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The effectiveness of close reading strategies on the expository text comprehension of students with learning disabilities

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THE EFFECTIVENESS OF CLOSE READING STRATEGIES ON THE EXPOSITORY TEXT COMPREHENSION OF STUDENTS WITH LEARNING DISABILITIES

by

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Dedication

I would like to dedicate this manuscript to my family. Hard work and dedication was instilled in me at a young age with great role models: my grandparents and parents. Thank you for all the support throughout the process. I would like to acknowledge Pietro Faiola who is smiling down on me.

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I would like to express my appreciation to Professor Dr. Amy Accardo for her guidance and patience to help me throughout this research. The skills and knowledge that I have gained are things that I will take with me into my future endeavors.

Abstract

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The purpose of this study was to examine the effect of close reading using
Achieve3000 on the text comprehension and use of text evidence by students with
learning disabilities in grades 4-5. In addition, student satisfaction with close reading was
evaluated for social validity. Two fourth grade students and one fifth grade student, both
female, participated in the study. Two students were classified with specific learning
disability, and one was classified as communication impaired. A single-subject
methodology with an ABAB design was used. During the Baseline phase, students
independently read the expository text. They answered comprehension questions, and
wrote their responses using text evidence on lined paper. During the Intervention phase,
expository texts were identified by Achieve300 at individual student lexile levels. As
students read the passages, they used comprehension strategies provided by Achieve3000
on a computer. Results show that after instruction in close reading using Achieve3000
students increased comprehension and use of text evidence. Results from student surveys
given after instruction suggest that the Intervention was socially accepted. Further
research is needed to examine possible long-term benefits of close reading for students
with disabilities.

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Chapter 1

Introduction

Reading comprehension difficulties for students with learning disabilities (LD) have been documented throughout the literature (Kim, Misquitta, & Thompson, 2012). However, an alarmingly limited amount of instructional time is devoted to comprehension strategies and very little specialized instruction is presently taking place inside the classroom (Durkin, 1979; Berkley, Mastropieri, & Scruggs, 2010). According to Palinscar and Brown (1987) poor readers with weak reading comprehension do not search for meaning, monitor their own comprehension, engage in strategies, or modify their choice of strategy to meet task demand. Additionally, learning and implementing comprehension strategies may help students with LD overcome difficulties in text comprehension, and increase text-based knowledge (Shanahan et al., 2010). Furthermore, the Common Core Standards were created with the goal of students being college and career ready (Bowen, Elmore, Fitzgerald, Hiebert, & Moore, 2016). The Common Core State Standards require students to closely read and use text-based evidence to develop interpretations and make arguments (Fisher, 2012). The belief is that once students become independent readers with a strong knowledge of subject matter, they will be career and college ready (Newman & Roskos, 2013).

According to the National reading Panel ([NRP], 2000), reading comprehension requires students to interact with the text they are reading by constructing meaning from the text and by using this new meaning. The percentage of informational text found in standardized tests can be as high as 70% - 80% and teachers are facing the challenges of incorporating complex informational texts into their curriculum (Sanacore & Palumbo,

2009). Students with disabilities may have limited knowledge of the structure of text which may adversely affect their comprehension (Gerston, Fuchs, Williams, & Baker, 2001; Watson et al., 2012). Overall, many children struggle with reading and comprehending informational texts, especially students with LD (Gerston et al., 2001).

Statement of Problem

Reading is essential to students evolving into critical thinkers. Reading comprehension refers to the process of simultaneously extracting and constructing meaning through interaction and involvement with written language (Gajria & Jitendra, 2011). Eighty percent of students with learning disabilities struggle with reading comprehension (Gerston et., al, 2001; Wade, Boon, & Spencer, 2010). Factors influencing the underlying reading comprehension difficulties of students with LD include working memory, transfer of knowledge, and information processing (Swanson, Kehler, & Jerman, 2010). According to the National Longitudinal Transition Study, 21% of students with LD are five or more grade levels below in reading (Kennedy & Deschler, 2010).

In terms of reading instruction to remedy reading problems for students with LD, 84% of American teachers utilize basal readers for classroom reading instruction (Dewitz, Jones, & Leahy, 2009; Education Market Research, 2012). Furthermore, many teachers utilize sustained silent reading in the classroom to build students' reading stamina. However, teachers who monitor their students during sustained silent reading have been criticized for their lack of teaching, monitoring, interacting with, and holding students accountable for their time spent reading (Fawson, Reutzel, & Smith, 2017). Students with and without LD can benefit from the rereading of a text (Fisher & Frey,

2014). Research has shown that traditional methods of instruction, such as the use of basal readers, do not offer reciprocal teaching or help students organize the strategies being learned (Dewitz & Jones, 2013). If the teacher lacks the knowledge to help students use reading strategies, then students are left to make sense of this process on their own (Pilonieta, 2010). Researchers noted lack of explicit instruction (Dewitz, Jones, & Leahy, 2009), the lack of metacognitive emphasis (Miller & Blumenfeld, 1993), poor guided reading questions (McKeown, Beck, & Blake, 2009), the failure to build prior knowledge (Dewitz et al., 2010; Walsh, 2003), and insufficient volume of text to build fluency (Brenner & Hiebert, 2010) during reading instruction. Chambliss and Calfee (1998) argued that the structure of basal programs does not lead students to reading independence because the lessons focus on unchanging repetitive routines, not growing expertise.

