "Sophia single-handedly had 39 details" on a task which asked students to find details in a picture and make a list of them.

At the end of the first week, Sophia was getting more comfortable in the large group setting. Students would come into the intervention at slightly different times. The

start time was 10:00 a.m. EST but students were sometimes a few minutes late. On the first Friday, while we were waiting for the entire class, the researcher started a conversation about weekend plans. Sophia looked at the camera and volunteered to talk about her plans.

S: Monday is my sister's birthday (Sophia stopped talking.)

R: Are you having a birthday party? (Researcher prompted.)

S: We are having a birthday party at the pool. (Sophia added a detail.)

During this quick conversation, it was apparent that it was difficult for Sophia to have a conversation about the weekend. Sophia made an initial statement, but it did not answer the researcher's question, "What are you doing this weekend?" Instead, the researcher had to prompt Sophia with another question. Only then did Sophia add a small detail to the conversation. After the detail, Sophia stopped talking and did not volunteer other details about the party. This was interesting because it appeared to correlate with the IEP team's observations that "Sophia requires scaffolded support." Initially the researcher thought that because this was a conversation at the end of the first week, Sophia was nervous about talking in front of the group. However, this pattern of response continued throughout the intervention. Sophia would volunteer answers occasionally, but they were usually brief.

Throughout the intervention, while Sophia continued to answer questions, she was not very talkative in the whole group. Most often, the questions were directed at her, but there were times she would volunteer answers. She would often look down and it appeared that she was doodling. It could be that she was shy and trying to get the courage

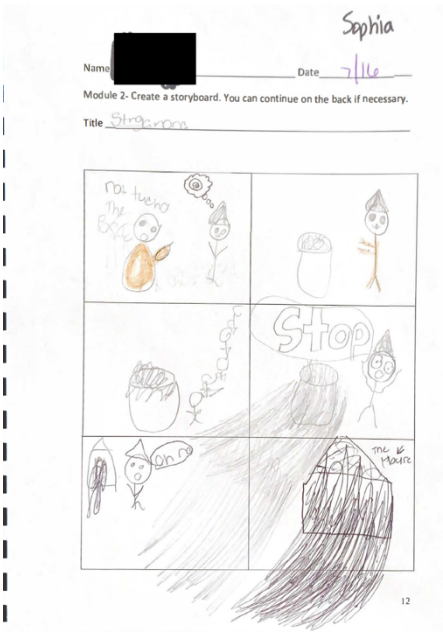
to participate during the whole group discussion. During the first class, RAC noted that "Sophia is very quiet and reserved, seems worried about not giving a right answer" (Field notes, July 8, 2020). An example of this was during a small group activity, designed to practice mental imagery, where students needed to draw a storyboard for the children's book, *Strega Nona* (DePaola, 1975). After students completed the activity in the small groups, they rejoined the whole group, and we discussed their storyboards (see Figure 16). RAC asked Sophia to share her storyboard saying, "show your drawings you had great ones." Sophia appeared apprehensive, her head down, as she slowly raised her workbook to the screen and said:

> They are not good. This is Strega Nona telling Big Anthony not to touch it. Big Anthony is thinking about the pasta pot. This is him cooking the pasta. This is him inviting the townspeople to have the pasta. This is the pasta coming out of the pot. This is pasta coming out of the house. This is the pasta going into the town. (Field notes, July 17, 2020)

She said the words quickly and moved from picture to picture. It was clear that she was reluctant to share. Again, it is unclear if this was from an insecurity about her success in the assignment or if she was shy. However, this exchange occurred at the end of the second week of the intervention and at this point, most of the other students were comfortable sharing answers in the large group setting. Even during free time when students were mostly social, Sophia did not participate much. She looked engaged and listened to the conversation but did not contribute much.

Figure 16

Sophia's Storyboard



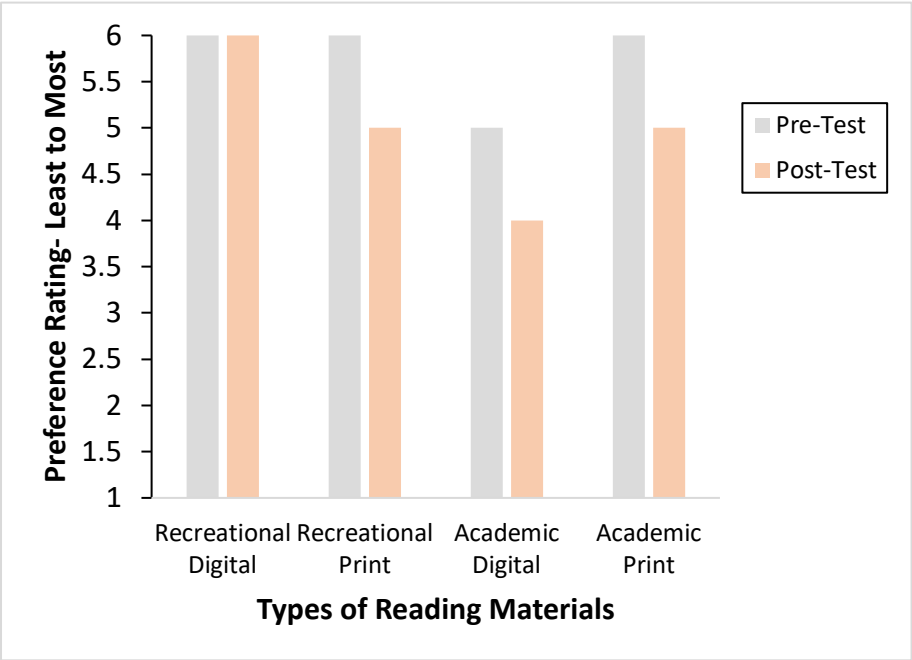
Sophia's inattention was also prominent throughout the intervention. This was noted in observations from the research staff. "Sophia seems to be looking down a lot writing on something even not when instructed. Not sure what she is writing about, seems to be drawing during videos, not focusing on them" (RAC, field notes, July 9, 2020). Research staff also noted that "Sophia appeared to be drawing during the Zoom call" (RAA, field note, July 10, 2020) and "Sophia appeared to draw during the lesson" (RAA, field note, July 14, 2020). Sophia's IEP indicated the need for "refocusing prompts throughout the school day across all subject areas" and "flexible seating within the classroom to support work completion and to sustain attention." These were not provided during our intervention because the researcher did not have control of the environment at home. Therefore, it was unknown if there were options for seating available. The

researcher could have contacted Sophia's mother to make her aware of this inattention and need for an alternate seating arrangement. It was also unclear what was happening in the house during the intervention, although Sophia did not seem to be distracted by anything in her environment.

Sophia was given the MSRAS to determine her preference for reading material, before and after the intervention period (see Figure 17). This Likert-type rating scale ranked preference from 1 to 6, with 6 being most preferred. Sophia's scores were all remarkably high, ranking from 4 to 6, even pre-intervention. This was not unexpected, as Sophia noted in her interviews that she read approximately one hour each day. Sophia's pre-test scores were higher in academic reading material preference for both print and digital. Additionally, her pre-test scores were higher for recreational reading material in print format. Scores for recreational reading material in digital format remained the same from pre-to-post. Again, these scores were all very high, either scoring 5 or 6 in each category. Post-intervention, Sophia's reading material preferences for academic in print and recreational categories decreased slightly, each by 1 point. Her preference for recreational print also decreased slightly, by 1 point.

Figure 17

Sophia's Preference for Reading Material

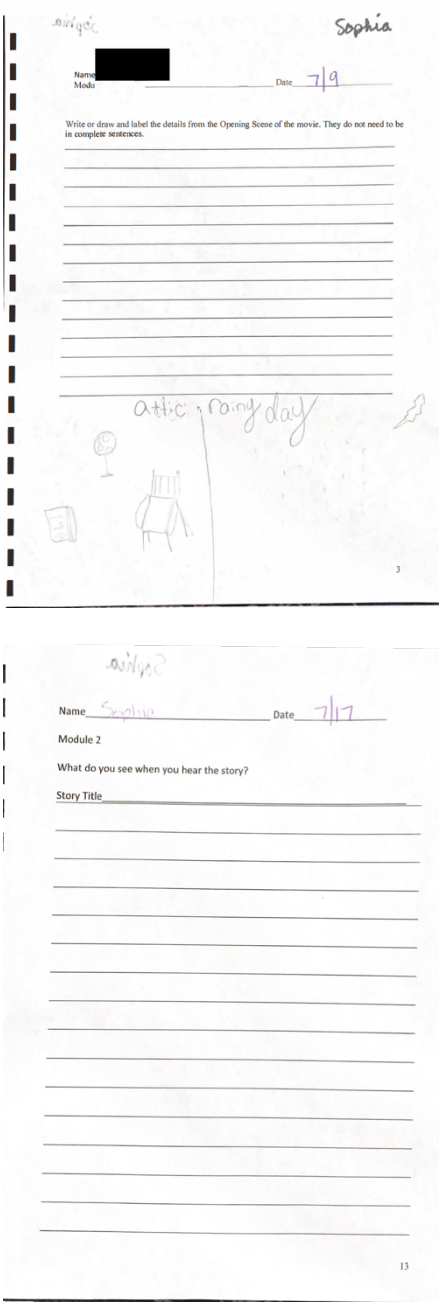


Given that Sophia, was often looking down during class time, writing or drawing, the researcher was very curious to see her workbook. The researcher hypothesized throughout the intervention that she could have been taking notes or finishing workbook pages during the lessons. Upon return of the workbook, the researcher found that Sophia's workbook was inconsistent. There were no extraneous marks which indicated doodling. There were several pages that had detailed work samples, including the storyboard activity (review Figure 16). However, the sample pages which the researcher chose to highlight consistently among case study participants, were either not completed

fully or not attempted at all (see Figure 18). These were not the only pages that were not fully completed however, there was no pattern of activity type, or module content correlating with the degree of completion within the workbook.

Figure 18

Examples of Sophia's Workbook Pages



Despite the inconsistencies in work production and attention, Sophia reported in the post-interview that she thought the intervention was fun. “I enjoyed it because I got to interact with people from all over and play games.” Sophia’s definition of interaction could have meant, participating in activities in the small groups, or listening to other classmates interact, as she was not very social and outgoing throughout the intervention. Still, Sophia’s mother concurred with her comments and sent an email after the intervention was completed. “Thank you so much for having Sophia in your study. She has enjoyed the group” (S. Jones, personal communication, July 23, 2020). Sophia not only enjoyed the intervention, but she also made gains in some valuable comprehension skills.

Intervention Experience. Sophia increased her skills in several areas during the intervention, including reporting more detailed mental imagery while she was listening to a story from pre-intervention to post-intervention. In her pre-intervention interview, Sophia reported that it was easy to create images in her mind while she was reading and the image quality was good, “I can really see it.” However, in the post-intervention interview, Sophia still felt that the intervention helped her to create more images. When asked “In what ways did the intervention help in reading?”, she responded, “It helps me put images easier in my brain.” There was evidence to support this throughout the intervention. Even though Sophia did not participate often, three times during the intervention she responded to questions relating to mental imagery when prompted and described what she saw in her mind as she listened to a text read aloud.

Module 2: Day 3

R: What did you picture? In your mind, what did it look like?

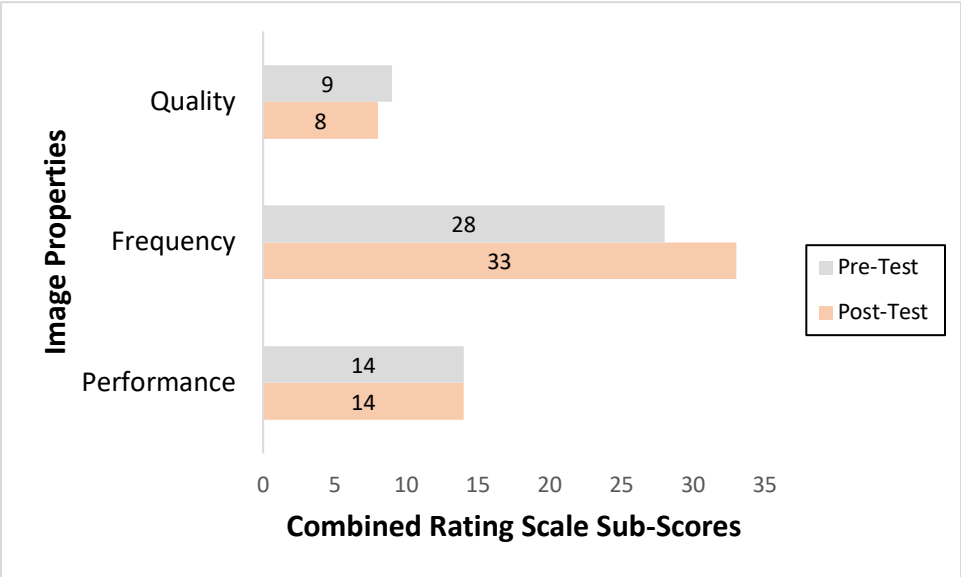
S: Like a little hole in the wall, in the corner of the wall, in a kitchen.

In this exchange, Sophia was able to give several details about where the mouse was in the story.

Sophia also made gains in several other measures of mental imagery. On the Ability to Make Images Questionnaire, she reported high ability both pre-and-post, which was similar to what she reported in her interviews pre-and-post (see Figure 18). Thus, Sophia reported that she was able to frequently visualize while reading and that her images were of good quality. The scores on the AMI for the sub-categories of Image Quality and Image Performance are close to the upper limits both pre-and-post. Image Quality decreased slightly post-intervention. Image Frequency increased from pre-to-post, and this data supported Sophia's report that the intervention helped her "put images easier."

Figure 19

Sophia's Ability to Make Images Questionnaire

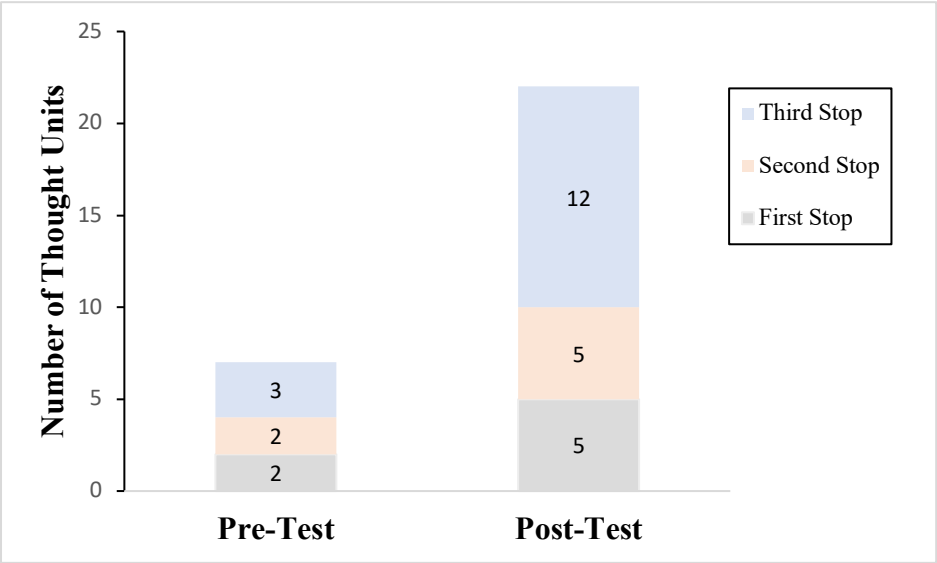


Note. The total possible sub-scores: Quality = 10, Frequency = 35, Performance = 15.

In the Think-Aloud measure, Sophia increased the number of details, reported as Thought Units, given from pre-test to post-test at each stop during the reading and in total Thought Units overall (see Figure 20). This meant that as Sophia described the mental imagery as she heard the story read aloud, she was reporting more details at each stop. Each stop contained elements related to each module of the intervention (review Figure 2). Interestingly, this same gain was not consistently noted on the Plot Diagram. This could mean that it was easier for Sophia to report details in imagery generally than report details of the story elements specifically.

Figure 20

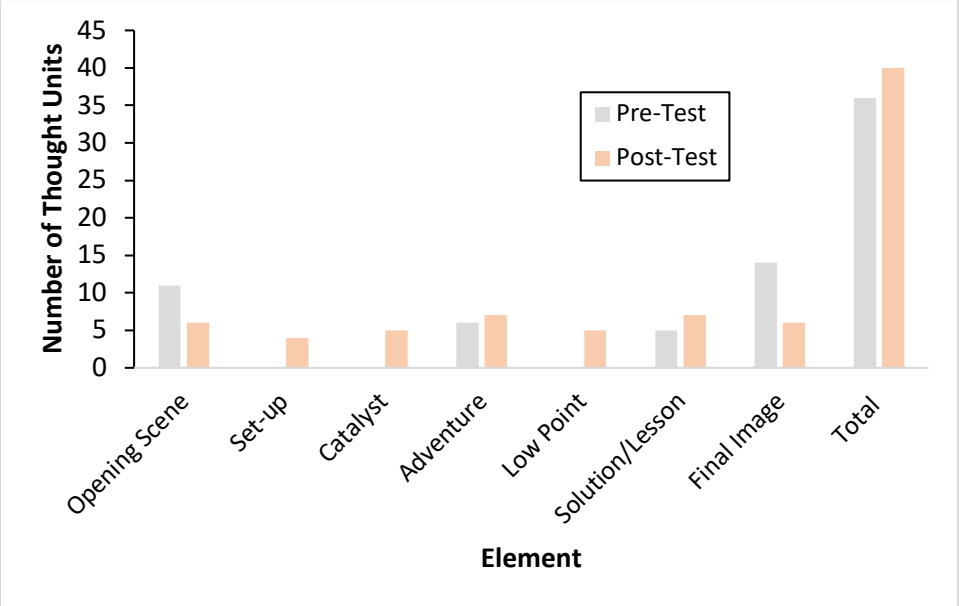
Sophia's Description of Mental Imagery as Measured in Thought Units



On the Plot Diagram, Sophia increased the number of Thought Units for some elements and decreased for others (see Figure 21). While overall, she increased the number of Thought Units reported for the elements, the increase was not substantial. This was inconsistent with the Think-Aloud measure. It was unclear why Sophia decreased in the number of Thought Units reported for the Opening Scene and Final Image but increased for the other elements.