Close Reading is an evidence-based strategy that was developed to be inquiry based and interactive with both teacher and peer discussions (Fisher & Frey, 2014). To stimulate deep thinking into literary passages, Richards (2001) developed close reading, patterned after the literary criticism movement. Furthermore, there is an emphasis on reading challenging text over leveled text during close reading (Neuman & Roskos, 2013). Close Reading allows students to read closely to determine what the text says explicitly, to make logical inferences from their interactions with a text, and to cite specific textual evidence when writing or speaking to support conclusions drawn from text (National Governors Association for Best Practices & Council of Chief State School Officers, 2010, p.10). Evidence shows that students with a LD can benefit from close reading strategies such as explicit instruction in self-monitoring, identifying the main

idea, using inferences, using semantic mapping, using graphic organizers, and reciprocal teaching (Misquitta, Thompson, & Kim, 2012).

Student comprehension may be impacted by the type of text read. Research has shown that skilled readers of expository texts activate prior knowledge and make stronger text connections (Dymock & Nicholson, 2010). Additionally, expository texts have rigorous text structure, and students with learning disabilities have difficulties with metacognitive skills, comprehending what they read, and applying comprehension strategies appropriately (Hall, 2004).

Reading expository text is difficult for students with LD According to the National Assessment of Educational Progress (NAEP), in 2009 the majority of fourth to eighth graders with disabilities who participated in the NAEP did not understand grade-level text (Gajria & Jitendra, 2011). Students with LD often have trouble with metacognitive strategies for tracking and repairing their understandings (Narkon &Wells, 2013). Students will often show lack of motivation when they are not equipped with comprehension strategies for reading difficult texts (Hart & Stebick, 2016). However, close reading (CR) teaches students how to attack complex, grade level text even when they are not reading at that level (Michaels, 2016). If students are equipped with effective strategies for figuring out the possible meanings of unfamiliar words that impede their comprehension during reading, they are more likely to be successful (Carlisle & Katz, 2009).

Achieve3000 is a web-based expository reading program for students in grades K-12. The program systematically differentiates instruction by lexile levels, enabling teachers to use grade appropriate articles to target instruction (Mulvaney, 2016).

Furthermore, Achieve 3000 utilizes "current news events and lexile measurements" on the same topic (Mulvaney, 2016). However, the discussion can focus on the same themes or skill. After each article students complete an assessment of eight multiple choice questions that "promote higher order thinking skills" (Keck & Kinney, 2005). Overall, Achieve 3000 appears to help teachers with data tracking, differentiated instruction, and integrating technology (Keck & Kinney, 2005).

CR is an instructional model that has been successful with different populations of students. CR is an evidence-based strategy that utilizes explicit instruction in annotating the text, repeated readings, text based discussions, and responding to the text. Berkley, Mastropieri, and Scruggs (2010), conducted a meta-analysis to synthesize findings of research for improving reading comprehension of students with LD. Forty studies and nearly 2,000 students participated. Berkley et al. (2010) determined that systematically employing basic reading skills, highlighting, outlining, illustrating, and organizing spatial or semantic features of text (predicting outcomes, providing main ideas, analyzing text structure, or providing explanations for provided information), is likely to improve students' ability to construct meaning from text. Katz and Carlisle (2009) conducted a study to teach students with reading difficulties to be close readers. The study showed that participants made growth in reading and listening comprehension and that close reading provided the students with the ability to self-monitor text comprehension and to persist when difficult words were encountered (Carlisle & Katz, 2009).

Significance of Study

CR is an instructional model that has potential to be used with a variety of academic content such as technology, the knowledge of English, social studies, math,

science; and goal driven projects (Beers & Probst, 2013). The present study attempts to add to the existing research (Carlisle et al., 2009, Fisher & Frey 2014; Glover, 2016; Ross, 2015) to determine if explicit and direct learning strategies of close reading implemented through the Program Achieve 3000 will improve reading comprehension, specifically higher order thinking skills, for students with LD. Results of this study may provide instructional implications for teachers working with students with LD. This study will focus on fifth grade readers who are classified with a specific learning disability in reading and are currently functioning below grade level. Using text evidence and inferencing are key reading skills necessary for the comprehension of nonfiction informational text. Overall, researchers have argued that strategy instruction has not made its way into substantial practice and instead teachers are devoting time to assessing comprehension through completion of worksheet-type assignments (Davis, 2010).