Figure 21

Sophia's Description of Examples of Elements Within a Text



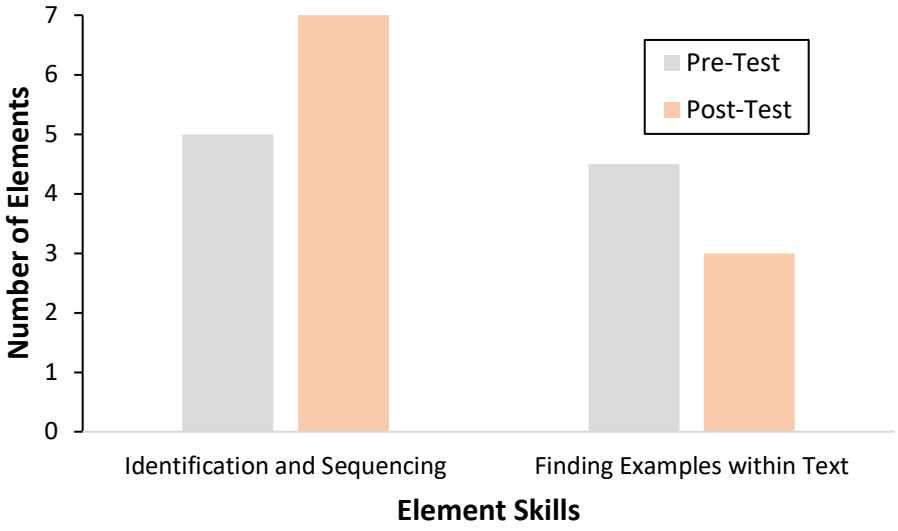
In the area of reading comprehension, Sophia showed throughout whole class and small group discussion that she understood the elements of a screenplay and was able to sequence them on a plot diagram. Further, on the three Element Mastery Quizzes, which were given at the end of each module, Sophia attained a perfect score on the first try. This showed that she understood the definitions of the elements. Additionally, several times throughout the intervention, Sophia was asked to give examples of elements during discussions, from a movie, children's book, or short story, and did this successfully. For example, on the third day of the intervention lessons, the researcher taught about the Catalyst element in the movie. The researcher asked students to identify the catalyst in

the chat while they watched the movie. RAA noted that Sophia was able to do this accurately (Field notes, July 10, 2020). Three days later, following a weekend, Sophia displayed retention of this information in a small group activity, as RAC noted that "she was able to identify the parts of the story and the examples." It is unclear how much support Sophia was given in this activity, which is important to note because of the inconsistencies in the accuracy of her responses. In another of the small group sessions, just a few days later, RAC noted that Sophia "was very good at identifying elements but when I asked her what the opening scene was, she just summarized the whole part of the story that I had read. After I clarified, she got it" (Field notes, July 15, 2020). This illustrated Sophia's ease with consistently identifying elements, but difficulty with consistently finding specific examples within the story. It also supported the information given by the IEP team, about Sophia's need for scaffolding. It is probable that Sophia needed more time to practice this skill before she could do it with consistent proficiency.

As shown on her Plot Diagrams, Sophia increased her ability to identify and sequence the elements from pre-to-post (see Figure 22). This measure combined with the Element Mastery Tests showed that Sophia learned the definitions of the elements as well as their sequence within a story. Finding examples of the elements within the text was difficult for Sophia, and her ability to do this decreased from pre-to-post. Sophia may have needed more guided practice than was given due to time constraints.

Figure 22

Sophia's Knowledge of the Elements

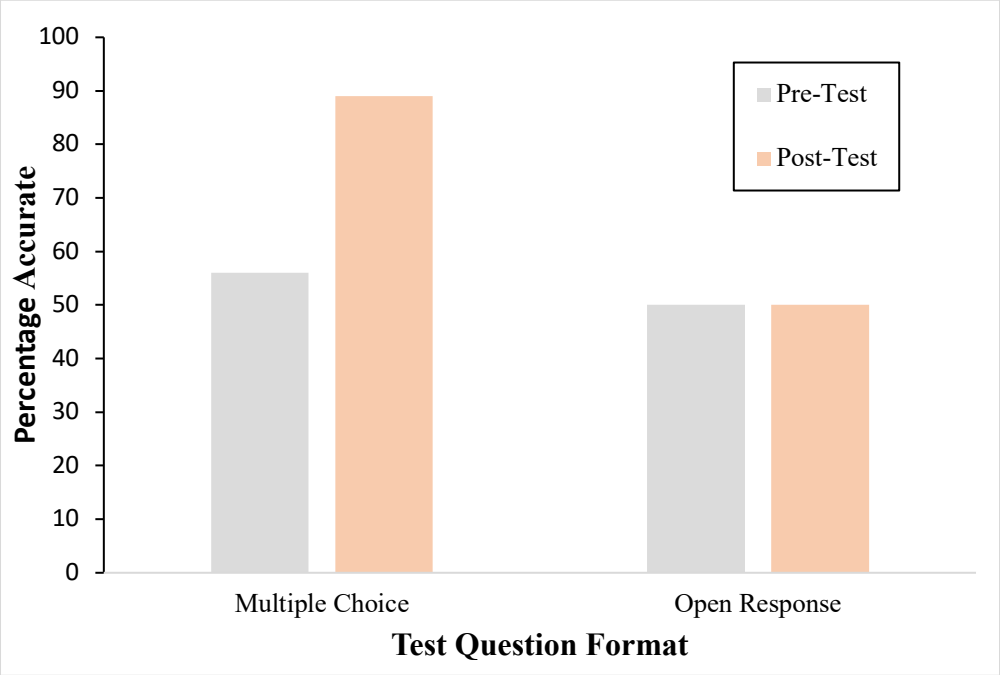


The MCAS scores measured passage comprehension and included questions which were literal and inferential. Although these specific skills were not practiced explicitly during the intervention, the researcher did frequently ask comprehension questions throughout the whole class discussions to promote and assess understanding of concepts. Sophia's scores for the multiple-choice questions, increased pre-to-post and the scores on the open response questions remained the same (see Figure 23). Pre-test analysis of errors on the multiple-choice questions showed no pattern for question type (i.e., inferential, literal). During the post-test, Sophia answered all of the literal questions correctly, and only one inferential question incorrectly. In the answers to the open response questions, pre-and-post, Sophia gave an overall correct answer which was general and lacked details or supporting evidence from the text. While it was the

intention that students would be able to use visualization to answer these higher-level thinking questions after participating in the intervention, the duration of the intervention was too short to realize this.

Figure 23

Sophia's Passage Comprehension Scores



The MAZE test measured sentence level comprehension and fluency for Sophia from pre-to-post intervention (see Table 15). Even though her score was above the mean for the group, Sophia increased the adjusted score from 11.00 at pre-test to 19.50 at post-test. This was a great gain, especially given that fluency was such a concern for her teacher and mother. The duration of the intervention was too short to measure if visualization directly contributed to this gain in sentence comprehension and fluency.

Table 15

Sophia's MAZE Sentence Comprehension Timed Test

	Words Correct		Words Incorrect		Adjusted Score	
	Pre	Post	Pre	Post	Pre	Post
Group Mean (sd)	**13.60 (5.94)**	**16.60 (6.43)**	**2.20 (2.49)**	**2.80 (1.48)**	**12.08 (4.88)**	**13.50 (7.49)**
Sophia	11.00	20.00	0.0	1.00	11.00	19.50

Note. The adjusted score is words incorrect divided by 2 and subtracted from words correct.

Summary. Sophia's family and school experiences contributed to her overall positive reading identity (Enriquez, 2011; Frankel, 2017, Frankel et al., 2015; Skerrett, 2012). As mentioned by her IEP team, she worked hard to practice her reading skills and wanted to do well. Sophia believed that a good reader is "someone who practices reading," and she practiced daily. Her teacher at school and mother, who is also a teacher, both agreed that the primary difficulty for Sophia was decoding, which impacted fluency. However, Sophia was also having difficulty with comprehension, as would be expected given those other reading challenges. Sophia reported in the pre-interview, that she was able to visualize and found it easy to do so. By participating in the intervention, Sophia built on this strength and applied these skills to her reading comprehension. Although her gains were inconsistent, they showed a positive trend. If the duration of the intervention was longer, and Sophia was given additional practice, it is possible the gains would be greater and more consistent.

Sophia's inconsistencies in achievement could have also been due to her inattention. There were several times during the class that research staff noted she was drawing and not on task. The workbook was further evidence of the inconsistencies in her attention. Some workbook pages were completed in detail and some were not completed at all. Although the researcher tried to engage Sophia by using colorful PowerPoints, video clips, discussion, games and small group activities, there were multiple times when Sophia was off-task. The amount of time this occurred was greater than the time any of the other students were off-task and it was noticeable to the research staff.

Even though Sophia remained quiet as compared to the other students, she did volunteer answers at times and would interact in the small group setting. RAC reported that Sophia participated in the small breakout groups, although her participation was inconsistent. At one point during the small group activities, she answered questions so quickly that other students did not have the opportunity to respond (Field notes, July 15, 2020), yet the following week it was noted that "Sophia did not seem engaged during the mouse plot diagram." (Field notes, July 22, 2020) There could be many explanations for this inconsistency including her learning profile, the time of the year, type of intervention and her general interest in the subject. Overall, Sophia enjoyed the intervention, made academic gains, and reported that it did help her create more images with better quality.

Michael

Michael was a ten-year old, African American male living in the Southern United States at the time of the study. Michael started the 2019-2020 school year in a public school. In April, his family made the decision to transfer him to a private school.

Michael's standardized test scores and reports from his teacher at the public school noted that his reading level was more than two years below grade level. This placed him in the Intervention category in this study. Michael had a dual diagnosis of autism and speech impairment, which qualified him for an Individualized Education Program (IEP).

Michael's IEP team, reported in the present level of academic performance section that he had "the ability to comprehend instruction and do grade level work, but has difficulty working independently, staying on task, and appropriate interaction with staff and peers." This information contradicted the necessity of supplemental reading instruction. Further, his current IEP did not contain any reading goals.

Michael's mother reported that he "can read, but his reading comprehension is not to his level. He struggles with understanding what he reads. The books have to be 3rd grade level or below." This differed from the school report. Additionally, Michael's STARR (Texas Education Agency, 2019) testing, indicated he was in the 23rd percentile for grade level reading and had not met the Benchmark. STARR testing has four categories of achievement levels and Michael's score fell in the lowest category. This was further evidence that Michael was having difficulty with reading.

On the first day of class, Michael immediately introduced himself as soon as the Zoom screen opened. His voice was loud and unregulated. It was almost as if he was yelling at us. He introduced himself, after everyone else did, and said "everyone here is from New York- am I the only one from Texas? It would take me two whole days to get to New York." Most students were from New York but not all. Later, the researcher modeled an activity and described her favorite movie. She showed a picture of the movie

on the screen and asked the students if they had seen it. Michael immediately spoke up, loudly:

> *Willy Wonka and the Chocolate Factory* (Wilder et al., 2011) or, I've also seen a Christmas movie, but I don't think I know what it is. I know what it is but I forgot. I think I know what that movie is but I forgot. The name of the movie (pause), Mr. (pause) I forgot that!

He was talking very quickly, and it was hard to get a word in as he spoke. Next, students went into small groups and had to draw a picture of their favorite movie. When they rejoined the larger group, the researcher asked if anyone would like to share. Michael seemed to be talking to his mother off-screen. When the researcher asked Michael if he would like to share, he walked into the camera frame slowly, bouncing and slumping his posture and said reluctantly, "I guess I will go," in a drawn-out voice as he mumbled something inaudible. These two examples of different aspects of Michael's personality which seemed to be at extremes, were seen often during the intervention.

Reading History and Identity. In the pre-intervention interview, Michael described reading as important to himself: "well, it's because you can learn some stuff," as well as important to his family. He said that his parents "want me to do really good" in school. Thus, learning was an important value within his home. Michael talked excitedly about the books he liked as a child and showed the interviewer where the books were in the house that he and his brother read.

Michael tried to describe early reading experiences and was very literal in his responses, for example:

Interviewer: What do you remember from your first experiences reading?

Michael: On the couch.

Interviewer: What?

Michael: On the couch.

Interviewer: Can you remember a time someone read to you?

Michael: 2011

Interviewer: What happened in 2011 when someone read to you?

Michael: Oh, well, I think… I think something happened.

Interviewer: You think something happened so someone read to you?

Michael: Hmmm, well, nothing happened.

It would have seemed that Michael did not understand the questions. However, as the research team grew to know Michael, they learned that Michael was able to answer basic questions, although he was quite literal but could also be very distracted at times. Additionally, Michael always talked about his interests and sometimes perseverated on specific topics. He changed questions we would ask or discussion topics to fit his interests as well and needed to be guided back on task at times. He often talked about his love of writing and tried to relate our reading activities to writing throughout the intervention.

Michael reported "I just like to read," and when asked if he thought he was a good reader, he responded, "Well, I can think that I am." It was unclear if he genuinely thought he was a good reader or wanted to believe that he was. He stated that he had never been called a 'struggling reader' and never attended a remedial reading class. However, he did

say, “I want to read better” and he thought the definition of a good reader was “if you read a lot.” This supported the theme of students’ definition of a good or bad reader fitting themselves.

It seemed that his early school experiences of reading were positive. Although Michael had not reported any negative experiences in middle school associated with reading, his middle school year was disrupted by a change in school. Michael groaned when he was asked the question about middle school and responded, “my parents gave me a suggestion that I could go to that beautiful new school.” Having been concerned about his progress in school, Michael’s parents switched him to a private school for students with learning disabilities (M. Smith, personal communication, July 2, 2020). Changing schools in the spring of a school year can be difficult for students, especially when they had remained in the same school for a while.

Michael’s mother was primarily concerned with his reading comprehension. She said, “he can read, but the reading comprehension is not to his level… the books have to be 3rd grade or below” (M. Smith, personal communication, May 27, 2020). She also described his preference for books without words, like comic books. She was grateful and excited for him to participate in the study because of its focus on reading comprehension, although a little apprehensive about how he would respond to the intervention. She stated when she told him about the study he responded with a sarcastic “oh great” (M. Smith, personal communication, June 22, 2020). However, she said his excitement changed and was more sincere once he received the box of supplies.

Throughout the intervention, Michael had a high level of confidence when

answering questions. The researcher noted during an observation that "Michael had strong opinions and was very confident in his answers." This confidence could have been from his positive reading experiences at home and school. This supported the theme that positive reading experiences contribute to positive reader identity. Michael's test scores painted a picture of a student who clearly had reading challenges, although when Michael was observed in the classroom, he was confident and participated without insecurities.

Reading Attitudes and Behaviors. During the first days of the intervention class, Michael was not at all shy or reserved. He was very eager to share stories he had written with the class. He also tried to participate socially with the group from the beginning, even if he did not quite understand how to participate. For example, during the first few days of the intervention, some students would use the Chat feature in Zoom to communicate with each other. The researcher asked the research assistants to monitor the chat. RAC reported that Michael "sent rows of question marks in the chat boxes" and when she asked him about this "he would not elaborate if he was confused by something" (Field notes, July 7, 2020).

Michael had strong emotions and often volunteered answers in a very exuberant way, sometimes interrupting. During the first module, the researcher asked about the details from the Opening Scene in *National Treasure* (Turtletaub et al., 2005).

R: What did you think? What are all the details you saw in the Opening Scene?

M: It made me sad.

R: Why?

M: I don't know. George Washington has died! Died! Died! (yelling)

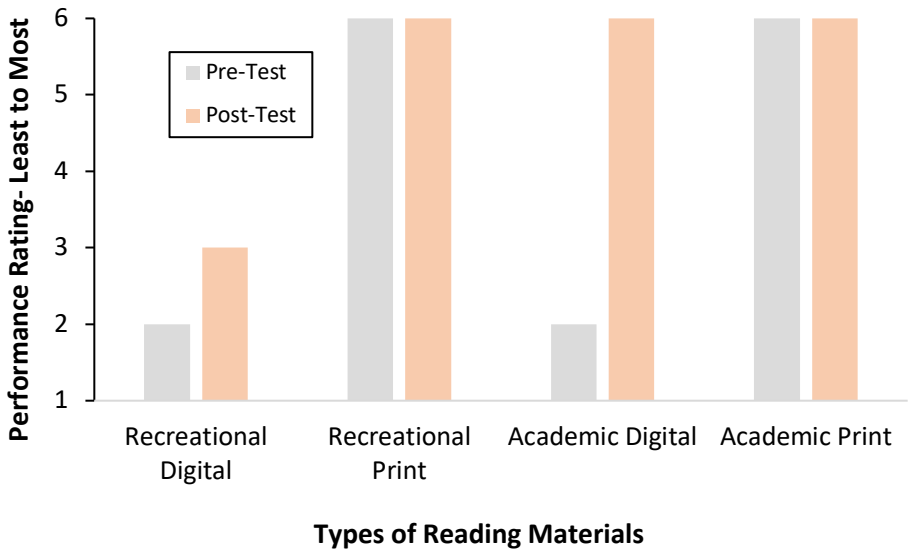
After Michael answered the question so exuberantly, he started writing or drawing and looked away from the camera. This was a common response for him- excited and very distracted or tired. This could have been due to varying levels of motivation specific to preferred and non-preferred activities. It also could have been due to the time difference. Most students were taking the class at 10 am EST. Michael was in CST, so it was 9am for him. On the original recruitment survey, 9am was not a preferred time from Michael's mother, however, that was the time that most students could participate. Still, the timing could have impacted Michael's engagement and participation. RAA noted that Michael "doesn't seem engaged when watching the first video. He seemed to be lying down" (Field notes, July 8, 2020). However, on the same day RAB remarked that Michael "likes to chat and is outgoing."

Michael's attitude throughout the intervention was mainly positive, as evidenced by his consistent participation and sometimes silliness. RAA noted that Michael "played with his stuffed animal snake by the camera" (Field notes, July 13, 2020) and "balanced a pencil on his glasses during the main session (Field notes, July 20, 2020). These acts seemed like they were designed to get the attention of the group. Michael enjoyed working with the group and would often volunteer during group activities. During one activity, students described a picture to Michael as he drew it. RAB noted "Michael was able to draw all of the details the other classmates gave him" (Field notes, July 14, 2020). Further, RAA remarked that Michael "was able to describe the fruit photo in his breakout group" for someone else to draw (July 21, 2020). Michael often took the lead on these activities and volunteered to represent the group in sharing or drawing.

The Middle School Attitude Reading Survey (Mc Kenna et al., 2012) was used to measure any change in reading preferences and frequency for recreational and academic digital and print materials, from pre-intervention to post-intervention (see Figure 24). The Likert-type scale showed that Michael's preference of print materials was exceedingly high, pre-and-post intervention. Additionally, the survey showed that Michael's preference for digital materials increased pre-to-post. Academic Digital materials increased the most from a score of 2 pre-intervention to a score of 6 at post-intervention. This increase could have been due to the experiences Michael had with digital text during the intervention. During his pre-intervention interview, Michael stated that he had not read online at all. It was possible that this frequent exposure to online reading materials in a short period of time increased his preference. Also, in his post-intervention interview, Michael said you could be a good reader "if you read a lot" and he also indicated that "I want to read better." The intervention could have reinforced this belief and encouraged him to read more digital materials, as his print material preferences were already very high.

Figure 24

Michael's Preference for Reading Material



The research staff noticed several occasions where Michael was excited about the online reading activities. In one activity, the researcher asked students to follow along with a short story as it was read aloud. After reading, the researcher asked what the students pictured as the story was being read aloud. Michael immediately volunteered, "there was a humongous cat... tried to eat him because cats do love mice and they can also just tear him apart." Michael was excited as he shared his imagery of the story (Field notes, July 14, 2020). Additionally, as we were reading *Strega Nona* (DePaola, 1975) online, RAA remarked that Michael exclaimed while laughing, "Oh my God, she made him eat all the pasta!" (Field notes, July 21, 2020)

Michael also used the intervention as inspiration to create more writing projects. At the beginning of the intervention, Michael described his love of writing during his

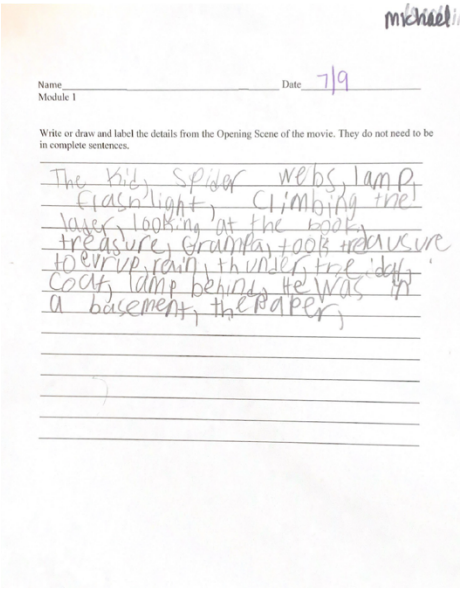
interview. He showed the research staff examples of books, “I made these not just today. All these took me a week” (Field notes, July 6, 2020). As he showed the books, he flipped the pages and recited the dialogue: “They had to return…NO!!! oh well, they did. They said, uhhhh we will get you next time! Oh no they won’t be getting anyone next time. Well, they did, they wanted revenge but the kid still won.” The books that Michael showed had many pictures, and the dialogue he used to describe the book was not entirely written on the pages. He used mostly pictures to tell the story.

It was clear that Michael enjoyed writing and he extended many activities during the intervention into writing activities. During one of the first activities, the researcher asked students to draw the Opening Scene of *National Treasure* (Turtletaub et al., 2005). After the discussion about what the students drew, Michael kept drawing. It was time to close the meeting and the researcher described what they would do tomorrow. Michael interrupted another student as he described how he was going to create a book from the drawing. “I’m drawing the book with the kid. I’m still coloring it. It might take me a day or two to finish this book” (Field notes, July 8, 2020). Another example occurred during a whole class discussion about the catalyst during the movie, as Michael said, “that’s hilarious, it makes me want to make another book” (Field notes, July 10, 2020). Additionally, during a small group activity, students wrote a story using the plot diagram. RAA remarked that Michael was excited about this activity, saying “Oh my God! Yes! A story! I can make a book automatically!” (Field notes, July 22, 2020). It was possible that Michael realized he could use the plot diagram after the intervention to organize his writing.

Michael's participation was also evident in the completion of his workbook pages (see Figure 25). All of the workbook pages were completed thoroughly and accurately. Some of the drawings included color. It was unclear, though, how much of the work was completed during the allotted class time for the activity and how much was completed during instruction or after class. There were several times Michael was observed working during instruction. Additionally, Michael commented during several activities that he wanted to continue to work on the drawings after class. Still, it was clear that Michael worked hard to complete the activities on the assigned pages.

Figure 25

Michael's Workbook Pages

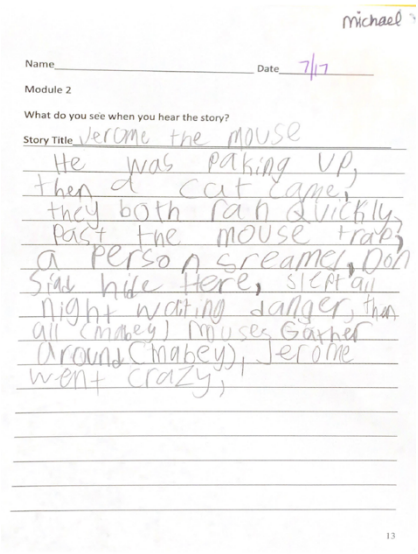


michael

Name_____ Date 7/9
Module 1

Write or draw and label the details from the Opening Scene of the movie. They do not need to be in complete sentences.

The kid, Spider webs, lamp, flashlight, climbing the ladder, looking at the book, treasure, Grandpa, took treasure to river, rain, thunder, the dad, coat, lamp behind, he was in a basement, the paper,



michael

Name_____ Date 7/7
Module 2

What do you see when you hear the story?

Story Title Jerome the mouse

He was poking up, then a cat came, they both ran quickly past the mouse trap, a person screamed, Don said hide here, slept all night waiting danger, then all (mabey) mouses Gather (around (mabey), Jerome went crazy,

13

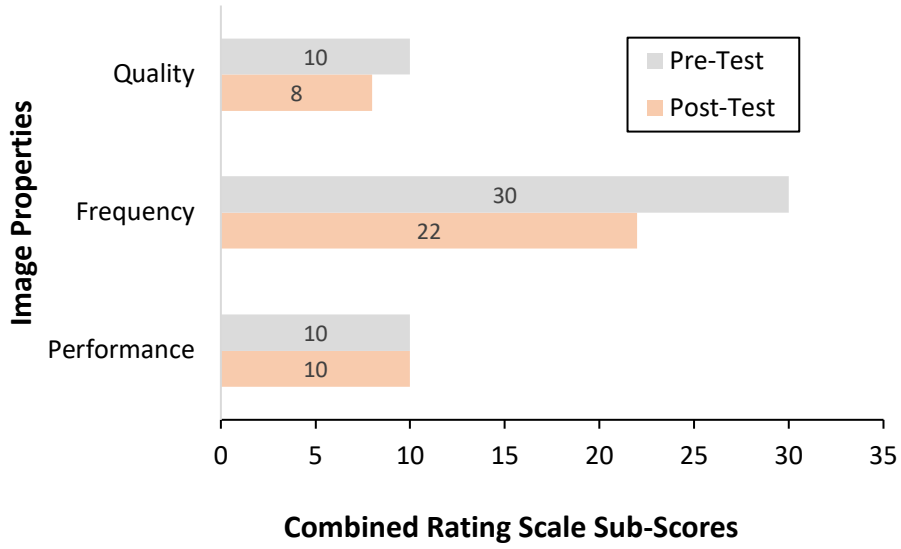
Intervention Experience. The screenplay intervention targeted reading comprehension skills, specifically visualization. Michael told the interviewer during the first interview that he did create pictures in his head while he was reading, "it's not hard"

(Field notes, July 6, 2020). However, he also noted that the quality of the pictures was "blurry." Throughout the intervention, Michael practiced visualizing as he regularly answered questions about mental imagery. RAC reported that Michael had "good ability to visualize from the read aloud book" (Field notes, July 13, 2020). An example of this occurred during a whole class discussion about *The Cat in the Hat* (Seuss, 1957). Students were asked what they visualized as the story was read aloud. Michael replied, "he comes out of nowhere, and the kids (he makes a shocked look) and then they say 'uh, uh, uh'" He pointed his finger as he was talking and then collapsed on the floor, as he pretended to be the kids in the story, who were shocked when the cat arrived. It was interesting that Michael acted out this scene, instead of using words to describe it. This supported the evidence that Michael frequently preferred to use pictures and actions to tell stories, not words.

Although Michael reported mental images during group discussions quite frequently, his scores on the AMI decreased in quality and frequency from pre-to-post (see Figure 26). His image performance, which measured his self-confidence in his ability to make images, remained the same. This was not surprising, as Michael regularly displayed confidence. However, these results are inconsistent with the interview. During the post-intervention interview, Michael reported that his image quality was "clear," as opposed to "blurry" during the pre-intervention interview. Though, when he was directly asked if the intervention helped him create more images he replied, "no" and thought the image quality was the same pre-to-post.

Figure 26

Michael's Ability to Make Images Questionnaire



Note. The total possible sub-scores: Quality = 10, Frequency = 35, Performance = 15.

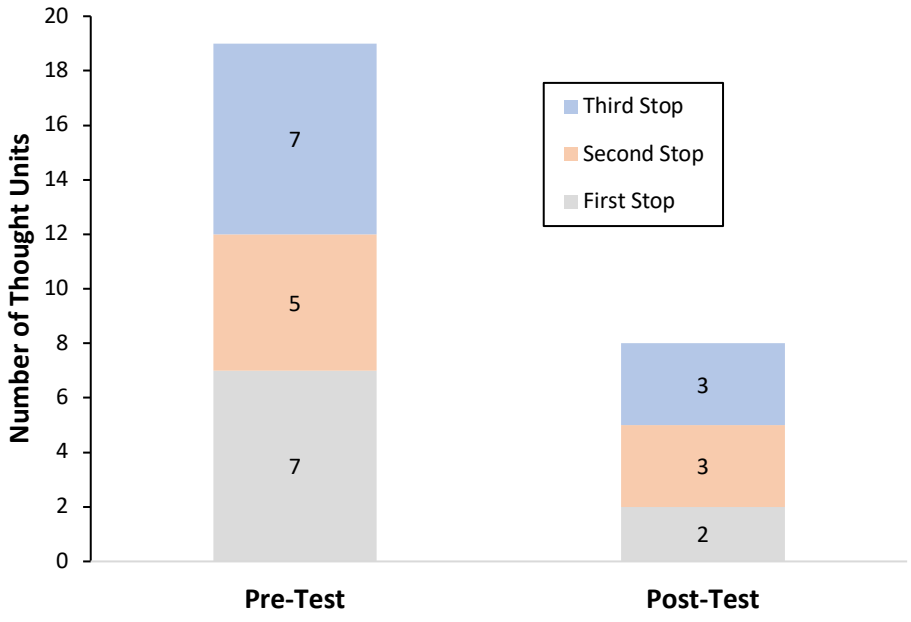
Throughout the intervention, students practiced skills including finding and reporting details within pictures. The exercises helped students practice expressive language skills which, in turn, would help when they answered the descriptive question of 'What do you see when you hear the text read aloud?' These exercises especially benefited students like Michael who preferred to use pictures instead of words to respond in writing. During a warm-up activity, where students found details within a picture on the screen, RAC reported that Michael "found good details within the opening dog photo, very obscure objects he found (in a corner, a table, poster on wall)" (Field notes, July 9,

2020). In another activity where students reported details about a story read aloud, RAA reported that Michael "gave a lot of details about the mouse story" (Field notes, July 17, 2020). Additionally, Michael's workbook pages were detailed.

The number of details Michael was able to express from pre-to-post intervention was measured in the number of Thought Units on the Think-Aloud measure as well as by counting the number of Thought Units used to describe the elements on the Plot Diagram. On the Think-Aloud measure, where Michael reported his mental images after hearing parts of a story read aloud, the scores decreased substantially from pre-to-post intervention (see Figure 27).

Figure 27

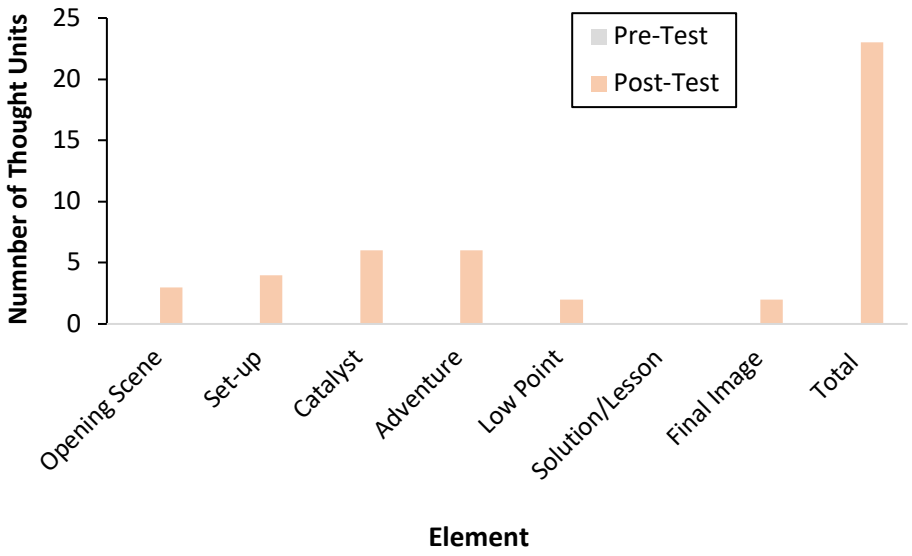
Michael's Description of Mental Imagery as Measured in Thought Units



The results of pre-to-post testing on the Think-Aloud measure greatly contrasted with Michael's pre-to-post results on the Plot Diagram (see Figure 28). Both measures were administered on the same day yet there was a marked difference in results. On the Plot Diagram, Michael had no score on the pre-test. He was unable to report any parts of the story accurately and, therefore, received a score of 0 for number of relevant Thought Units reported. On the post-test, he was able to report 23.00 Thought Units. It was unclear why Michael had such different results on both assessments. It could have been inattention. Michael exhibited periods of inattention during the intervention and would participate one minute and then next minute was seen drawing. It could have also been that it was easier for Michael to describe a specific part of the story. During the intervention, we described each element and gave students visual cues in the movie to remember the element. Michael could have used the definition of each element to recall the example from the story, which would be why recalling the elements in the Plot Diagram was easier for him.

Figure 28

Michael's Description of Examples of Elements Within a Text



In the area of reading comprehension, Michael's learning of the elements was inconsistent throughout the intervention discussions. RAC reported that Michael "got all answers correct to Element 1 Quiz with no hesitation about the answers" (Field note, July 15, 2020). However, RAA reported during a small group session that Michael "had some trouble filling in details of the plot diagram and the order of the elements" (Field note, July 21, 2020). Additionally, RAA noted that during the second module Michael "had trouble identifying the Adventure and the Low Point of *Strega Nona"* (Field note, July 17, 2020). On the Plot Diagrams, Michael substantially increased his scores from pre-to-post in his ability to identify and sequence the elements (see Figure 29). He also

increased his ability to find examples of the elements within the text from pre-to-post. Michael was a literal thinker. This was evidenced by his responses during his interview and responses throughout the intervention classes. His achievement in finding examples of elements within the text supported the theme of literal thinkers doing better at findings examples within the text.

Figure 29

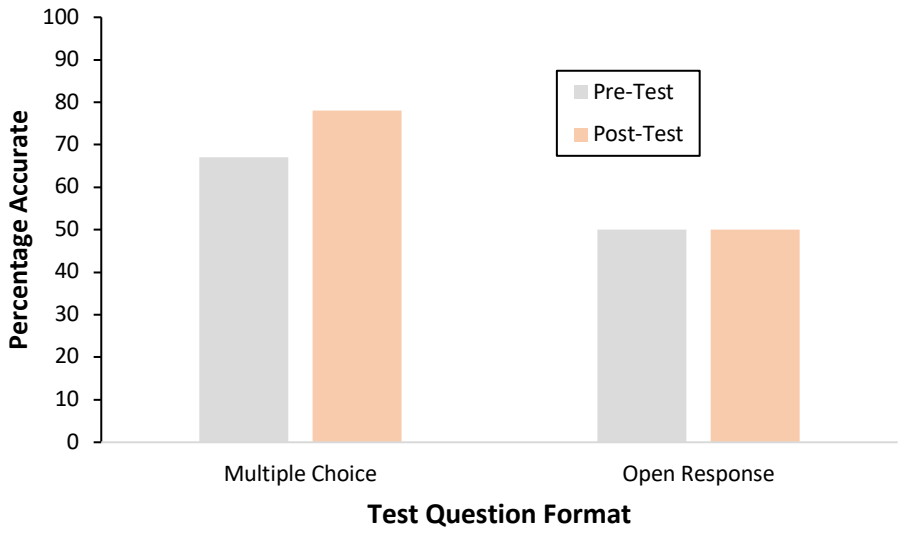
Michael's Knowledge of the Elements

The Plot Diagram measures showed that Michael increased his reading comprehension from pre-to-post as evidenced by identifying and sequencing the elements. The MCAS measure also showed increased passage comprehension on

Multiple-Choice questions (see Figure 30). The scores on the Open Response questions remained the same from pre-to-post, however. Michael's Open Responses on both pre-and-post tests were vague and included few details to support the answer.

Figure 30

Michael's Passage Comprehension Scores



The MAZE test measured sentence level comprehension and was timed. Michael had great difficulty with this test both pre-and-post intervention (see Table 16). The reason for this could have been Michael's difficulty with decoding. Michael's test scores indicated that he did not meet grade level expectations on district standardized tests. Additionally, Michael's mother reported his reading level was below grade level. This

was the only measure in the study where students decoded without assistance. All other measures were read aloud, in order to get a true measure of comprehension that would not be impacted by decoding. This measure, however, was appropriate to measure sentence level comprehension and fluency. While the intervention was too short to show substantial improvements in this area, it was important to note if any trends were present.

Table 16

Michael's MAZE Sentence Comprehension Timed Test

	Words Correct		Words Incorrect		Adjusted Score	
	Pre	Post	Pre	Post	Pre	Post
Group Mean (sd)	**13.60 (5.94)**	**16.60 (6.43)**	**2.20 (2.49)**	**2.80 (1.48)**	**12.08 (4.88)**	**13.50 (7.49)**
Michael	6.00	6.00	2.00	5.00	5.00	3.50

Note. The adjusted score is words incorrect divided by 2 and subtracted from words correct.

Summary. Michael had bold confidence and loved to express himself through pictures. His love of writing was evident throughout the intervention as he often extended the daily class activities into future stories. When Michael was asked what he thought of the intervention, he replied: "I loved it, it made me so much happier. It helped me so much. It helped me learn and create stuff." Michael's experience was definitely positive. He enjoyed interacting with fellow classmates and participating in the games and activities, especially the ones that involved creative writing. Michael's participation

during the intervention was an example of how his family beliefs of the importance of reading, noted by him during the interview, could have influenced the desire to improve his reading skills.

While Michael made gains in reading comprehension, and learned the elements of a screenplay, he did not make as much progress in visualization. It is unclear why this occurred. Michael did report that he already had visualization skills and he believed that the intervention did not help him create more images. This could be the reason the intervention did not result in gains in this area.