Purpose of Study

The purpose of this research study is to determine the effect of close reading implemented through the Achieve 3000 program on the expository text comprehension and higher ordering thinking of students with learning disabilities. Students will be given various informational texts and will be asked to make inferences and use text evidence. Students will be asked to do this with and without close reading strategies such as annotating, repeated readings, text-based discussions, and responding to the text using quantitative single subject methodology with an ABAB design.

After inferencing and citing text evidence, students will be given a brief multiple-choice comprehension assessment based on the text. At the end of the study, the students

will be given a survey to evaluate their satisfaction with close reading specifically

inferencing and citing textual evidence to comprehend complex nonfiction texts.

Research Questions

1. Will the use of close reading improve the comprehension of students with
learning disabilities reading expository texts?

2. Will the use of close reading improve the citing of text evidence by students
with learning disabilities completing story retellings of expository texts?

3. Will students perceive the use of close reading as beneficial in improving their
comprehension and retelling of expository text?

Chapter II

Review of the Literature

This chapter provides an overview of reading instruction in the U.S., a review of the research on reading comprehension needs of students with LD and reading Interventions to support struggling readers with LD such as higher order thinking strategies and using text evidence. Research conducted in countries such as the USA (Ness, 2009; Pilonieta, 2010), has revealed that many teachers are not implementing reading comprehension instruction in their classrooms. Additionally, research suggests that by providing modeling and think-alouds, scaffolding, guided practice, direct instruction, and independent practice, teachers encourage students to become proficient and self-regulatory in their use of such strategies (Block & Lacina, 2009; Block & Pressley, 2002). Furthermore, writing is an important tool for developing thinking skills. Having students write an extended analytical response supported with text evidence and explanation has a positive impact on reading comprehension (Graham & Hebert, 2010). Analytical responses may include author's purpose and textual evidence (Afflerbach et al., 2015). Overall, during CR, students are taught to use cognitive functions such as remembering, understanding, applying, analyzing and evaluating though repeated readings, annotated texts, text based discussions, and responding to the text (Grant et al., 2013)

School success is reliant on knowing how to read (Vauhn, Levy, Coleman, & Bos, 2002), yet on the National Assessment of Educational Progress, 65% of fourth graders scored below proficient in reading (Palombo, Ritchey, Silverman, & Speece, 2017). Furthermore, 80% of students with LD have difficulty learning to read and will later

experience difficulty comprehending text (Gersten, et al., 2001). Reading comprehension is a critical skill, and students in early grades who experience difficulties in learning to read often struggle in school and in the real world (Binks et al., 2009). Factors that impact reading comprehension for students with LD are working memory, transfer of knowledge, and information processing (Swanson, Kehler, & Jerman, 2010). Therefore, "explicit teaching" by being clear, accurate, and "rich in example and demonstration" helps students with LD synthesize texts (Dymock & Nicholson, 2010, p. 167).

Many students who receive special education services demonstrate deficits in reading comprehension (Wei, Blackorby, & Schiller, 2011). Furthermore, there has been a lack of actual reading, deep reading, and engaged reading of academic and disciplinary texts in content area classrooms (Wade & Moje, 2000). The CCSS writers propose that students "read widely and deeply from among a broad range of high-quality, increasingly challenging literary and informational texts" (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p. 10).

A study conducted by Saenz and Fuchs (2017) suggests that students with LD have more difficulty with expository texts than narrative texts. The researchers investigated the effect of using the high school Peer-Assisted Learning Strategies (PALS) for students with LD to examine the effectiveness for improving reading skill for expository texts. The reading Intervention took place in six high schools within remedial and special education classrooms. Every student read two passages and four scores were given to each student: words read correctly in two minutes, and total questions answered correctly (literal and inferential). Additionally, to determine if students performed differently on narrative versus expository texts, an ANOVA was conducted. The results

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indicate that students with LD read expository texts less fluently than narrative passages and comprehend less. Also, students with LD had poorer inferential comprehension on expository text. The findings suggest utilizing direct instruction and graphic organizer to teach summarization and outlining for expository texts. Additionally, teaching text structures such as headings and topic sentences are important to decipher between the main ideas. Furthermore, students with LD should be assessed on an ongoing basis to differentiate instructional strategies. Lastly, high school PALS was found to be ineffective for improving students' expository reading. Overall, there is a need to differentiate between narrative and expository text strategies, since strategies used to teach the texts are different (Fuchs & Saenz, 2002).

Although there are many Interventions targeting decoding and fluency, there are fewer Interventions targeting reading comprehension (Palombo, et al., 2017). According to the New York State Department of Education (2011), Elder and Paul (2004a), and Fisher and Frey (2012), close reading motivates students and improves reading comprehension. The Common Core State reading standards are separated into four anchor sections: key ideas and details, craft and structure, integration of knowledge and ideas, and range of reading and level of text complexity (National Governors Association Center for Best Practice, Council of Chief State School Officers, 2010).