Michael also displayed an interesting skill throughout the intervention, his ability to use a Think-Aloud technique as he was watching the movies or listening to a story read aloud. During a group activity at the beginning of the intervention, students watched the movie and were asked to notice the elements. Michael talked throughout the showing. However, he talked about what was happening. He commented, summarized, and predicted. This was not an isolated event. The research staff noted Michael was engaging in this think-aloud activity during the movies and the read alouds. RAA noted during the beginning of *National Treasure* (Turtletaub et al., 2005), Michael made random comments throughout the movie, even when he was not asked. “He could be arrested. He went to jail. They knew he took it” (Field notes, July 6, 2020). “What is he doing?” (Field notes, July 8. 2020). “They found the treasure, but he had to go to jail because he had two options, go to jail or find the map and go to jail” (Field notes, July 21, 2020). These comments could have helped Michael process the movie and while practicing this skill was not specifically addressed during the intervention, it should be included in

future replications. Overall, Michael enjoyed the intervention, made some academic gains in reading comprehension, and used the intervention activities to fuel his interest in writing.

Cross-Case Analysis

Ben, Sophia, and Michael represented different profile groups within the intervention study: Benchmark, At-Risk, and Intervention, respectively. Each of these students experienced the intervention in a different way. This could have been the result of how their reading history and identity and/or their attitudes throughout the study were impacted by the intervention. This cross-case analysis highlights similarities and differences in their experiences of the intervention in order to uncover ways that the students uniquely experienced the intervention (Yin, 2018). Further, *a priori* topic codes were present for thematic analysis which reached across all cases. Themes were significant concepts that linked the data together (De Santi's & Ugarriza, 2000, as cited in Newell et al., 2017).

Reading History and Identity

Early Reading History. All three students had a positive early reading history at home. In the pre-intervention interview, they all reported many books in the home, and all could remember a time when someone read to them as a young child. Ben stated, "we've got like five bookshelves full and the whole family reads them." Ben and Sophia described their mother reading to them in bed at night and Michael described his favorite books as a young child. Interestingly, Michael separated the graphic novels from "books" indicating that the books "are in my room, no one well reads them." However, his

favorite books, "*Dog Man* (Pilkey, 2016) and *Captain Underpants* (Pilkey, 1997)," he reads all the time. This information reflected a positive early literacy environment (Kosanovich et al., 2020) and positive associations with reading for each student. These positive early reading experiences at home could have contributed to the initial positive reader identities each expressed at the start of this study (Kosanovich et al., 2020).

Experiences at School. In school, Ben and Sophia reported being part of a remedial group. While Sophia had positive memories of her remedial group explaining she felt "good. Feel better about reading." and experiences of reading at school, Ben had negative memories and experiences, "it made me feel left out of the classroom." This is another example of how reading history can impact reader identity. Ben's negative experiences of feeling left out of the classroom, could have started to create a negative reader identity. A negative reader identity can have a great impact on learning. It impacts self-confidence, which could, in turn, impact motivation and reading behaviors. Ben reported that he did not read on his own unless he was forced, and he had the opinion that he was a "struggling reader." "My mom [called me a struggling reader]. I feel like she's correct." Ben frequently reported a lack of confidence during the intervention, often questioning his ability to complete tasks. Interestingly, it did not seem that his limited belief in his ability impacted his achievement. Ben was able to increase his passage comprehension scores, image quality scores, and think-aloud scores from pre-to-post intervention. Additionally, Ben increased his ability to identify and sequence elements from 3 to 7, a perfect score, and find examples of elements within the text from 2 to 7, also a perfect score. These academic gains could have been due to his assertive and

charismatic personality. Ben participated often, even if his participation included a comment about his lack of ability.

Sophia appeared to have a positive reader identity from her early experiences at school and at home. She described being read to as a child "my family, everybody [read to me]." Her reader identity probably contributed to her positive, respectful attitude during the intervention but there is insufficient evidence to link it to achievement. Sophia's mother was a teacher and there was a strong family belief in literacy achievement at home. Sophia's mother was aware of Sophia's struggles in reading and reported helping her with schoolwork by obtaining audiobooks and reading aloud. This extra time spent with her mother in reading, could have further contributed to a positive reader identity (Kosanovich et al., 2020). During the intervention, Sophia increased her passage comprehension scores for multiple choice questions from 56 to 89 out of a possible 100 points, pre-to-post and also increased the number of thought units on the think-aloud measure from 7 to 22 pre-to-post. Additionally, Sophia increased her ability to sequence and identify the elements from 5 to 7 pre-to-post. However, she decreased her ability to find examples of elements within the story.

Michael did not report being part of a remedial group at school, but this was contradictory to his reading needs and reports from his mother. It was possible that Michael was not able to accurately report his reading abilities. Still, he reported a positive reading experience in school, yet had mixed results on measures of visualization and reading comprehension throughout the intervention. In sum, all three participants experienced gains during the intervention with no pattern despite their reader identity.

Thus, it would appear that the participants' reader identity in this short intervention did not impact reading achievement.

Definitions of a Good Reader. All participants had a different definition of a 'good reader.' It appeared that their thoughts about themselves as a good or bad reader corresponded to the degree they fit to their definition. Sophia and Michael had positive thoughts about themselves as readers which aligned with their definitions of good readers. Sophia's definition related to positive frequency of reading, "they keep on reading I guess," and Michael's definition initially related to a good ability to decode, "they can sound out the words," but post-intervention changed to frequency, "if you read a lot.". Ben's definition also initially related to decoding and post-intervention changed to include comprehension as well. Ben, however, had a poor concept of himself as a reader. Michael's and Ben's definition of a 'good reader' changed pre-to-post intervention. This could have been due to their experiences during the intervention. Ben's definition initially described decoding as fundamental in good reading ability. Throughout the intervention, the students participated in various activities and were explicitly taught that comprehension was an important part of reading. Post-intervention, Ben added 'meaning' to his definition of a 'good reader.' This could have meant that now Ben understood that being a good reader involved more than decoding.

Michael changed his definition of a good reader from reading frequently to reading accurately. This was interesting because Michael reported reading often in the pre-intervention interview. However, Michael's mother reported that he read comic books all day. Michael understood text better with pictures. It was possible that Michael

realized throughout the intervention that the words within the book were also important.

Reading Attitudes and Behavior

Reading Frequency. Even though it seemed that reader identity did not impact achievement, it could have impacted the students' reading frequency, which could, in time, impact reading achievement. Students who read more frequently, are stronger readers (Allington, 2014). Ben reported not reading at all unless "my mom tells me to at bedtime." Additionally, his preferences for reading materials decreased for recreational reading from pre-to-post substantially while his preferences for academic material remained the same. Ben's preference scores post-intervention ranged from 2 (recreational print) to 5 (academic print) on the 6-point Likert-type scale, 6 having indicated a high preference for that type of reading material. It is possible that Ben's reader identity impacted how frequently he read.

Conversely, Sophia reported reading for almost an hour daily and Michael read almost all day, as reported by his mother. Sophia's reading preferences were very high for digital and print material pre-and-post intervention. There were slight changes pre-to-post, but all material preferences were 4 or higher on the 6-point Likert-type scale. Michael's preferences for print materials remained the same, pre-to-post, at 6. His preference for digital materials increased, more for academic than recreational, 2 to 6 and 2 to 3, respectively. These high preferences for print reading materials for Michael, and for print and digital reading materials for Sophia indicated they liked to read and did it often which could have been a result of their positive reader identity.

Motivation Levels. Preference for activities throughout the intervention greatly

impacted the students' motivation levels. Ben, Sophia, and Michael reported that they enjoyed the intervention. Sophia and Michael were more excited than Ben, who described it on a scale of 1-100 as an "85." However, all students noted that their favorite part of the intervention was the games. The researcher included games in almost every lesson. Lessons that did not have specific games, had competition activities between the small groups. During the intervention, students remained in the same small group. The reason for this was to create a safe space for students to learn and feel comfortable sharing and participating. (Additionally, each small group had the same research assistant throughout the intervention, for the same reason, and the research assistant administered the pre and post testing to the members of their small group.) Ben and Michael particularly loved competition activities. They were in different groups. During the small group games, research assistants reported a high level of engagement and participation during the games from all students. Students loved the idea of competition. Findings showed that levels of participation did not impact achievement, however. Ben and Michael participated more than Sophia during the intervention and their achievement levels did not correspond to their levels of participation.

Participation During the Intervention. Participation and engagement are important to learning and it was interesting to see the marked differences in participation and engagement throughout the intervention. The researcher hypothesized that participation could have been hampered by the assertive personalities in the group. Ben and Michael often dominated conversations, along with John. Was it possible that Sophia's participation was hindered by the overbearing participation of the boys (Coplan

et al., 2011)? Even in the small group, Sophia was among two boys who were very assertive. However, RAC reported that in one small group activity where students needed to identify the elements within the text, Sophia volunteered so quickly to give all of the answers that RAC stopped her, so that someone else could have a chance to participate. Still, it was possible that Sophia felt more comfortable participating in the small group than the large group. Hence, the assertive personalities likely were not the cause of her lower participation rate.

Other Reading Behaviors Emerging. The intervention was too short to adequately measure other reading behaviors which may have emerged. However, there were slight changes to discussion behaviors, as previously mentioned. Sophia participated more in small group discussion as the intervention progressed. Starting out high, Michael's and Ben's levels of participation remained high and consistent throughout the intervention. Additionally, Michael had an interesting behavior of using a think-aloud as a movie or read-aloud story was playing. Michael would often talk through the dialogue. Ben sometimes engaged in this behavior as well (although it is not clear that he was following Michael's model). Ben's behavior was noted as the movies played but not during the read-alouds. This type of metacognitive behavior can impact reading comprehension and while it was observed, it was not practiced due to the short duration of the study.

Intervention Experience

Developing Mental Imagery. Visualization findings were inconsistent among Ben, Sophia, and Michael. Ben and Sophia increased in overall visualization, as reported

by the Think-Aloud measure while Michael's scores decreased on this measure. In the AMI questionnaire, there were no patterns in score increases and decreases among the three case study participants. This could have been because the intervention was too short to show an increase in visualization. Visualization is a difficult skill when comprehending, especially for students with disabilities and striving readers and the intervention may not have provided enough practice to impact any change (Klingner et al., 2007).

The available measures of visualization are limited, and the AMI and Think-Aloud measures are self-reported. Expressive and receptive language challenges in communication among the participants could have impacted scores on the self-reported measures. Michael was diagnosed with a communication disorder as a secondary disability. His AMI scores in image quality and image frequency decreased pre-to-post. His score in image performance remained the same. In the Think-Aloud, the thought units measured in each of the three stops and the total reported thought units all decreased pre-to-post. Ben increased in image quality on the AMI and Sophia increased in image frequency and remained the same on image performance pre-to-post. Additionally, both Ben and Sophia increased the total number of thought units on the Think-Aloud. Specifically, Ben increased in the number of thought units during the second and third stop as well as overall, and Sophia increased in all three stops as well as overall. Another possible reason for the inconsistency in the visualization scores was because they were self-reported. Did students truly have difficulty with visualization, or did they have difficulty expressing what they were visualizing?

Learning the Elements of a Screenplay. All three case study participants learned to identify and sequence all the elements of a screenplay. Ben and Sophia scored 100% on the Element Mastery Quiz for each module on the first try. Michael scored 100% on the Element Mastery Quiz for the first module on the first try, although only 66% for the second and third modules on the first try. After a review session with a research assistant, Michael scored 100% on both the second and third modules on his second tries. The positive test scores could have been because students became familiar with the format of the test. Additionally, the same multiple-choice test was given to students after the review module which may have influenced test scores.

The findings were mixed in regard to finding examples of the elements within a text. Ben's and Michael's scores increased in this area, while Sophia's score decreased pre-to-post. The reason for this could be that learning to identify and sequence the elements of a screenplay is a basic recall comprehension skill while learning to identify examples of the elements within a text is a more difficult skill to acquire. This skill, of finding examples of elements, was practiced during the intervention using movies, children's books, and short stories. Additionally, the researcher also asked students to write a story in groups using elements of the screenplay. This activity was extremely difficult for students. The reason for this could have been that students needed more practice with finding the element within the story before they could create a story using the elements.

Reporting Details and Passage Comprehension. Even though scores for finding examples of the elements within the text were inconsistent, scores for the number of

details reported overall when describing each element on the Plot Diagram increased. The number of details were counted and reported as thought units. These thought units measured the ability to express details when reporting the story elements. All three participants increased in the number of text-relevant thought units reported on the Plot Diagram. Recalling details helps students in passage comprehension and answering higher level thinking questions (Oakhill et al., 2015).

Students practiced reporting details daily during the intervention. The researcher hypothesized that practicing this skill would increase mental imagery. The findings were inconsistent in this regard. Ben and Sophia increased scores of mental imagery on the Think-Aloud, however, Michael decreased his scores significantly from pre-to-post. Still, Michael did well during the intervention when he practiced finding details for various activities. However, having practiced recalling details during the various activities in the intervention could have contributed to increased reading comprehension scores, because the students were remembering more details within the text overall, as evidenced by the increased number of thought units noted on the Plot Diagrams for the elements. Further, all students increased their reading comprehension multiple-choice scores from pre-to-post on the MCAS even though there was not explicit practice or instruction in answering passage comprehension questions throughout the intervention. This could have been because there were clear indications on what to report based on the characteristics of each element. On the Think-Aloud measure, the directions were directed because students needed to tell the research staff what they saw in their mind while reading. This may have confused students.

Sentence-Level Comprehension. The researcher also measured sentence-level comprehension. While the intervention was too short to see major growth in this area, the researcher intended to report any changes. In measuring this construct, the researcher could compare these results with other studies related to the topic. There were mixed findings on the MAZE test. Ben's and Michael's adjusted scores decreased pre-to-post, 16 to 14 and 5 to 3.5 respectively, while Sophia's increased considerably, 11 to 19.5. Sophia's scores in the number of Thought Units reported on the Think-Aloud also increased pre-to-post, 7 to 22. The researcher hypothesized that an increase in the frequency of mental imagery would increase sentence level comprehension. It is possible that as Sophia's ability to create images increased, she could visualize the story better, causing her to increase in fluency and sentence level comprehension. Although there was no direct measure of comprehension at the sentence level, this is evidenced by Sophia's self-reported increase on the AMI and her claim in the interview that the intervention increased the number of images created when she read. "[The intervention] helps me put images easier in my brain."

Summary

Ben, Sophia, and Michael each represented a different reading profile at baseline: Benchmark, At-Risk, and Intervention, respectively. Although this was the reading profile defined by their standardized achievement scores, they each had difference experiences of the intervention. Ben's negative reader identity contributed to low self-confidence during classes and the research staff worked to increase his self-confidence by using positive reinforcement. Sophia and Michael both had positive reader identities and

did not exhibit this same low confidence level. Instead, Sophia was quiet and sometimes distracted, while Michael was exuberant, participated often, and confident in his answers. All three students had a positive attitude throughout the intervention and participated in the small group activities.

Ben, Sophia, and Michael had different experiences of the intervention itself, academically. While the intervention itself was too short in duration to expect any significant changes in reading comprehension pre-to-post, there were positive trends observed for each individual student. Even though motivation waxed and waned, all students reported that they enjoyed participating in the intervention, especially in the games and small group activities. Further, each student positively experienced the intervention and made gains in different areas of reading comprehension.

Overall Findings: Research Question 2

For Ben, Sophia, and Michael, the intervention was engaging and it increased their understanding of text, despite their differences as readers at the beginning of the study. Ben came to the intervention with a negative reading identity, due to negative experiences at school. Even still, he did well learning the elements of a screenplay and increased his reading comprehension. Moreover, Ben was extremely engaged during activities and participated often in group discussion. Sophia and Michael came to the intervention with positive reader identities. They also learned the elements and increased passage comprehension. Notably, Sophia also increased her sentence level comprehension and reported an increase in the frequency of mental imagery both during the interview and on the self-reported survey. While Sophia was quiet, sometimes

unengaged, and did not participate, Michael was very engaged and participated often. Still, both students yielded positive experiences. Consequently, reader identity did not impact achievement during this study, although observations of self-confidence were noted, and it could have had an impact on reading frequency.

Overall Findings for Research Questions

The screenplay intervention yielded positive results in overall reading comprehension, knowledge of the elements, and mental imagery. It was easiest for students to learn the elements as evidenced by the increased scores on the Plot Diagram. Learning the elements aided students in identifying text structure which could have led to increased passage comprehension. Additionally, students increased their ability to report details or Thought Units for each element on the Plot Diagram and for the Think Aloud. This indicated students increased the ability to identify and report details which could have also led to increased passage comprehension.

Students' ability to increase their reading behaviors and mental imagery, although positive, were not substantial. This could be because of the limited time of the intervention or due to the intervention design. Still, during formative assessments such as during discussions, students were able to answer questions related to the movie, children's book, and short story. Further, it was apparent that the students were engaged and enjoying the process of learning. In all, the intervention did positively impact readers' experiences and identities, which reflects meaningful positive changes in the readers beyond the skills of reading comprehension assessed for Research Question 1.

Chapter 6: Discussion

This dissertation study was designed to address the reading comprehension needs of students with disabilities and striving readers. The researcher-developed intervention was an engaging way to teach students the elements of a screenplay, anticipated to help them visualize while they read. Creating mental imagery while reading is an elaborative process of comprehension (Klingner et al., 2009). This chapter begins by addressing the urgent need for interventions in the area of reading comprehension for secondary students and how this study addressed this need. Next, the findings from the implementation of the intervention are integrated into the current research. Following, implications for research and practice are introduced, including ways to build on the current intervention. The chapter ends with limitations of the study and final thoughts.

Current State of Reading Comprehension

A significant number of adolescents do not read or write at levels which will ultimately prepare them for 21st century careers (NJCLD, 2008). This is particularly evident in the stagnant NAEP scores from the past 20 years (NAEP, 2019). Even more troubling is in 2019 the average NAEP reading score for 8th graders with disabilities was dramatically below that for students without disabilities. This gap has been stagnant over the last two decades, prompting significant research in the area of reading comprehension.

The Reading for Understanding Initiative ([RfU] 2009), was part of this endeavor, made possible by a grant from the U.S. Institute of Education Sciences. Built on the facets of The National Reading Panel (2000) and the RAND Reading Study Group

(2002), RfU provided funding for directed reading comprehension research in 2009 over a period of five years. In 2020, Pearson and colleagues compiled a report which outlined the major contributions the RfU research added to the field. The authors reported that "the RfU work taught us more about reader and activity variables than it did about text and context variables" (Pearson et al., 2020, p. 6). One of the findings was that interventions that were multi-faceted, and worked simultaneously on different components of reading comprehension, instead of being directed at one skill, were more successful in increasing comprehension and related skills such as vocabulary and knowledge acquisition. Additionally, the role of motivation and engagement was found to be crucial in reading comprehension instruction. The experimental intervention in this study addressed all of these components, multi-faceted component skills, and motivation and engagement.

An Intervention Derived from Research

Rosenblatt (1983) asserted that students need to become part of a text to fully experience it. She theorized that this transaction would change the meaning of the text for the student. It will also fully engage the student in the reading experience. In order to fully engage with all their senses, students need to be able to create mental imagery while they are reading (Sadoski & Paivio, 2001). These images will allow students to fully engage and interact with the text, creating meaning.

Students with disabilities and striving readers require explicit instruction to learn to create mental images while reading (Klingner et al., 2007; Scanlon et al., 1992). The screenplay intervention employed in this dissertation embodied the principles of the latest

body of research from RfU and extended it. Based on the elements of a screenplay, as developed by Snyder (2005), this multi-component intervention provided a motivating way for students with disabilities and striving readers to learn about the elements of a narrative, first in movies and in literature of increasing complexity. Similar to story grammar, students were taught specific characteristics of each element within a movie and used a plot diagram to organizer them (Gersten et al, 2001; Grünke et al., 2015). This not only paired characteristics with a visual model but also engaged students while learning. Eventually, students transferred the characteristics of the elements to texts of increasing complexity. Findings showed positive trends in various skills of reading comprehension. Moreover, students enjoyed the intervention which led to increased motivation and engagement, which was influential to increasing their reading comprehension (Guthrie & Klauda, 2014).

Intervention Impact

Reading Comprehension

The screenplay intervention increased reading comprehension scores for passage comprehension, particularly for multiple choice questions. The intervention focused on the elaborative sub-processes of reading comprehension (Klingner et al., 2007). It was comprised of components which allowed students to practice interacting with the non-aesthetic aspects of the text (Rosenblatt, 1983) to fully engage and make meaning. The intervention was multi-faceted, incorporating different teaching and learning components related to reading comprehension, including direct instruction, gradual release of responsibility, graphic organizers, and discussion, each of which has been associated with

passage comprehension (Allington & Mc-Gill-Franzen, 2009; Brum et al., 2019; Oakhill et al., 2015; Pearson et al., 2020; Scanlon et al., 1992; Swanson et al., 2019).

As noted, using a multi-component intervention to improve student outcomes built on previous reading comprehension research. Kavani and Amjadiparvar (2018) successfully used various reading comprehension strategies with middle schoolers, such as making connections, predicting, questioning, monitoring, visualizing, and summarizing. Kim et al., (2016) found positive effects of an intervention comprised of strands on decoding, fluency, vocabulary, and comprehension in middle school. Swanson et al., (2019) found positive outcomes in middle school, using a multi-component intervention centered on discussion using questioning and locating text-based evidence. The multi-component nature of each of these interventions contributed to their positive effects. The screenplay intervention in the present study combined story mapping and visualization. These components of comprehension were not previously found combined within the research base.

The screenplay intervention had many different activities, including games which were designed to teach students how to find and report details. The researcher thought this type of activity would engage students and that practicing this valuable skill would help them when they reported mental imagery details during Think-Alouds. Upon reflection, the researcher considered that this practice may have additionally contributed to the positive gains on multiple choice questions in the passage comprehension measure. When students listened to the passage, they needed to remember details in order to answer the passage comprehension questions. They were guided in several games during

the intervention where they had to remember details and describe them to peers.

The intervention also aligns with the literature on the positive effects of story mapping on reading comprehension. There is sparse research on story mapping at the secondary level (Boon et al., 2015). However, two studies showed positive results in using these graphic organizers to help students organize story elements within a narrative structure (Crabtree et al., 2011, Stetter & Hughes, 2010).

The screenplay intervention study used a Plot Diagram, essentially a story map, to successfully aid students in organizing the narrative structure of a movie, children's book, and then short story while learning the elements of a screenplay. This built on the work of Alturki (2013), Grünke et al. (2013), and Praveen and Premelatha (2013) in their middle school studies of using graphic organizers to improve reading comprehension of students with learning disabilities. Although these studies used different research designs, they all had positive results. The elements of a screenplay taught within this study were essentially story grammar and the Plot Diagram helped students sequence and find examples of the story grammar within the different media. The study adds to the sparse research on story mapping in secondary education (Boon et al., 2015, Crabtree et al., 2010, Stetter & Hughes, 2010).

Measures of reading comprehension were also a component of the screenplay intervention. All students are expected to take district and state common assessments which measure reading comprehension by asking students to answer multiple-choice and open response questions. Klingner et al., (2007) posited that "missing from most reading comprehension measures is a link between information obtained from the measure and

reading instruction" (p. 15). For students with disabilities and striving readers, multiple-choice questions are not the best measures of reading comprehension because the language of the questions can be difficult to understand (Klingner et al., 2007). The research staff in the screenplay intervention tried to mitigate these difficulties and obtain the necessary information by reading the students the tests aloud so they did not impede comprehension (Oakhill & Patel, 1991). Additionally, using multiple ways to assess reading comprehension, such as standardized tests, discussion, and the Plot Diagram, allowed the researcher to obtain a wholistic picture of the students' reading comprehension.

The intervention, while short in duration, showed positive trends on measures of passage and sentence level comprehension. Additionally, students were successful in learning the elements and using the plot diagram. These results were accompanied by reports from students that the intervention "helped me understand the stories better" (Michael, personal communication, July 23, 2020) and "helped me understand the story better because I can picture it now" (Callie, personal communication, July 23, 2020). When Laura was asked if the intervention helped her understand the stories better, she replied "yeah, it did." Not only did the intervention positively impact students' reading comprehension scores, but students also believed that the intervention helped them to better understand the text. This level of confidence in the intervention with apparent from all students except Ben, who responded that the intervention, "helped me out a little bit more but not a lot just a tiny bit."

Mental Imagery

The results that the intervention had on mental imagery added to the sparse research in this area. Kavani and Amjadiparvar (2018) and Wang et al. (2015) both explicitly taught visualization strategies to secondary students and found positive impacts on reading comprehension. Neither of these studies used movies to increase visual supports, however. Movies can benefit from the effects of the conceptual peg hypothesis which posits that the mental images created while reading help readers remember the story as they are reading, thereby enhancing comprehension (Sadoski & Paivio, 2001). Movies can give students models of visuals helping them remember the elements of the story. The present screenplay intervention showed mixed trends for mental imagery. The mean scores increased pre-to-post for the Think-Aloud measure, which showed that students did report more details for what they 'saw' when they heard the story read aloud. Additionally, most students reported in the post-intervention interview that the intervention helped them create more images with better quality. However, the AMI showed decreased scores. This could have been due to the design of the AMI itself.

The importance of visualization is derived from Transactional Theory (Rosenblatt, 1983). It is vital that students are able to see themselves in the story. This can be difficult for students with specific disabilities, they may lack the ability to see the story from a different perspective, make inferences, or be able to see themselves in the story. While the screenplay intervention helped them practice visualization, this is a higher-level thinking skill. The challenge of this instruction for students with disabilities is trying to make this higher-level thinking skill something that can be explicitly taught

with rules and visual supports/models. This was the goal of the screenplay intervention, to be systematic, which is to say, to provide students specific characteristics of each element in the screenplay that they then had a visual example of in a movie. Then, they could connect the visual images with the characteristics to help remember the elements within the text. As they remembered the characteristics, they would try to find the same ones in the text- the goal was to have the visual reminders create more visuals within the text. However, the intervention needed a longer amount of time for students to become proficient in these skills. Overall, the intervention did increase students' ability to report thought units during the Think-Aloud. However, visualization is a complex process, which needs to be separated into discrete skills and scaffolded, in order for students to be successful.

Reading Related Behaviors

Several students showed additional behaviors which were beneficial to learning the intervention. Ben and Michael engaged in Think-Aloud behaviors while watching the movie and Michael also engaged in this behavior while listening to the stories read aloud. Think-Alouds are greatly beneficial in formative assessment (Bulut & Ertem, 2018; Seipel et al., 2017). Due to the time constraints of the intervention, this skill was not practiced, but should be included in future trials. While ability to perform this skill was not measured, limiting what can be concluded about it in the present study, it does add to the research by Bulut and Ertem (2018) on practicing strategies with peers through Think-Alouds.

Another reading comprehension skill, which was practiced throughout the

intervention, was discussion. Students were encouraged to discuss the elements of a screenplay within the movies and texts. Field notes and students' comments revealed that the students enjoyed this social aspect of the intervention. It allowed students to talk about their perceptions, predictions and understandings of the movies and texts. Multiple students would answer the same comprehension question asked by the researcher and students would often talk to each other, asking follow up questions. The discussions enabled the researcher to informally assess their understanding of the elements. These positive findings add to the body of evidence on the importance of discussion in reading comprehension and this social side of reading (Barth et al., 2016; Ivey, 2014; Swanson et al., 2019).

Fluency was another related skill. As students are able to create more mental images while reading the meaning of the text will be more fluid, and in turn will impact fluency. Fluency was observed in the case studies but was not really practiced nor measured in the intervention. Sophia increased her image frequency, as measured by the AMI and in her interview. Additionally, her MAZE scores, a measure of sentence-level comprehension, increased. The researcher hypothesized the increase in the sentence-level comprehension could have been from the increase in image frequency.

Motivation / Engagement

Participation in the various activities of the intervention was varied by participants, although all had full attendance. Some students, like Ben, John, and Michael, participated regularly from the very beginning. Others like Laura and Callie took time to get used to other students and gradually participated more during the three

weeks. Still others, like Sophia and Amelia, barely participated in the large group sessions at any time. In the small group sessions, they participated more, but not as much as the others. This could have been due to the composition of the small groups (Coplan et al., 2011). Sophia was in a small group with Ben and John, two very loud and excited participants. This could have impacted Sophia's participation. Amelia was in a small group with Michael, who was also very assertive and loud when participating. This could have impacted her participation. Callie and Laura were in a small group together. They had about the same temperament, neither was loud or domineering, and grew in participation evenly. This element of grouping should be noted in future studies.

Research shows the difficulty of engaging striving readers at the secondary level (Deshler et al., 2007; Melekoglu, 2011; Pearson, 2020). Taboada et al. (2008) related motivation to comprehension in their study of upper-level elementary aged students. Louick et al. (2016) used the same constructs with middle-schoolers. This study adds to that body of research as all students reported that they enjoyed the intervention, which was corroborated by the research staff's observations and emails from parents.

Throughout the study, research staff reported high engagement of students during the game-like activities. These activities were present multiple times daily during lessons. The students' motivation contributed to their participation in most cases. Students completed the activities, listened to the texts read aloud, and answered questions during discussions. Additionally, they eagerly watched the movies, which contributed to the body of research on using movies to motivate students in the classroom (Derado et al., 2010; McNeal et al., 2014). and listened to the texts read aloud. The participation

contributed to the gains in reading comprehension, mental imagery, and knowledge of the elements.

Reading History and Identity

Early reading history contributes to initial positive reader identity and positive reading behaviors (Kosanovich et al., 2020). All case study participants reported initial positive experiences surrounding reading. These positive experiences led to their initial positive reading behaviors and positive memories of books read by family members. Those positive identities and behaviors can in turn influence their engagement in the intervention.

Encouraged by a member of this dissertation committee, the term striving reader was used to describe learners who were experiencing difficulties with reading. Striving readers is a term which is not frequently used but may be more appropriate than the term "struggling readers," which has a negative impact for reader identity (Alvermann, 2001; Dudley-Marling, 2011; Enriquez, 2011). This study contributes to the body of literature focused on "striving readers" (e.g., McCullough & Griffin, 2020; Reninger & Wilkinson, 2010).

During the intervention, aspects of students' reader identities were apparent during instruction. Research staff tried to help students reframe their negative reader identities by providing frequent encouragement (Frankel, 2016; Frankel, 2017; Frankel et al., 2015; Moreau, 2014). Observations showed that Ben needed encouragement often. Ben's negative reader identity certainly impacted his self-confidence during instruction and impacted his reading frequency at home. Ben often said, "I'm bad at this" during

group activities. Other students, like Sophia and Michael, who had positive reader identities, continued to report reading frequently at home. Sophia was quiet and did not participate frequently but also did not show a lack of confidence when she answered questions. Michael participated often and was confident when he volunteered answers.

It was impactful to see some of the effects of students' reader identities in the classroom. Ben's negative identity caused his low self-confidence in his reading ability as evidenced by his multiple verbalizations when participating in activities throughout the study. He was not the only student to express apprehension at the activities in which we engaged; however, he was the most consistent. Sophia, and Michael had positive reader identities which helped them approach the activities with more confidence. It takes time for students to reframe their reader identities (Glenn et al., 2018). Although the research staff consistently provided positive reinforcement and encouragement for students, it was sad to see these effects of negative identities.

Implications for Future Research and Practice

The intervention was engaging, and all students reported enjoying it; additionally, indicators of positive improvements in reading comprehension and reader identity and experience were documented. The intervention components, specifically the use of movies for reading comprehension instruction, should be considered in the secondary classroom. Students find movies engaging and they can be an effective instructional technique (Derado et al., 2010; McNeal et al., 2014). Additionally, students can begin to learn valuable comprehension skills with complete visual supports. Then, supports can be reduced as the transference of learned skills is made to text.

Future research should involve a longer intervention period, which was originally designed, in order to appropriately assess possible gains. Despite the students enjoying the intervention activities they clearly needed more time to practice the skills they were taught. Students improved in passage comprehension, as assessed by the multiple-choice measure of passage comprehension, the reason for this should be investigated. What components of the intervention impacted performance on this measure in comparison to the Plot Diagram measure?

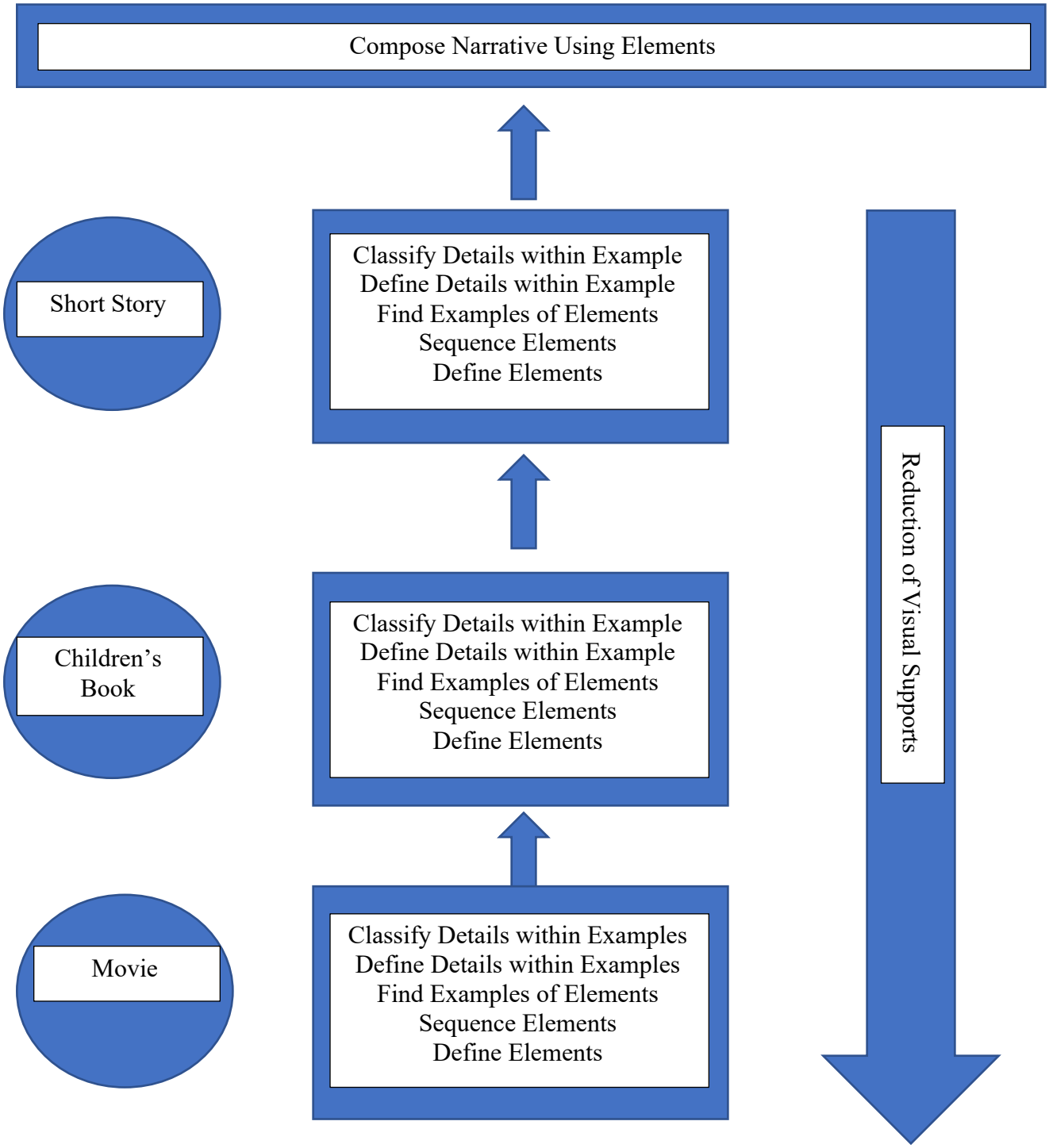
While the researcher was able to measure changes in mental imagery using the Think-Aloud measure and the AMI survey, alternate measures of mental imagery should be considered. There are not measures of mental imagery which are consistently used in reading intervention studies. A measure could be designed specifically for the use of this intervention, using the principles of Dual Coding Theory.

When the researcher initially designed the intervention there were multiple components which she thought would contribute to increased reading comprehension. Throughout the intervention, she learned through formative assessments, mostly discussions, that students were learning at different paces. Some students, like Callie, excelled during instruction and the post-testing illustrated this learning. Other students did not do as well. This led the researcher to question the intervention structure and student learning. Why did Callie excel on post-testing and others did not? What aspects of the intervention allowed her to do that? To answer these questions, after the study was completed the researcher scaffolded the intervention to see what the most basic skills were that students needed to learn, and then how those skills built upon each other (see

Figure 31). With this knowledge during the intervention the researcher could have seen at which points students were stuck and required more practice to be more successful. For example, all students learned how to define and sequence the elements of a screenplay. However, as the skills became more difficult, such as finding the main ideas of the elements within the text, finding details of the elements within the text, and classifying details as important or unimportant, students had greater difficultly. Scaffolding instruction is crucial for students with disabilities but beneficial for all students (Meyer et al., 2014). Unfortunately, the short duration of the intervention did not allow for this to take place during instruction, but it should be used for future trials.

Figure 31

Scaffolding the Intervention



Based on the present study findings, the intervention, itself, should be revised to include the scaffolded skills such as classifying details, and a writing component. Students should be able to identify, sequence and find examples of elements of a screenplay. Further, they should be able to write stories containing various elements in order to understand the characteristics of each element more deeply. Given the importance of these skills to the overall skill of visualizing for reading comprehension, scaffolding them could be a pre-cursor to screenwriting instruction.