Achieve3000 is a web based program for students in kindergarten through twelfth grade that differentiates instruction of expository text based on individual lexile levels (Borman, 2015). Achieve 3000 serves more than one million U.S. students and is one of the fastest growing private education companies in the Unites states (Achieve3000, 2012). Utilizing technology in the classroom is important for student's future and

professional success for college readiness and the job market (Apergi, Anagnostopoulou & Athanasiou, 2015; Borman, 2015). However some teachers do not use technology in their classroom due to lack of support, devices, and instruction (Mulvaney, 2016).

A study conducted by Magnolia Consulting, LLC, (2015) examined the efficacy of Achieve3000 at improving reading achievement among third, sixth, and ninth graders. The researchers conducted the evaluation in sixteen schools in in four districts during the 2014/2015 school year. A randomized control trial and mixed methods Intervention was implemented. Treatment teachers implemented Achieve3000, while the comparison teachers implemented their usual English Language Arts materials. The main focus of Achieve3000 was "building academic vocabulary, comprehending complex text, and critically evaluating information text" (Magnolia Consulting, 2015 p. 8). Conversely, comparison programs focused on reading fluency. In addition, the treatment teachers who utilized Achieve3000 also utilized teacher measures such as online implementation logs, comparison-teacher survey, and classroom observation of treatment and comparison teachers. Students in the treatment group received 90 minutes of Achieve3000 per week. The results indicated that students utilizing Achieve3000 improved on GMRT-4 Vocabulary, reading comprehension, Total Tests and Lexile percentage points. Furthermore, more than half of the students met or exceeded their Lexile percentage points. However, some teachers did not like the "monotony of the program" and how time consuming it was (Magnolia Consulting, 2015 p.6). Teacher suggestions consisted of "improving teacher tools, adding visuals for vocabulary, improving digital components, and navigation features" (Magnolia Consulting, 2015 p.6). In evaluation with the comparison teachers, treatment teachers reported that students were more

engaged and that the students benefited from the amount of materials. Future work may need to focus on teacher training of technology requirements.

Reading Instruction in the United States

According to the National Assessment of Educational Progress, more than two thirds of all 14 year-old students in the United States of America (USA) read below grade level, and more than six million students in the USA between the ages of 12 and 18 are struggling readers (Alliance for Excellent Education, 2006). Consequently, there has been growing demand for teachers in the United States to teach reading comprehension skills that emphasize the activation of student prior knowledge via the use of interactive reading strategies (Richardson et al, 1991; National Reading Panel, 2000; Ness, 2009; Pilonieta, 2010). Research conducted in countries such as the USA (Ness, 2009; Pilonieta, 2010), has revealed that many teachers are not implementing reading comprehension instruction in their classrooms.

A study conducted by Ness (2009) suggests that teacher's spent only three percent of 2400 minutes of instructional time on reading strategies. Additionally, Ness reported that the teenage, high school students in the study received no instructional time devoted specifically to reading comprehension strategies. Overall, teachers perceive teaching reading strategies as "time consuming" and/or do not feel "qualified" to teach explicit reading strategies (Ness, 2009, p. 143). Furthermore, professional development in-services provide teachers with an overabundance of reading strategies, but there is a need to focus on explicit evidence-based reading comprehension strategies (Ness, 2009). The researchers investigated teacher attitudes about reading instruction using a mixed methodology study and sampling approach for three months during the school year to

identify the frequency of reading comprehension in middle and high school social studies and science classrooms. Additionally, data was collected in two phases: quantitative and qualitative. Furthermore, interviews and classroom observations were conducted on the 10 teachers who agreed to participate in the study. Each teacher was observed for a total of five hours broken into 30 minute increments. The comprehension instruction was question answering, question generation, summarization, graphic organizers, text structure, cooperative learning, comprehension monitoring, and multiple strategies. The results indicate that a total of 82 minutes of reading comprehension instruction occurred, only three percent of classroom observations. The reading comprehension instruction that occurred focused on text structure, question answering, and summarization. Overall, question answering was the most observed with 60 minutes overall. Furthermore, during the interviews teachers indicated they were uncertain and admitted to not providing explicit reading comprehension instruction. Additionally, three out of the eight teachers said they do provide reading comprehension instruction but only provide text-based questions. The findings suggest teachers did not provide students with explicit instruction such as teacher-led discussions or think-alouds. Moreover, teachers mentioned how they are test-driven to meet the requirements of meeting content for state standardized tests. Subsequently, teachers find teaching reading comprehension time consuming and teachers do not feel equipped professionally to teach reading comprehension. Overall, professional development opportunities in the area of comprehension may build teachers confidence (Ness, 2009).