Limitations

There were several limitations in this study that should be considered. The first of these would be the timing of the study. The study was approved and intended to commence in March of 2020. Unfortunately, this was the start of the COVID-19 pandemic. Due to the nature of this emergency, many schools moved quickly to remote learning. This included the site originally designated for the study implementation. Further, the teacher who volunteered to deliver instruction decided that it would be too difficult to participate in the study during this time. The researcher, after trying to unsuccessfully recruit another teacher, decided to implement the study herself and recruited parents who would volunteer their children for participation. This situation was the source of several potential additional limitations.

The study included seven students from different parts of the United States, some in different time zones. While this was beneficial to combine students from various backgrounds, it was difficult to combine them in the classroom learning environment and expect these middle school students would be automatically comfortable participating in

small and large group discussions. It took some students almost half the intervention duration to become comfortable enough to participate, some barely offered answers even up until the very end of the study.

Another limitation of the intervention was its duration. The original intervention was designed to take place for four to six weeks, a typical quarter during the school year. The intervention needed to be redesigned in order to accommodate the necessity of online learning, the students coming from various localities and the timing of the intervention, which became the summer. The intervention was condensed to take place during eleven lessons, in three weeks, with two days allotted for pre-testing and two days allotted for post-testing. The condensed and shortened nature of the intervention likely influenced the levels of gains made.

The online delivery of the intervention can also be considered a limitation. Students were located in their homes. The researcher could not control the distractions within the home, which at times competed with instruction. It was evident that some participants were not comfortable with the remote format, at least at times. Additionally, while the measures were all transferred to online delivery, most converted to Google Forms, these measures were not designed to be administered in this manner. Hence, the integrity of the measures may have differed from what would have been found in face-to-face paper and pencil administration.

A final limitation of the study was the inadequacy of measurement tools for mental imagery. In the literature reviewed researchers used self-report scales, which have limitations due to respondents' abilities to accurately recall thoughts and actions. There

are not tests designed to measure mental imagery while reading. Instead, researchers have used think-alouds (Oakhill & Patel,1991), however, these too can be subjective (Karabenick & Zusho, 2015).

Conclusion

This dissertation study was designed to investigate an engaging reading comprehension intervention for middle schoolers. The multi-component intervention was designed by the researcher to increase reading comprehension skills of secondary level students reading at below-proficiency levels. Specifically, a plot diagram was used during the intervention to help students sequence the elements of a screenplay (Snyder, 2005). The plot diagram was similar to a story map and the elements of a screenplay were similar to story grammar (Field, 2005). This graphic organizer contributed to students understanding the sequence of the elements within the narrative structure. Further, explicitly teaching text structure was instrumental in the participating students with disabilities and striving readers comprehending the passages (Klingner et al., 2007; Oakhill et al., 2015).

Whole class results showed that the intervention was successful in increasing scores on measures of mental imagery, recognizing elements of a screenplay and passage comprehension. Mean improvements for the number of thought units reported showed increased visualization. All students were able to define, identify, and sequence the elements of a screenplay, and mean scores improved for finding examples of the elements within a grade-level text passage. Mean scores also improved for multiple-choice and open response questions for passage level comprehension. Mean scores only slightly

improved pre-to-post for sentence level comprehension.

Case studies reported on Ben, Sophia, and Michael showed students' varied experiences with the intervention. Thematic analysis showed the students' reading histories impacted their reader identity, and reader identity impacted reading frequency. Students' reader identities, although shown to impact self-confidence, did not impact their achievement during the intervention. Further, the students' definitions of a good or bad reader fit themselves as successful or unsuccessful with tasks. In addition, as their definitions changed, so did their beliefs in themselves as readers. This indicates that teachers need to acknowledge students' reader identities in the classroom and be mindful of fostering positive interactions with reading. Finally, while family beliefs passed down to students could have impacted their desire to improve in reading, all students had a positive attitude throughout the intervention, were motivated, and enjoyed being a part of the class. These results for the whole class and individual student experiences contribute to the body of research on engaging reading comprehension visualization interventions for students with disabilities and striving readers. Teaching comprehension using screenplay elements for comprehension in an engaging format that includes analyzing movies is a promising practice.

References

Abodeeb-Gentile, T., & Zawilinski, L. (2013). Reader identity and the Common Core: Agency and identity in leveled reading. *Language and Literacy Spectrum, 23*, 34-45.

Allington, R. (2014). How reading volume affects both reading fluency and reading achievement. *International Electronic Journal of Elementary Education, 7*(1), 13-26. Retrieved from https://www.iejee.com/index.php/IEJEE/article/view/61

Allington, R. L., & McGill-Franzen, A. (2009). Comprehension deficits among struggling readers. In S. Israel, & G. Duffy (Eds.), *Handbook of research on reading comprehension* (pp. 551-568). Routledge.

Al Otaiba, S., Connor, C., Folsom, J., Wanzek, J., Greulich, L., Schattschneider, C., & Wagner, R. (2014). To wait in tier 1 or intervene immediately: A randomized experiment examining first-grade response to intervention in reading. *Exceptional Children, 81*(1), 11-27.

Alturki, N. (2017). The effectiveness of using group story-mapping strategy to improve reading comprehension of students with learning disabilities. *Educational Research and Reviews, 12*(18), 915-926.

Alvermann, D. (2001). Reading adolescents' reading identities: Looking back to see ahead. *Journal of Adolescent and Adult Literacy, 44*(8), 676-690.

Alvermann, D., & Jackson, G. (2016). Alvermann & Jackson: Response to "Beyond the Common Core: Examining 20 years of literacy priorities and their impact on struggling readers". *Literacy Research and Instruction, 55*(2), 107-110.

Alves, K. D., Kennedy, M. J., Brown, T. S., & Solis, M. (2015). Story grammar instruction with third and fifth grade students with learning disabilities and other struggling readers. *Learning Disabilities: A Contemporary Journal, 13*(1), 73-93.

Baines, L., & Dial, M. (1995). Scripting screenplays: An idea for integrating writing, reading, thinking, and media literacy. *The English Journal, 84*(2), 86-91. doi:10.2307/821058

Barth, A., Vaughn, S., Capin, P., Cho, E., Stillman-Spisak, S., Martinez, L., & Kincaid, H. (2016). Effects of a text-processing comprehension intervention on struggling middle school readers. *Topics in Language Disorders, 36*(4), 368-389. doi:10.1097/TLD.0000000000000101

Beaver, J., & Carter, M. (2006). *Developmental Reading Assessment, Second Edition (DRA2+).* Pearson.

Bednar, M.R. (1991, December 3-7). *Teacher cognition: Preservice knowledge and reflections about the reading process* [Paper presentation]. National Reading Conference 41st Annual Meeting, Palm Springs, CA, United States.

Birks, M., & Mills, J. (2015) *Grounded theory: A practical guide*. SAGE.

Birks, M., Chapman, Y., & Francis, K. (2008). Memoing in qualitative research: Probing data and processes. *Journal of Research in Nursing, 13*(1), 68-75.

Bloome, D. (1985). Reading as a social process. *Language Arts,* 134-142.

Boardman, A., Klingner, J., Buckley, D., Annamma, S., & Lasser, C. (2015). The efficacy of collaborative strategic reading in middle school science and social studies classes. *Reading and Writing, 28*(9), 1257-1283.

Boerma, I., Mol, S., & Jolles, J. (2016). Reading pictures for story comprehension requires mental imagery skills. *Frontiers in Psychology, 7,* 1-10.

Boon, R.T., Paal, M., Hintz, A., & Cornelius-Freyre, M. (2015). A review of story mapping instruction for secondary students with LD. *Learning Disabilities: A Contemporary Journal, 13*(2), 117-140.

Botsas, G. (2017). Differences in strategy use in the reading comprehension of narrative and science texts among students with and without learning disabilities. *Learning Disabilities: A Contemporary Journal, 15*(1), 139.

Boyle, J., & Scanlon, D. (2019). *Methods and strategies for teaching students with high incidence disabilities* (2nd ed.). Cengage Learning.

Brenna, B., (2013). How graphic novels support reading comprehension strategy development in children. *Literacy, 47*(2), 88-93.

Bulut, B., & Ertem, I.S. (2018). A think-aloud study: Listening comprehension strategies used by primary school students. *Journal of Education and Training Studies, 6*(5), 135-143.

Carrow-Woolfolk, E. (2011). *Oral and Written Language Scales, Second Edition, (OWLS™-II).* Western Psychological Services (WPS).

Casey, L.B., Miller, N.D., Stockton, M.B., & Justice, W.V. (2016). Assessing writing in elementary school: Moving away from a focus on mechanics. *Language Assessment Quarterly, 13*(1), 42-54.

Chall, J.S. (1983). *Stages of reading development.* Mc-Graw-Hill.

Chavez, J. N., Martinez, J., & Pienta, R. S. (2015). Effects of story mapping on third-grade students with attention deficit hyperactivity disorder. *Journal of Pedagogy, 6*(1), 95-121. doi:10.1515/jped-2015-0006

Cho, E., Capin, P., Roberts, G., Roberts, G. J., & Vaughn, S. (2019). Examining sources and mechanisms of reading comprehension difficulties: Comparing English learners and non-English learners within the simple view of reading. *Journal of Educational Psychology, 111*(6), 982-1000.

Conradi, K., Jang, B. G., Bryant, C., Craft, A., & McKenna, M. (2013). Measuring adolescents' attitudes toward reading: A CLASSROOM SURVEY. *Journal of Adolescent & Adult Literacy, 56*(7), 565-576. doi:10.1002/JAAL.183

Cook, S. C., & Rao, K. (2018). Systematically applying UDL to effective practices for students with learning disabilities. *Learning Disability Quarterly, 41*(3), 179-191. doi:10.1177/0731948717749936

Cooper, J. D., Chard, D. J., & Kiger, N. D. (2006). *The struggling reader interventions that work*. Scholastic.

Coplan, R., Hughes, K., Bosacki, S., & Rose-Krasnor, L. (2011). Is silence golden? Elementary school teachers' strategies and beliefs regarding hypothetical shy/quiet and exuberant/talkative children. *Journal of Educational Psychology, 103*(4), 939-951.

Crabtree, T., Alber-Morgan, S.R., & Konrad, M. (2010). The effects of self-monitoring of story elements on the reading comprehension of high school seniors with learning disabilities. *Education and Treatment of Children, 33*(2), 187-203.

Creswell, J.W. (2015). *A concise introduction to mixed methods research.* SAGE Publications.

Daniels, H. (2002). *Literature circles: Voice and choice in book clubs and reading groups* (2nd ed.). Stenhouse Publishers.

Davey, B. (1983). Think aloud: Modeling the cognitive processes of reading comprehension. *Journal of Reading, 27*(1), 44-47.

DeKoning, B, & van der Schoot, M. (2013). Becoming part of the story! Refueling the interest in visualization strategies for reading comprehension. *Educational Psychology Review, 25*, 261-287.

DePaola, Tomie (1975). *Strega Nona: An old tale.* Prentice-Hall.

Derado, J., Garner, M., Edwards, B. P., & Garrett, V. L. (2010). The story of the trojan octagon. *Mathematics Teaching in the Middle School, 16*(3), 172-179. Retrieved from https://www.jstor.org/stable/41183502

Deshler, D., Palincsar, A.S., Biancarosa, G., & Nair, M. (2007). *Informed choices for struggling adolescent readers.* International Reading Association.

Dhawan, S., (2020). Online learning: A panaceas in the time of COVID-19 crisis. *Journal of Educational Technology, 49*(1), 5-22.

Diez, K. S., Pleban, F. T., & Wood, R. J. (2005). Lights, camera, action: Integrating popular film in the health classroom. *Journal of School Health, 75*(7), 271-275. doi:10.1111/j.1746-1561.2005.tb06688.x

Domke, L.M., Weippert, T.L., & Apol, L. (2018). Beyond school breaks: Reinterpreting the uses of film in classrooms. *The Reading Teacher, 72*(1), 51-59.

Dudley-Marling, C. (2011). The trouble with "struggling readers". *Talking Points, 23*(1), 2-7.

Dwomoh, R. (2020). Fostering an interactive Social Studies classroom instruction during a pandemic: Experience, practice, and advice. *Journal of International Social Studies, 10*(2), 141-150.

Dyson, A.H., & Genishi, C. (2005). *On the Case: Approaches to Language and Literacy Research.* Teachers College Press

Elder-Hinshaw, R., Manset-Willimason, G., Nelson, J., and Dunn, M. (2006). Engaging older students with reading disabilities. *Teaching Exceptional Children, 39*(1), 6-11.

Emmer, E.T., & Evertson, C.M. (2017). *Classroom Management for Middle and High School Teachers* (10th ed.). Pearson.

Enriquez, G. (2011). Embodying exclusion: The daily melancholia and performative politics of struggling early adolescent readers. *English Teaching: Practice and Critique, 10*(3), 90-112.

Erdmann, A., & Metzger, M. (2013). Discussion in practice: Sharing our learning curve. In J. Ippolito, J. Lawrence, & C. Zaller (Eds.), *Adolescent literacy in the era of the Common Core* (pp. 103-116). Harvard Education Press.

Feifer, S.G., & Nader, R.G. (2015). *Feifer Assessment of Reading (FAR)*. Par, Inc.

Field, S. (2005). *Screenplay: The Art of Screenwriting.* Bantam Dell Publishing.

Florida Department of Education. (2020). *Bureau of K-12 student assessment 2020-2021 Florida statewide grade-level assessments fact sheet.* fldoe.org/core/fileparse.php/5663/urlt/Grade-LevelFS2021.pdf

Ford-Connors, E., Dougherty, S., Robertson, D.A., & Paratore, J.R. (2015). Mediating complex texts in the upper grades: Considering motivation, instructional intensity and cognitive challenge. *Journal of Adolescent & Adult Literacy, 58*(8), 650-659.

Fore III, C., Scheiwe, K., Burke, M.D., & Boon, R.T. (2007). Teaching a story mapping procedure to high school students with specific learning disabilities to improve reading comprehension skills. *Learning Disabilities, 14*(4), 233-244.

Frankel, K.K. (2017). What Does It Mean to Be a Reader? Identity and Positioning in Two High School Literacy Intervention Classes. *Reading & Writing Quarterly, 33*(6), 501–518. https://doi.org/10.1080/10573569.2016.1250143

Frankel, K.K., Fields, S.S., Kimball-Veeder, J., & Murphy, C. (2018). Positioning adolescents in literacy teaching and learning. *Journal of Literacy Research, 50*(4), 446-477.

Frankel, K.K., Jaeger, E.L., Brooks, M.D., & Randel, M.A. (2015). Struggling readers? using theory to complicate understandings of what it means to be literate in school. *Literacy Research: Theory, Method, and Practice, 64*(1), 307-322. doi:10.1177/2381336915617606

Fountas, I., & Pinnell, G.S. (2010). *Fountas & Pinnell, Benchmark Assessment System 1. Grades K-2, Levels A-N.* Heinemann.

Fountas, I., & Pinnell, G.S. (2010). *Fountas & Pinnell, Benchmark Assessment System 2. Grades 3-5, Levels O-Z.* Heinemann.

Fountas, I., & Pinnell, G.S. (2017). *Guided reading: Responsive teaching across the grades.* Heinemann.

Gambrell, L. (1982, December 1-4). *Induced mental imagery and the written language expression of young children* [Paper presentation]. National Reading Conference 32nd Annual Meeting, Clearwater Beach, FL, United States.

Gersten, R., Fuchs, L., Williams, J., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research, 71*(2), 279-320.

Gillet, N., Vallerand, R., & Lafrenière, M. (2012). Intrinsic and extrinsic school motivation as a function of age: The mediating role of autonomy support. *Social Psychology of Education, 15*(1), 77-95. doi:10.1007/s11218-011-9170-2

Glenn, W., Ginsberg, R., & King-Watkins, D. (2018). Resisting and persisting: Identity stability among adolescent readers labeled as struggling. *Journal of Adolescent Research, 33*(3), 306-331.

Gorlewski, J. (2009). Research for the classroom. *English Journal, 98*(4), 127-132.

Good, R. H., Kaminski, R. A., Shinn, M., Bratten, J., Shinn, M., Laimon, L., Smith, S., & Flindt, N. (2004). *Technical Adequacy and Decision Making Utility of DIBELS* (Technical Report No. 7). University of Oregon.

Gough, P.B., & Tunmer, W.E. (1986). Decoding, reading and reading disability. *Remedial and Special Education, 7*(1), 6-10.

Grünke, M., Boon, R. T., & Burke, M. D. (2015). Use of the randomization test in single-case research. *International Journal for Research in Learning Disabilities, 2*(2), 44-64.

Grünke, M., & Leidig, T. (2017). The effects of an intervention combining peer tutoring with story mapping on the text comprehension of struggling readers: A case report. *Educational Research Quarterly, 41*(1), 41. Retrieved from https://search.proquest.com/docview/1939739884

Grünke, M., Wilbert, J., & Stegemann, K. C. (2013). Analyzing the effects of story mapping on the reading comprehension of children with low intellectual abilities. *Learning Disabilities: A Contemporary Journal, 11*(2), 51.

Guthrie, J. T., & Klauda, S. L. (2014). Effects of classroom practices on reading comprehension, engagement, and motivations for adolescents. *Reading Research Quarterly, 49*(4), 387-416. doi:10.1002/rrq.81

Gutiérrez, K.D., Morales, P.Z., & Martinez, D.C. (2009). Re-mediating literacy: Culture, difference, and learning for students from nondominant communities. *Review of Research in Education, 33*(1), 212-245.

Hammill, D., Pearson, N., & Wiederholt, J. L. (2009). *Comprehensive Test of Nonverbal Intelligence-2 (CTONI-2).* Pro-Ed, Inc.

Hasbrouck, J., & Tindal, G. (2017). *An update to compiled ORF norms* (Technical Report No. 1702). Behavioral Research and Teaching, University of Oregon.

Hunt, K. (1965). A Synopsis of Clause-to-Sentence Length Factors. *The English Journal, 54*(4), 300-309. doi:10.2307/811114

Isikdogan, N., & Kargin, T. (2010). Investigation of the effectiveness of the story-map methods on reading comprehension skills among students with mental retardation. *Educational Sciences: Theory & Practice, 10*(3), 1509-1527.

Ivey, G. (2014). The social side of engaged reading for young adolescents. *The Reading Teacher, 68*(3), 165. Retrieved from https://search.proquest.com/docview/1667927690

Joffe, V.L., Cain, K., & Maric, N. (2007). Comprehension problems in children with specific language impairment: does mental imagery training help? *International Journal of Language & Communication Disorders, 42*(6), 648-664.