Reading Comprehension and Students with LD

Reading comprehension is the most "complex human activity" (Christ, Kendeou, McMaster, 2016, p. 63). Comprehension involves recalling information from text, extracting themes, engaging in higher order thinking skills, constructing a mental picture of text, and understanding text structure (van den Broek & Kremer, 2000). Many students with LD experience persistent difficulty with reading for understanding, and these challenges often increase after the primary grades due to the shift in reading more complex informational text. Reading comprehension is a critical skill for both academic and work-related success (Blankenship et al., 2005; Garwood et al., 2014; Vaughn et al., 2002). However, research suggests that by providing modeling and think-alouds, scaffolding, guided practice, direct instruction, and independent practice, teachers encourage students to become proficient and self-regulatory in their use of such strategies (Block & Lacina, 2009; Block & Pressley, 2002). Conversely, although evidence-based reading practices are available, many classroom teachers have not received professional development and may not be knowledgeable about using them for literacy development (Binks et al., 2009).

A study conducted by Ritchey et al. (2017) suggests that the use of evidence-based practices is important for teaching informational text. The researchers investigated the effect of a short-term multiple strategy reading Intervention on the comprehension of fifth graders reading informational text using control and Intervention groups. Students in the Intervention groups received a multiple strategy Intervention that included: explicit instruction, scaffolded practice, previewing texts, activating background knowledge, using strategies to decode and understand unfamiliar words, identifying the main idea,

summarizing, using the Question Answer Relationship strategy, and reviewing text and graphic feature. Four day Intervention cycles were conducted using tutor modeling with short passages, additional modeling with short texts and trade books, peer tutoring for introducing vocabulary and text based questions, and Collaborative Strategic Reading. The results indicate that students in the Intervention group did significantly better with the ASKIT (Assessment of Strategy Use and Knowledge) comprehension strategy for informational text. The research developed strategy had the students answer sixteen questions about reading strategies while reading short informational text. Additionally, students had to answer questions that assess knowledge of text features, main idea and supporting details to summarize texts. The findings suggest that there is a need for future work on short-term Interventions concentrating on reading comprehension. Future work may need to focus on ways to assess and increase student involvement, instruction, and Interventions (Palombo, Ritchey, Silverman, & Speece, 2017).

Berkeley, Scruggs, and Mastropieri (2010) conducted a meta-analysis of prior research to identify improving reading comprehension of students with disabilities. They reviewed 70 studies and considered that successful Interventions are adding facilitative text features such as illustrations, highlighting or underlining the text. Additionally, the largest impact observed was the self-questioning category. Overall, findings reveal that effective Interventions included mnemonic instruction, learning strategies, and spatial learning. In addition, explicit instruction was effective, such as spatial organizers, study aids, peer mediation and computer-assisted instruction. Mastropieri, Scruggs, Bakken and Whedon (1996) found that students need to be able to be metacognitively aware of their

learning, understand common text structure of expository text, and have knowledge of vocabulary in order to comprehend what they are reading. Additionally, Kim, Vaughn, Wanzek and Wei (2004) found that students need to self-regulate their learning and utilize graphic organizers when comprehending narrative and expository texts.

Gillam et al. (2017) conducted a meta-analysis of prior research from 1970- 2013 to identify expository text structure Interventions designed to increase comprehension for students in kindergarten to grade 12. They reviewed 21 quasi-experimental studies and reviewed 21 studies and considered that graphic organizers and explicit instruction is important when teaching expository text structures. Kintsch (2013) used the construction-integration model. The model incorporates cognitive process such as inferencing and mental representation to understand texts. Furthermore, mental representations are schemata and text structure. Additionally, Meyter and Rey (2011) used expository text structure Interventions such as scaffolding and instructive feedback. Shanahan et al. (2010) states that exposing students as young as kindergarten to third grade with expository text structure improves comprehension helps students recall key ideas and ask questions to monitor their reading. Overall, graphic organizers were used for teaching text structures, inferencing, and organizing and locating information. Findings reveal that effective Interventions for expository texts are the use of scaffolding for both corrective feedback and modeling. Additionally, compare and contrast was the hardest text structure to teach.

Citing Textual Evidence

Writing is an important tool for developing thinking skills and subject matter, content knowledge, and for expressing what one knows (Bangert- Drowns, Hurley, &

Wilkinson, 2004; Hillocks, 1984, 2005). Writing is also a cognitive activity, requiring the

variety of mental and affective processes (Graham & Harris, 2013). Consequently, the

importance for using text evidence appears throughout the new standards and appears

explicitly in Anchor Standards 1 for both Reading and Writing: Reading Anchor Standard

1: Read closely to determine what the text says explicitly and to make logical inferences

from it; cite specific textual evidence when writing or speaking to support conclusions

drawn from the text. Writing Anchor Standard 1: Write arguments to support claims in an

analysis of substantive topics or texts using valid reasoning and relevant and sufficient

evidence (Gormley & McDermott, 2015).