Johnson-Glenberg, M. C. (2000). Training reading comprehension in adequate decoders/poor comprehenders. *Journal of Educational Psychology, 92*(4), 772-782. doi:10.1037/0022-0663.92.4.772

Karabenick, S., & Zusho, A. (2015). Examining approaches to research on self-regulated learning: conceptual and methodological considerations. *Metacognition Learning , 10,* 151-163.

Kaufman, A.S., & Kaufman, N.L. (2014). *Kaufman Test of Educational Achievement Third Edition (KTEA-3)*. Pearson.

Kavani, R., & Amjadiparvar, A. (2018). The effect of strategy-based instruction on motivation, self-regulated learning, and reading comprehension ability of Iranian EFL learning. *Cogent Education, 5*(1) doi:10.1080/2331186X.2018.1556196

Kim, J., Hemphill, L., Troyer, M., Jones, S., LaRusso, M., Kim, H., Donovan, S., & Snow, C. (2016). The Experimental Effects of the Strategic Adolescent Reading Intervention (STARI) on a Scenarios-Based Reading Comprehension Assessment. Society for Research on Educational Effectiveness.

Klingner, J. K., Vaughn, S., & Boardman, A. (2007). *Teaching reading comprehension to students with learning difficulties*. Guilford Publications.

Kocaarslan, M. (2016). An exploratory study of the relationships between reading comprehension competence, reading attitude and the vividness of mental imagery among Turkish fourth-grade students. *International Electronic Journal of Elementary Education, 8*(4), 675-686. Retrieved from https://search.proquest.com/docview/1807740223

Kosanovich, M., Lee, L., & Foorman, B., (2020). *A First Grade Teacher's Guide to Supporting Family Involvement in Foundational Reading Skills. REL 2021-042.* Regional Educational Laboratory Southeast. Institute of Education Sciences.

Kraal, A., Koornneef, A. W., Saab, N., & van den Broek, Paul W. (2018). Processing of expository and narrative texts by low- and high-comprehending children. *Reading and Writing, 31*(9), 2017-2040. doi:10.1007/s11145-017-9789-2

Lake, R., & Dusseault, B. (2020, April 27). *Remote classes are in session for more school districts, but attendance plans are still absent.* Center for Reinventing Public Education. https://www.crpe.org/thelens/remote-classes-are-session-more-school-districts-attendance-plans-are-still-absent

LeRoux, M., Zvoch, K., & Biancarosa, G. (2020). Using curriculum-based measurement to predict student performance on an eighth-grade state reading assessment. *Assessment for Effective Intervention, 45*(4), 277-287.

Leslie, L., & Caldwell, J.A. (2017). *Qualitative reading inventory:6*. Pearson.

Lieberman, J., & Looney, J. (2013). Multiple texts in practice: Fostering accessibility, engagement, and comprehension. *Adolescent literacy in the era of the Common Core,* 163-180.

Louick, R., Leider, C. M., Daley, S. G., Proctor, C. P., & Gardner, G. L. (2016). Motivation for reading among struggling middle school readers: A mixed methods study. *Learning and Individual Differences, 49*, 260-269. doi:10.1016/j.lindif.2016.06.027

Lucariello, J., Butler, A., & Tine, M. T. (2012). Meet the "reading rangers": Curriculum for teaching comprehension strategies to urban third graders. *Penn GSE Perspectives on Urban Education, 9*(2)

Massachusetts Department of Elementary and Secondary Education (2019). *MCAS English Language Arts Practice Test Grade 5*. Pearson.

McCullough, M.K., & Griffin, R.A. (2020). Supporting the literacy development of striving readers through competing theoretical perspectives. *The Reading Professor, 43*(1), 1-38.

McFarland, J., & Shepard, T. (1995). Oral and written compositions of students with learning disabilities in the content area of science. *Learning Disabilities: A Multidisciplinary Journal, 6*(1), 13-18.

McKenna, M.C., Conradi, K., Bryant, C.L., Jang, B.G., & Meyer, J.P. (2012). Reading attitudes of middle school students: Results of a U.S. survey. *Reading Research Quarterly, 47*(3), 283-306.

McMaster, K.L., van den Broek, P., Espin, C.A., White, M.J., Rapp, D.N., Kendeou, P., Bohn-Gettler, C.M., & Carlson, S. (2012). Making the right connections: Differential effects of reading intervention for subgroups of comprehenders. *Learning and Individual Differences, 22*(1), 100-111.

McNeal, K.S., Spry, J.M., Mitra, R., Tipton, J.L. (2014). Measuring student engagement, knowledge, and perceptions of climate change in an introductory environmental geology course. *Journal of Geoscience Education, 62*(4), 655-667.

Melekoglu, M. A. (2011). Impact of motivation to read on reading gains for struggling readers with and without learning disabilities. *Learning Disability Quarterly, 34*(4), 248-261. doi:10.1177/0731948711421761

Meyer, A., Rose, D.H., & Gordon, D. (2014). *Universal design for learning: Theory and practice.* CAST Professional Publishing.

Miles, M.B. & Huberman, A. (1994). *Qualitative data analysis.* SAGE Publications, Ltd.

Moreau, L. (2014). Who's really struggling? Middle school teachers' perceptions of struggling readers. *Research in Middle Level Education, 31*(10), 1-17.

National Center for Education Statistics, National Assessment of Educational Progress (Project), Educational Testing Service, & United States. (2019). *NAEP ... reading report card for the nation and the states.*

National Center for Education Statistics, Office of Educational Research and Improvement, U.S. Dept. of Education. National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards.* Authors.

National Joint Committee of Learning Disabilities (2008). Adolescent literacy and other students with learning disabilities. *Learning Disability Quarterly, 31*, 211-218.

National Reading Panel, (U. S.). (2000). *Report of the national reading panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. National Institute of Child Health and Human Development, National Institutes of Health.

National School Reform Faculty (2015). *Student Work Analysis Protocol.* https://www.nsrfharmony.org/wpcontent/uploads/2017/10/StudentWorkAnalysis_0.pdf

Northwest Evaluation Association (2015). *Measures of Academic Progress (MAP).* NWEA.

Nowell, L., Norris, J., White, D., & Moules, N. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*, 1-13.

Oakhill, J., Cain, K., & Elbro, C. (2015). *Understanding and teaching reading comprehension*. Routledge.

Oakhill, J., & Patel, S. (1991). Can imagery training help children who have comprehension problems? *Journal of Research in Reading, 14*(2), 106-115. doi:10.1111/j.1467-9817.1991.tb00012.x

O'Donnell, A. M., Dansereau, D. F., & Hall, R. H. (2002). Knowledge maps as scaffolds for cognitive processing. *Educational Psychology Review, 14*(1), 71-86.

Omar, S., & Bidin, A. (2015). The impact of multimedia graphic and text with autistic learners in reading. *Universal Journal of Educational Research, 3(*12), 989-996.

Paige, D., Rasinski, T., & Magpuri-Lavell, T. (2012). Is fluent expressive reading important for high school readers? *Journal of Adolescent and Adult Literacy, 56*(1) 67-76.

Paivio, A. (1986). *Mental Representations.* Oxford University Press

Parenti, M. A. (2016). Motivating struggling middle school readers: Digital images as an aid for self-monitoring and enhancing retellings of text. *I-Manager's Journal of Educational Technology, 13*(1), 1. doi:10.26634/jet.13.1.6013

Parsons, L. T. (2006). Visualizing worlds from words on a page. *Language Arts, 83*(6), 492-500. Retrieved from https://www.jstor.org/stable/41962144

Pearson, P.D., & Gallagher, M.C., (1983). The instruction of reading comprehension. *Contemporary Educational Psychology, 8*, 317-344.

Pearson, P.D., Palincsar, A.S., Biancarosa, G., & Berman, A.I. (Eds.). (2020). *Reaping the rewards of reading for understanding initiative.* National Academy of Education.

Pennsylvania Department of Education (2020). *Pennsylvania System of School Assessment (PSSA)*. Data Recognition Corporation.

Pilkey, D. (1997). *The Adventures of Captain Underpants.* Scholastic, Inc.

Pilkey, D. (2016). *Dog Man*. Scholastic, Inc.

Pitcher, S. M., Albright, L. K., DeLaney, C. J., Walker, N. T., Seunarinesingh, K., Mogge, S., & Dunston, P. J. (2007). Assessing adolescents' motivation to read. *Journal of Adolescent & Adult Literacy, 50*(5), 378-396. doi:10.1598/JAAL.50.5.5

Praveen, S.D., & Premalatha, R. (2013). Using graphic organizers to improve reading comprehension skills for the middle school ESL students. *English Language Teaching, 6*(2), 155-170.

Radner, B. (2015). *City or Country—A Mouse Chooses*. http://teacher.depaul.edu / Documents /AMouseChooses_000. Adapted from Public Domain.

Radner, B. (2008*) The Cloud*. https//teacher.depaul.edu/Documents/5thgrade.pdf. Adapted from Public Domain.

Radner, B. (2005). *The Difficult Journey*. http://teacher.depaul.edu/Documents /TheDifficultJourneyFiction5thGrade.

Radner, B. (2010) *The Elves and the Shoemaker*. http://teacher.depaul.edu/Documents/TheElvesandtheShoemakerFiction6thGrade.pdf . Adapted from Public Domain.

RAND Reading Study Group, & Snow, C. (2002). *Reading for understanding: Toward an R & D program in reading comprehension.* Rand. doi:10.7249/mr1465oeri Retrieved from http://www.fachportal-paedagogik.de/fis_bildung/suche/fis_set.html?FId=644576

Reninger, K.B., Wilkinson, I.A.G. (2010). Using discussions to promote striving readers' higher level comprehension of literary texts. In J.L. Collins, & T.G. Gunning (Eds.) *Building struggling students' higher level literacy: Practical ideas, powerful solutions.* International Reading Association.

Ricketts, J., Jones, C. R., Happé, F., & Charman, T. (2013). Reading comprehension in autism spectrum disorders: The role of oral language and social functioning. *Journal of Autism and Developmental Disorders, 43*(4), 807-816.

Rogiers, A., Merchie, E., & Van Keer, H. (2020). What they say is what they do? Comparing task-specific self reports, think-aloud protocols, and study traces for measuring secondary school students' text-learning strategies. *European Journal of Psychology of Education, 35*, 315-332.

Rosenblatt, L. M. (1969). Towards a transactional theory of reading. *Journal of Literacy Research, 1*(1), 31-49. doi:10.1080/10862969609546838

Rosenblatt, L. M. (1982). The literary transaction: Evocation and response. *Theory into Practice, 21*(4), 268-277. doi:10.1080/00405848209543018

Rosenblatt, L. M. (1993). The transactional theory: Against dualisms. *College English, 55*(4), 377-386. doi:10.2307/378648

Rossman, G., & Rallis, S.F. (2017). *An introduction to qualitative research* (4th ed.). SAGE Publications Ltd.

Sadoski, M., & Paivio, A. (2001). *Imagery and text.* Erlbaum.

Saldaña, J. (2016). *The coding manual for qualitative researchers (3rd ed.)*. SAGE Publications, Ltd.

Saldaña, J., & Omasta, M. (2016). *Qualitative research: Analyzing life.* SAGE Publications, Ltd.

Scanlon, D., Cass, R., Amtzis, A., & Sideridis, G. (2009). Procedural Facilitation of Propositional Knowledge in the Content Areas. *Reading & Writing Quarterly, 25*(4), 290–310. https://doi.org/10.1080/10573560903120854

Scanlon, D.J., Duran, G.Z., Reyes, E.I., & Gallego, M.A. (1992). Interactive sematic mapping: An interactive approach to enhancing LD students' content area comprehension. *Learning Disabilities Research & Practice, 7*, 142-146.

Seipel, B., Carlson, S.E., & Clinton, V.E. (2017). When do comprehender groups differ? A moment-by-moment analysis of think-aloud protocol of good and poor comprehenders. *Reading Psychology, 38*(1), 39-70.

Seuss. (1957) *The Cat in the Hat*: Random House Children's Books.

Shurr, J.C. (2012). *Literacy access: An examination of the Picture Plus Discussion (PPD) Intervention using typical and age appropriate texts.* [Doctoral dissertation, Purdue University]. ProQuest Dissertation Publishing.

Skerrett, A. (2012). "We hatched in this class": Repositioning of identity in and beyond a reading classroom. *The High School Journal, 95*(3), 62-75. doi:10.1353/hsj.2012.0008

Snyder, B. (2005). *Save the Cat.* Michael Wiese Productions.

Sorrell, A. L. (1990). Three reading comprehension strategies. *Intervention in School and Clinic, 25*(3), 359-368. doi:10.1177/105345129002500310

Stake, R.E. (2006). *Multiple case study analysis.* The Guilford Press.

Stanton, A., Unkrich, L. (Directors). (2003). *Finding Nemo* [Film]. Buena Vista Pictures.

Stetter, M.E., & Hughes, M.T. (2010). Using story grammar to assist students with learning disabilities and reading difficulties improve their comprehension. *Education and Treatment of Children, 33*(1), 115-151.

Swanson, E., Stevens, E., & Wexler, J. (2019). Engaging students with disabilities in text-based discussions: Guidance for general education social studies classrooms. *Teaching Exceptional Children, 51*(4), 305-312.

Taboada, A., Tonks, S., Wigfield, A., & Guthrie, J. (2009). Effects of motivational and cognitive variables on reading comprehension. *Reading and Writing, 22*(1), 85-106. doi:10.1007/s11145-008-9133-y

Texas Education Agency, Texas Higher Education Coordinating Board (2019). *State of Texas Assessments of Academic Readiness (STARR).* Texas Education Agency

Thomas, E. E., & Stornaiuolo, A. (2016). Restorying the self: Bending toward textual justice. *Harvard Educational Review, 86*(3), 313-338. doi:10.17763/1943-5045-86.3.313

Touré-Tillery, M., & Fishbach, A. (2014). How to measure motivation: A guide for the experimental social psychologist. *Social and Personality Psychology Compass, 8*(7), 328-341. doi:10.1111/spc3.12110

Troyer, M. (2017). A mixed methods study of adolescents' motivation to read. *Teachers College Record, 119*, 1-48.

Turteltaub, J., Bruckheimer, J., Kouf, J., Wibberley, C., Wibberley, M., Cage, N., Voight, J., (Directors) Buena Vista Home Entertainment (Firm). (2005). *National treasure*. Walt Disney Home Entertainment.

UDL Guidelines. (n.d.) Retrieved from udlguidelines.cast.org.

United States. (1965). Elementary and secondary education act of 1965: H. R. 2362, 89th Congress, 1st sess., Public law 89-10. Reports, bills, debate and act. U.S. Govt. Print. Office.

United States. Congress (107th, 1st session: 2001). (2001). No Child Left Behind Act of 2001: conference report to accompany H.R. 1. U.S. G.P.O.

United States. National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform.* The National Commission on Excellence in Education.

University of Oregon (2020). *8th Edition of Dynamic Indicators of Basic Early Literacy Skills (DIBELS®)*. University of Oregon.

Urquhart, C. (2013). *Grounded theory for qualitative research: A practical guide.* Sage Publications, Ltd.

Vaughn, S.R., Bos, C.S., & Schumm, J.S. (2018). *Teaching students who are exceptional, diverse, and at risk in the general education classroom (7th ed.)*. Pearson.

Wang, L., Lawson, M. J., & Curtis, D. D. (2015). The effect of image quality training on reading comprehension of EFL students using the keyword method. *Language Teaching Research, 19*(4), 435-454. doi:10.1177/1362168814541718

Wang, L., & Li, J. (2019). Development of an innovative dual-coded multimedia application to improve reading comprehension of students with imagery deficit. *Journal of Educational Computing Research, 57*(1), 170-200. doi:10.1177/0735633117746748

Wanzek, J., Petscher, Y., Al Otaiba, S., & Donegan, R. (2019). Retention of reading intervention in effects from fourth to fifth grade for students with reading difficulties. *Reading & Writing Quarterly, 35*(8), 277-288.

Wilder, G., Albertson, J., Stuart, M., Dahl, R. & Warner Home Video (Firm). (2011). *Willy Wonka & the chocolate factory.* Warner Home Video.

Wilson, D. (2012). Training the mind's eye: “Brain movies” support comprehension and recall. *The Reading Teacher, 66*(3), 189-194. doi:10.1002/TRTR.01091

Wong, S., Miao, H., Cheng, Rebecca, & Yip, M. (2017). Graphic novel comprehension among learners with differential cognitive styles and reading abilities. *Reading & Writing Quarterly, 33*(5), 412-427.

Wyra, M., Lawson, M., & Hungi, N. (2007). The mnemonic keyword method: The effects of bidirectional retrieval training and on ability to image on foreign language vocabulary recall. *Learning and Instruction, 17,* 360-371.

Yin, R.K. (2018). *Case study research and applications: Design and methods.* SAGE Publications, Ltd.

Appendix A
Sample Lesson

Module 1 - Lesson 1

Welcome & Introductions (5 minutes): Students and staff introduce themselves. Teacher talks about their favorite movie and why they like the movie.

Warm- Up (10 minutes): On page 1 in your notebook, draw a scene from your favorite movie. Why is it your favorite movie? What makes it awesome?

When students finish warm-up, they enter Breakout Groups and discuss. Then invite students to share whole class.

Main Focus (25 minutes):

Teacher: (directed toward group) What do movies have in common? (answers will vary- characters, action, drama, etc.…) Write answers on the Whiteboard on Zoom.

Teacher: Before there is a movie, there is a screenplay. Discuss the definition of a screenplay and show students a picture of the screenplay.

All movies are also structured in the same way with a beginning, middle and end. We are going to study these three parts of a movie. Before there is a movie, there is a script or screenplay, and a screenwriter needs to write this. We are going to study the elements of screenwriting in the movie, all the different parts. The three parts (beginning, middle and end) are called acts. We are going to watch a short video about why structure is so important.

https://www.youtube.com/watch?v=bKrCKg9ggVI (approx. 4 minutes)

The three-act structure is described here.

https://www.youtube.com/watch?v=sLuicrSVt5g only up to 3 minutes 10 seconds

Teacher: We are going to talk about the three act structure and 7 elements within the three acts.

Act 1: Opening Scene, Set-up, Catalyst
Act 2: Adventure, Low Point
Act 3: Solution/Lesson, Final Image

Act 1 is about ¼ of the movie. Act 2 is about ½ of the movie and Act 3 is about ¼ of the movie.

We are going to learn about each element and watch it in a movie. Stories also have structure. When we read, we make pictures in our mind much like a movie. Our goal in this unit is to use the movies to show you all the details in each element. Then we will try to find those details in a children's book and in a short story. When we read the text, we will try to visualize and make the movie in our head, just like when we saw the elements on the screen.

Let's start with Act 1: The Opening Scene, The Set-up and the Catalyst.
Title/ Opening Scene- this is the first thing you see, the first impression you get of the movie within the first 2-5 minutes. You can see the setting, tone, mood of the movie and make predictions of what you think the movie will be about. It usually happens within the first 2-6 minutes of a movie. The teacher also describes the protagonist and antagonist in the story.