Beginning at grade four and continuing through grade 12, writing standard W.9

requires students to "draw evidence from literary or informational texts to support

analysis, reflection, and research" (National Governors Association Center for Best

Practices & Council of Chief State School Officers, 2010, p.10). Text evidence includes

story elements such as the plot, character's motivation or goals, and how the character changes

throughout the story (Stahl, 2016). Subsequently, having students write an extended

analytical response supported with text evidence and explanation has a positive impact on

reading comprehension (Graham & Hebert, 2010). Additionally, including direct quotations

to support evidence with the text allows readers to synthesize information from multiple quotes

or texts to support a claim to illustrate arguments (Correnti, Matsumuta, & Wang, 2017;

Graham, Kerkhoff, & Spires, 2016). A major emphasis in Common Core State Standards is

using writing to help students understand content material (Graham & Harris, 2017).

However, the Common Core State Standards in writing represent a major challenge for

students with disabilities, as many do not write at grade level (National Center for

Education Statistics, 2012). Research states that only "five percent of students with disabilities, perform at or above the proficient level" (Graham et al., 2017). Subsequently, by placing greater importance on the teaching of writing and how to apply it, CCSS increases the likelihood that students with LD will acquire these critical skills (Graham et al., 2013)

Gillespie and Graham (2014) conducted a meta-analysis of prior research to identify writing Interventions for student's grades one through 12 with LD. They reviewed 43 quasi-experimental studies and considered that students with LD spend less time planning and revising. Overall, findings reveal that effective Interventions for students with LD included strategy instruction, dictation, goal setting, and process writing. Similar to findings, Baker et al. (2003) agrees that students need to practice process writing because it gives students a purpose for writing which may provide incentives for students with LD who struggle with motivation. Baker, Gersten and Graham (2003) found that students focus more on spelling and forming letters and are distracted from working memory activities such as content and writing cohesively. However, according to Graham (2006) and Harris (2003), if students are provided with direct instruction, it may strengthen aspects of their writing such as planning, transcribing and revising. Furthermore, according to Bui, Schumaker, and Deshler (2006), there is evidence that programs that pursue a range of writing skills such as genre elements, and process approach to writing, are effective with students with LD.

Higher Order Thinking

In order for students to become learners, workers and members of society, they need to make decisions, solve problems, synthesize thoughts and evaluate concepts

(Taglieber, 2003; Brierton et al., 2016). Therefore, it is important to start critical thinking in early grades (Taglieber, 2003). The adoption of the common core standards has increased the need to teach critical thinking skills to all students (Kettler, 2014). Students need to "interpret a wide range of literature and defend their interpretations" with questioning and inferencing (Taglieber, 2003, p. 144).   According to NAEP (Council of Chief State School Officers & National Governors Association Center for Best Practices, 2010), comprehending complex texts, require students to utilize critical thinking strategies such as activating prior knowledge due to utilizing prior knowledge and making inferences about texts (Afflerbach et al., 2015). Furthermore, the complexity of texts range from close readings of passages to synthesis of multiple texts, to questioning an author's argument and citing textual evidence (Afflerbach et al., 2015). Therefore, students need to interpret different texts for "content, structure, and intended purpose" (Afflerbach et al., 2015, p.204).

Higgins, Hall, Baumfield and Mosley (2005) conducted a meta-analysis to identify thinking-skills Interventions.   The results indicate that when teachers utilize higher order thinking skills in the classroom, students perform better on standardized tests and in the classroom. Furthermore, The NCES Reading Assessment (2011) found an increase in reading scores in making evaluations and drawing conclusions. Additionally, thirty five percent of fourth grade students are performing on a proficient level. However, contrary to findings, students with poor comprehension generate fewer inferences than their more skilled peers and are less likely to engage in integrative processing (Cain & Oakhill, 1999).

There is a common misconception that low achieving students are unable to require higher order thinking skills (Dori & Zohar, 2003). However, David, Miri and Uri (2007) found that incorporating teacher led discussions, questions, and inquiry based learning such as inferencing increase critical thinking skills of students with LD. Furthermore, Ford (2013) reports that higher order thinking is essential and helps students make connections. Consequently, students store important information into their long term memory. The results are consistent with the importance of educators instructing students to used higher ordering thinking skills with challenging texts. Subsequently, when educators teach students to think critically, they show improvement on higher order learning tasks (Kelly, McCain, & Jukes, 2010). Unfortunately, Connor, Day and McLean (2014) found contrary results that state that not a lot of instructional time is spent on higher order thinking strategies.

One way to support students in making inferences is to have them engage in discovery, research and interest based activities to look for clues in the text that are not explicitly stated (Cain & Oakhill, 2016; Ford, 2014). Traditionally, students took part in scripted lessons, however, direct instruction that incorporates higher order thinking strategies allows students to extend their learning and comprehend complex texts (Armbruster, Lehr, & Osborn, 2001). Furthermore, readers will not only perform well on multiple choice tests, but expand their logical responses to more challenging questions (Ford, 2014).

Text Complexity

Complexity of text was not emphasized in United States schools until recently (Bowen, Fitzgerald, & Hiebert, 2015). National and international studies have discovered

that significant numbers of young adults do not sufficiently comprehend complex texts, which hinders their secondary success, and access to postsecondary education (Biancarosa & Snow, 2004; Kamil et al., 2008.) Although comprehension instruction is aligned with the National Reading Panel report (NICHD, 2000), there is less focus on supports for understanding complex texts which is mandated by the Common Core Standards (Connor, Day, & McClean, 2014). However, in order to make students college and career ready, the Common Core argues that the text complexity gap between high school and college/workplace must be closed (Bowen et al., 2016). Complex texts can range from three paragraphs to two pages (Fisher & Frey, 2012).

In CR a good way to teach complex texts is teaching "theme sets, thematic vocabulary, and schemata" (Hinchman & Moore, 2013). During CR scaffolds, students learn and practice identifying the text structure, make a diagram, dispose unimportant information, and focus on the critical or main ideas of the text (Dymock & Nicholson, 2010). Furthermore, during close reading of complex texts, teachers should ask more, "deeper, and text dependent questions" (Fang & Pace, 2013, p. 106). However, Fang and Pace (2013) found that teachers do not feel prepared distinguishing between which texts are complex and appropriate for the new reading bands.

Repeated Reading for Students with Special Needs

CR requires students to reread to gain a deeper understanding of complex texts (Fisher & Frey, 2014). Consequently, research suggests that repeated readings of the same text can improve comprehension (Therrien, 2004). Repetition is not intended to be a drill activity, but the readings need appropriate guidance so that students do not become disengaged (Nichols, Rupley, & Rapinski, 2009). Repeating readings allow students to

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revisit a text in meaningful way and garner ideas that may be missed during the first read (McCormick, 2011). Researchers note that students benefit from texts that are at their frustration level, with teacher led scaffolding (Stahl & Heubach, 2005). Overall, repeated reading is highly recommended for struggling learners since it builds stamina and increases the amount of reading that is done (Pikulski & Chard, 2005),

Boon, Spencer, and Strickland (2013) conducted a meta-analysis of prior research to identify the effects of repeated readings on the comprehension skills of 234 elementary students from grades one to 8 with and without LD. They reviewed 19 pieces of literature from 2001-2011 to find out how repeated readings work as an Intervention, how repeated readings compared to other reading Interventions, how repeated readings combined with other reading Interventions, and how repeated reading works as part of a reading program. Overall findings reveal that repeated reading is an effective strategy. O'Connor et al. (2007) contrasted the effects of repeated reading with continuous reading on comprehension skills of 37 students in second and fourth grade. Seventeen students were identified with LD. Students were placed in three different instructional groups: repeated reading, continuous reading, or control condition. Students in the control condition did not get Interventions; whereas students in the repeated reading and continuous reading were provided with missed words when needed. Students who were in the experimental conditions read selected readings to an adult three times a week. Students in the repeated reading group read each page of a text three times, and the students in the continuous reading, continuously read the text. Findings revealed that students in the repeated reading and continuous reading outperformed the control group. Additionally, Therrien and Hughes (2008) compared the effects of repeated readings and question generation on

comprehension skills of 32 students in grades four through six, including 18 with LD. During repeated readings students read the passage aloud and received error correction. Findings revealed that repeated readings improved factual comprehension and inferential knowledge.

Valleley and Shriver (2003) conducted a multiple Baseline across participants study to examine the effectiveness of repeated readings on four secondary students ranging from ages 10 to 18. Students engaged in repeated readings for 20 minutes, three times a week after school for 10 weeks. Comprehension was measured utilizing recall questions on who, what, when, where, and how and multiple choice questions. Overall, contrary to the findings of Boon, Spencer, and Strickland (2013), this study revealed that repeated readings did not increase comprehension of text.

Therrien (2004) conducted a meta-analysis of studies on repeated reading, and considered if repeated reading is effective in increasing reading fluency and comprehension and if students with disabilities benefit from repeated reading. Findings indicate that repeated reading increased the reading fluency and comprehension for both nondisabled students and students with learning disabilities. Repeated readings should be read three to four times to an adult with frequent cues for fluency and comprehension. Additionally, charting student's fluency may "influence student's comprehension ability" (Therrien, 2004, p. 258).