Teacher shows Finding Nemo (Stanton & Unkrich, 2003) and uses a think-aloud strategy to explain the details of each element they see in the movie. The teacher explains the protagonist and antagonist and talks about each element within the movie.

We are going to watch the Opening Scene of National Treasure together. I want you to write all the details you see in the opening scene on page 2 of your notebook.


Watch Netflix- National Treasure up to 6:44 seconds

After watching movie- enter Breakout Groups to discuss what you have on your list. Do not add anything to your list just share what you have.

Appendix B

Digital Recruitment Survey

Email Address:
Student's Name:
Student's Age:

What grade did the student complete in the spring of 2020?

What is the student's school name and district? (I need this information to research district standardized reading measures.)

What type of school does the student attend?
Public/Private/Religious/Homeschool/Other

Do you have copies of standardized reading test scores from the school/district that I could see (ex. MCAS, RICAS, STAR, FCAT, MAP)?
Yes/No

Does the student have an Individualized Education Program (IEP)?
Yes/No/ The student has been referred for special education services, but evaluations are not yet complete.

Could I have access to the IEP for background reading information/test scores?
Yes/No/Not Applicable

Which category is the IEP based on primarily (Specific Learning Disability- reading, Autism Spectrum Disorder, Other Health Impairment-ADHD, etc…)?

How would you describe your child's difficulties in reading?

What is the best time to hold class (EST)? Please check all available options. The class will be daily for approximately 45 minutes.
9/10/11/12/1/2/3

In which time zone are you presently located?
Eastern/Central/Mountain/Pacific/Other

The Boston College IRB approved this protocol.

Appendix C
Parent Consent Form

Boston College Consent Form
Boston College, Lynch School of Education and Human Development
Using Elements of a Screenplay to Promote Visualization and Increase Reading Comprehension in Students with Disabilities and Striving Readers

Researcher: Lori Ann Dunn
Faculty Advisor: Dr. David Scanlon

Informed Consent for Your Child's Participation

Invitation to be a Part of a Research Study

We are asking your permission for your child to participate in a research study. This study is to investigate a new way to help students improve their reading comprehension skills. It will involve them learning to recognize the parts of a story in a movie and then use those same skills when reading stories. Your child was selected as a possible participant in this study because he/she has completed grade 5, 6, 7, or 8. We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

What is the study about and why are we doing it?

The purpose of this study is to teach middle school students how to better understand stories. We believe that by teaching the students parts of a story in a movie first, they will better understand the parts in a short story. We also believe that by seeing the story parts in a movie, it will help students to better visualize the story when they are reading. We believe this may increase their understand of stories.

What will happen if you take part in this study?

If you agree to have your child participate in this study, they will complete reading surveys. These surveys will include questions about reading attitudes, reading motivation, reading behaviors and mental imagery. Then, students will take a pre-test which will

involve a reading passage and answering questions. Students will complete tests and surveys in Google.

After the pre-test, the students will participate in an eleven-lesson intervention unit. The lessons will occur virtually on Zoom and use the Zoom features such as Chat, Breakout Rooms and Whiteboard. All Zoom lessons will be video and audio recorded. **The researcher will have trained research assistants to help with the Zoom classes. During Breakout Room sessions, the researcher or a research assistant will be in the room with the students to assist with completing tasks and questions.** Only the researchers will have access to the Zoom recordings to complete observation notes. At the end of the three modules, students will take a post-test, similar to the pre-test. They will also take the reading surveys again. During the lessons, students will watch parts of movies. The movies will be rated G or PG. Students will be examining parts of the movies for the elements of a screenplay taught during the module. Students will be asked to participate in an interview. **This will be done by the researcher or the research assistants.** They will also be asked what they are seeing when they hear a short story.

How could you benefit from this study?
This data will help us determine effective strategies to support students' success in academic classes. The benefits of participating include that you child may learn additional reading comprehension strategies.

What risks might result from being in the study?
The risk associated with this study is that your child might experience discomfort when being observed or sharing information with the researcher present. We will stress that the goal of the study is to learn from him/her. We hope to learn how to better teach students. This study may include risks that are unknown at this time.

How will we protect your information?
The records of this study will be used for both research and educational purposes. Only

the researcher, Lori Ann Dunn and the faculty advisor, Dr. David Scanlon, will have access to the records. Your child's name will be changed to protect his/her identity. The original records will be stored in a locked file cabinet in a locked room until their destruction, five years after the completion of this project. Electronic data will be stored on the secured Boston College Departmental Server. The records of this study will be kept private. In any sort of report we may publish, we will not include any information that will make it possible to identify a participant. Research records will be kept in a locked file.

The Institutional Review Board at Boston College and internal Boston College auditors may review the research records. State or federal laws or court orders may also require that information for your research study records by released. Otherwise, the researchers will not release to others any information that identifies you unless you give your permission, or unless we are legally required to do so.

What will happen to the information we collect about you after the study is over?

The original records will be kept in a locked file until their destruction, five years after the completion of the project. Your name and other information that can directly identify you will be kept secure and stored separately from the research data collected as part of the project. We may share your research data with other investigators without asking for your consent again, but it will not contain information that could directly identify you.

How will we compensate you for being part of the study?

Students will receive a small incentive for participating in this study. After the conclusion of the study, the gift will be mailed to the student. The gift will be either a gift card to a movie theater, or a sports goods store, maximum value of $25, or a book appropriate for middle school students.

What are the costs to you to be a part of the study?

There is no cost to you to be in this research study.

Your Participation in this Study is Voluntary

Your child's participation is voluntary. If you choose not to have them participate it will not affect your current of future relations with Boston College. You are free to withdraw your child from the study at any time for whatever reason. There is no penalty for not taking part or for stopping your participation.

Getting Dismissed from the Study

If your child appears uncomfortable, the researchers may ask if he/she would like to withdraw from the study.

Contact Information for the Study Team and Questions about the Research

The researcher conducting the study is Lori Ann Dunn, Ph.D. Candidate. For questions or more information concerning the research, you may contact Lor Ann Dunn at 401-440-7837. The faculty advisor for this study is Dr. David Scanlon. If you believe you have suffered a research related injury, contact Dr. David Scanlon at 617-552-1949 who will give you further instructions.

Contact Information for Questions about Your Rights as a Research Participant

If you have questions about your rights or your child's rights as a research participant, or if you wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

Boston College
Office of Research Protections
Phone: 617-552-4778
Email: irb@bc.edu

Your Consent

By signing this document, you are agreeing to have your child participate in this study. Make sure you understand what the study is about before you sign. I will give you a copy of this document for your records. I will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree for my child to take part in this study,

Printed Child's Name_____
Parent/Guardian (Print Name) _____
Parent/Guardian (Signature)_____
Date_____

This protocol was approved by Boston College IRB on May 26, 2020 (Expedited).

Appendix D

Student Assent Protocol & Form

Research with Minors Assent Documentation Protocol

Parents will sign a parent consent form prior to our requesting the student's assent or discussing the study with the students. After receiving parental consent, students will be invited to a Zoom meeting. During the Zoom meeting, the researcher will discuss the study with the students. Students who indicate they would like to participate in the study will be sent the student assent form. The student assent form will be read aloud to the students who agree to participate in the study. The researcher for this study, Lori Ann Dunn, will be present to read and explain the form via Zoom. After reading the assent form, the researcher will ask the students if they have any questions. All questions will be answered. The researcher will periodically ask students to summarize what the assent form says, to ensure understanding. Students will also be encouraged to review the form with a parent before signing if they so desire. The students will then be told if they are interested in participating in the project to sign the form. They will be told that nothing bad will happen if they do not want to be a part of the project, including if they wish to withdraw. Students will also be told that they will all receive a small gift if they participate in the study.

Boston College

Student Assent for Participation in Research Study

This is a project that Mrs. Dunn is doing with middle school students to learn more about reading comprehension. You can help with this project if you would like to do so. You do not have to help if you do not want to.

During the project, Mrs. Dunn will give you some quick reading tests. The tests should not last more than 20 minutes. You will be given two tests at the beginning of the project. You will also take 3 surveys. The surveys will only take about 25 minutes. The scores on these tests or surveys will not affect your grades at school. Then, Mrs. Dunn will teach you about the parts of a story and how to make pictures in your mind when reading. You will watch parts of movies and read some books. All the lessons will be done using Zoom and will include Zoom features such as Chat, Breakout Rooms and Whiteboard. Mrs. Dunn will have assistants to help with the Zoom meetings. Then, about every 3-5 days for 2 weeks you will take a short quiz. There will be 3 quizzes total. Again, the scores on these quizzes will not count towards your grade. After the lessons, you will take another test and a survey about reading. You will also participate in an interview where Mrs. Dunn or her helpers will ask you questions about reading. You will also talk about what you see when you are reading.

Your name will not be put on any papers written about this project.

If you decide to help with this project, but then change your mind, you can stop helping at any time.

If you do not understand what Mrs. Dunn or her helpers would like you to do, please ask them questions. When the project is finished, Mrs. Dunn will send you a small thank you gift.

If you want to help with this project, please write your name on the line below.

Student's Name_____

Student's Signature_____

Witness_____

Date_____

[] Check box to indicate that copy is given to participant.

Boston College IRB approved this protocol (Expedited) May 26, 2020.

Appendix E

Short Story Sample

City or Country—A Mouse Chooses—A Fable

Jerome, a mouse who lived in the country invited his cousin Don, a mouse who lived in the city to visit him. Jerome lived in a hole near a tree.

"Very pretty" Don said about the place—so many trees. And that's a nice farm next door. What do you do for fun?"

"I take walks and look for big kernels of corn," Jerome replied. "Hmm, not that interesting," Don said. At dinner, Don was disappointed. All that they had to eat was dried corn. "I collected those last month," said Jerome. Now they're really tasty because when they dry out the flavor gets bigger."

Don said, "OK, but not as good as the food at my place. "You should visit me to find out what really great food we have. And it's not boring. Every day there are adventures."

That night, they looked at the stars. "So beautiful," Jerome said. "Yes," Don replied, "but so quiet. I'm bored. You should come to my place. Never boring. And we have streetlights so we can see those bright lights every night."

In another month, Jerome went to visit Don. The very first place that Don took Jerome to see was the kitchen of the house where he lived. "Just nibble in here," Don said, as they looked on a low shelf. There was a bag of sugar with a leak that Don had nibbled. Both mice ate away happily.

Then suddenly Don said, "Run. Run and hide." Jerome ran but didn't know why. Then he saw the reason. A big cat had come into the kitchen.

STOP

"Hide here," said Don, and they ducked into a hole in the wall. After the cat went away, they came back out. "Let's get a cookie," said Don, and he led Jerome to another shelf. They were eating a cookie when someone came into the kitchen and screamed loudly.

"What's happening?" asked Jerome. "Don't ask, just run!" said Don. They both ran quickly past a mousetrap. "What is that," Jerome asked—he had never seen a mousetrap in the country.

"Don't go near it, it will hurt you," Don said. "I know how to escape them. That night, Jerome could not sleep at all. He kept waking up every few minutes, worried about the dangers.

STOP

The next morning, Jerome made a decision. He told Don he was going to go back to the country.

"I like my home. I hope you are happy here, but I can't stay. Come back to see

me sometime. It is not as exciting as the city, but you can have a long and happy life in the country."

Element	Example from Story
Opening Scene	"Jerome, a mouse who lived in the country invited his cousin Don, a mouse who lived in the city to visit him. Jerome lived in a hole near a tree." (1st Paragraph)
Set-Up	"Very pretty" Don said about the place—so many trees. And that's a nice farm next door. What do you do for fun?" "I take walks and look for big kernels of corn," Jerome replied. "Hmm, not that interesting," Don said. At dinner, Don was disappointed. All that they had to eat was dried corn. "I collected those last month," said Jerome. Now they're really tasty because when they dry out the flavor gets bigger." Don said, "OK, but not as good as the food at my place. "You should visit me to find out what really great food we have. And it's not boring. Every day there are adventures." That night, they looked at the stars. "So beautiful," Jerome said. "Yes," Don replied, "but so quiet. I'm bored. You should come to my place. Never boring. And we have streetlights so we can see those bright lights every night." In another month, Jerome went to visit Don. The very first place that Don took Jerome to see was the kitchen of the house where he lived. "Just nibble in here," Don said, as they looked on a low shelf. There was a bag of sugar with a leak that Don had nibbled. Both mice ate away happily."

Catalyst	"Then suddenly Don said, "Run. Run and hide." Jerome ran but didn't know why. Then he saw the reason. A big cat had come into the kitchen."
Adventure	"Hide here," said Don, and they ducked into a hole in the wall. After the cat went away, they came back out. "Let's get a cookie," said Don, and he led Jerome to another shelf. They were eating a cookie when someone came into the kitchen and screamed loudly. "What's happening?" asked Jerome. "Don't ask, just run!" said Don. They both ran quickly past a mousetrap. "What is that," Jerome asked—he had never seen a mousetrap in the country."
Low Point	"Don't go near it, it will hurt you," Don said. "I know how to escape them. That night, Jerome could not sleep at all. He kept waking up every few minutes, worried about the dangers.
Solution	"The next morning, Jerome made a decision. He told Don he was going to go back to the country."
Final Scene	"I like my home. I hope you are happy here, but I can't stay. Come back to see me sometime. It is not as exciting as the city, but you can have a long and happy life in the country."

Radner, B. (2015). *City or Country—A Mouse Chooses.* http://teacher.depaul.edu / Documents /AMouseChooses_000. Adapted from Public Domain.

Appendix F

The Ability to Make Images Questionnaire (Wyra et al., 2007)

Image Quality	Not at All 1	Vaguely 2	Some of it 3	Most of it 4	Everything as in a Movie 5
When someone tells you or reads to you a story do you see in your mind what happens in the story?					
When you read a story do you see in your mind what happens in the story?					
Imaging Frequency	Never 1	Rarely 2	Sometimes 3	Often 4	Always 5
When someone tells you or reads to you a story do you see in your mind what happens in the story?					
When you read a story do you see in your mind what happens in the story?					
Do you like to imagine when reading?					
Do you like to imagine when listening?					
Are you a dreamer?					
Do you like to imagine when watching?					

Do you like to imagine when doing nothing/daydreaming?					
Imaging Performance	Not at all 1	Not so good 2	Reasonably good 3	Good 4	Very good 5
Are you good at imagining things/objects/animals?					
Are you good at imagining people?					
Are you good at imagining actions/what happens/what people do?					

Appendix G

Middle School Reading Attitude Survey (McKenna et al., 2012)

	Very Bad 1	2	3	4	5	Very Good 6
1. How do you feel about reading news online for class?						
2. How do you feel about reading a book in your free time?						
3. How do you feel about doing research using encyclopedias (or other books) for a class?						
4. How do you feel about texting or emailing friends in your free time?						
5. How do you feel about reading online for a class?						
6. How do you feel about reading a textbook?						
7. How do you feel about reading a book online for a class?						
8. How do you feel about talking with friends about something you've been reading in your free time?						
9. How do you feel about getting a book or a magazine for a present?						
10. How do you feel about texting friends in your free time?						
11. How do you feel about reading a book for fun on a rainy Saturday?						
12. How do you feel about working on an Internet project with classmates?						

13. How do you feel about reading anything printed (books, magazines, comic books, etc.) in your free time?						
14. How do you feel about using a dictionary for class?						
15. How do you feel about using social media like Facebook or Twitter in your free time?						
16. How do you feel about looking up information online for a class?						
17. How do you feel about reading a newspaper or a magazine for a class?						
18. How do you feel about reading a novel for class?						

Appendix H

Student Interview Protocol

1. How important would you say, reading is in your family?
    a. What makes you think this?

2. Tell me about your experience in school as a reader.
    a. How was it in elementary school?
    b. How is it in middle school?
3. How do you feel about reading?

4. Do you think reading is important?
    a. Why do you think this?

5. Do you have access to the internet at home?

6. What do you read online?

7. How long do you spend reading online each day?

8. How long do you spend reading books/magazines- anything paper based?

9. What makes someone a good reader?

10. Do you think you are a good reader? What makes you say this?

11. Do you ever create pictures in your head while reading?
    a. How easy/hard is it to do this for you?
    b. How is the image quality?

12. How easy/hard for you is it to understand what you read?

13. Have you ever been placed in remedial reading classes? Describe when this happened.
    a. How did it make you feel to be a part of that class?
    b. How did it impact how you viewed yourself as a reader?

14. Have you ever been called a “struggling reader”? How do you feel about that?

15. Has a teacher ever put you into a group for students who struggle with reading? Describe
    a. When this happened and how it made you feel.

16. What do you do to better understand what you read?
    a. What strategies do you use?

17. What did you think about the intervention?
    a. Did you enjoy it? Why or why not?

18. In what ways did the intervention help you in reading?
    a. Did it help you understand the story better?

19. Do you think the intervention helped you create mental images of the text in your mind while reading?
    a. Do you create more images now?
    b. Is the image quality better?

20. Do you have any suggestions for improving the intervention?

21. What was your favorite part?

22. What was your least favorite part?

Appendix I

Classroom Observation Protocol

Participants (CS, case study; T, teacher; O, other)	Reading Comprehension (answering questions about the story)	Visualization (image quality, image frequency, how students feel about their image performance)	Elements of a Screenplay (defining and identifying elements)	Reading Attitudes (Pleasure/Displeasure in tasks associated with reading)	Motivation (extrinsic-seeks approval from others, intrinsic-seeks opportunities to learn more, self-efficacy-expresses belief in perseverance) Louick et al., 2016	Other
CS 1						
CS 2						
CS 3						
CS 4						
CS 5						
CS 6						
T						
O						

General Observations/ Field Notes

Appendix J

Analysis of Student Work Protocol

This protocol was adapted from the National School Reform Faculty (2015). The purpose of this protocol is to observe what the work reveals about the student. The original protocol is designed to be used as a group activity in which a teacher would present the student's work and other teachers would use the questions to examine the work. The researcher will adapt this protocol and use five out of the ten questions when observing student work. Five questions were chosen because they fit best with the research questions investigated during this study.

What seems to be the student's thought process?

What skills does the student possess and what skills are missing?

What does the student appear to value?

What does the student seem on the verge of understanding?

What else would you like to see happen?

National School Reform Faculty (2015). Student Work Analysis Protocol. https://www.nsrfharmony.org/wp-content/uploads/2017/10/StudentWorkAnalysis_0.pdf

Appendix K
Individual Case Worksheet

Participant's Story (Case Synopsis- demographic information, category, scores):

Situational Constraints:

Uniqueness of the Case:

Theme	Examples	Prominence (H,M,L)

Appendix L
Compiling Case Studies

Theme #	Ben	Amelia	Sophia	Michael	Notes