Close Reading

CR is an instructional model used to build students critical reading strength. Throughout the stages, students are taught to use prior knowledge to analyze text

dimensions, language and argument (Grant, Lapp, Moss, & Johnson, 2013). Furthermore, students are taught to use cognitive functions such as remembering, understanding, applying, analyzing and evaluating though repeated readings, annotated texts, text based discussions, and responding to the text (Grant et al., 2013). From a learner's perspective, CR promotes self-regulatory behavior to enhance reading comprehension (Johns & Puig, 2015). CR does not focus only on reading comprehension, but builds teacher and student rapport by engaging in text based discussions (Fisher & Frey, 2014). According to Fisher and Frey, CR consists of reading a complex text multiple times, with limited front loading and utilizing text dependent questions (Fisher & Frey, 2014).

A feasibility study conducted by Carlisle and Katz (2009) suggests that the close reading program increases the comprehension of students with mild-to-moderate language and reading difficulties. The researchers investigated the effect of three case studies monitoring three fourth grade girls in a 12 week program. The purpose of the study was to evaluate the benefits of CR to help struggling readers become more independent in reading of texts and provide students with comprehension strategies during reading. Students in the Intervention met with a researcher twice a week for 30 minute sessions. In the first 15 minutes, students were taught morphological-analysis strategies such as prefixes and suffixes. In the ninth week of the program students focused on context clues. While reading, the researcher modeled thinking aloud, making predictions, and relating information to previous stories or personal experiences. The results indicate gains on passage comprehension, listening comprehension, and vocabulary for all three girls. The findings suggest that CR improved reading and

comprehension skills. The findings encourage further research for similar programs that may help struggling readers in elementary school and middle school years.

A study conducted by Victor (2017) suggests that the use of CR influences reading comprehension and the differential effect on the comprehension of informational versus literary text. The researcher investigated the effect of CR reading Intervention on the comprehension of 22 fifth graders reading informational text and literary text using quantitative and qualitative results such as a pretest and posttest. Students in the Intervention groups received a pre and posttest containing 40 questions pertaining to fifth grade standards. The results indicate that when students engage in close reading practices, their reading comprehension improves. The CR strategy was given to students to see what they used. Results indicated that eight strategies were used by the students to help them understand a difficult text: underline the main idea, circle confusing words, makes notes about the text, reread the passage, talk to others about the meaning, think about what the author means, and use evidence from the text. However, results show that there was difference in pre and post scores of literary text but no statistical difference in informational text. In addition, surveys showed that students preferred literary texts rather than informational. The findings suggest that informational texts should correlate with student's interest and further research would help educators examine the role that that teacher and peers have on learning outcomes.

A case study conducted by Michaels (2016) suggests that the use of CR and repeated readings of shorter, complex texts improves comprehension and fluency. The researcher investigated the effect of CR reading Intervention on the comprehension of a self-contained eighth and ninth grade classroom with five students with special needs.

Students received Interventions for eight weeks for 60 minutes three to four times a week, and data was collected through anecdotal notes, student surveys, and comprehension and fluency pretests and posttests. Each week, students did a cold read of a text on a chromebook and earned a words correct per minute score. To monitor comprehension, there was a test given at the beginning and end of the week that comprised of multiple choice, open ended questions, and true or false questions. Additionally, students were given lessons that focused on CR strategies such as summarizing, paraphrasing, comparing and contrasting, visualizing, and context clues. The results indicate all students showed growth in their comprehension and fluency. Subsequently, through surveys and student feedback, students felt that repeated readings and rereading literary text helped them understand complex texts. The findings suggest further research is recommended for best practices for CR, and additional research for Interventions to use with adolescent students with reading disabilities.

Summary

CR has been found to be a motivating and engaging tool for reading comprehension (Johns & Puig, 2015) and shows potential for improving higher order thinking skills for students with LD (David, Miri, & Uri, 2007). However, there is debate about the complexity of text to use during CR (Hiebert, 2012; Shanahan, 2011; Gamsom, Lu, & Eckert, 2013). While some research suggests close reading is a suitable learning model for reading comprehension (Carlisle & Katz, 2009; Houck, 2017; Fisher & Frey, 2014) others warn that the increase in grade band leads to unreasonable expectations for readers (Hiebert & Pearson, 2014). The present study will focus on the effectiveness of

CR of expository text on higher order thinking strategies and text evidence of student's in

fourth and fifth grade.

Chapter III

Methodology

Setting

     School. This study was conducted in an elementary school in suburban New Jersey. The district has nineteen schools, an early childhood center, twelve elementary schools, three middle schools, two high schools, and one alternative high school. The elementary school includes students in kindergarten through fifth grade. During the 2016-2017 school year, there were 260 students enrolled in the school. According to the NJ School Performance Report, 20.0 % of the students in the school are Asian, 60.0% are white, 6.9 % are Hispanic, 8.1 % are black, 4.2% are identified as two or more races, 0.4% are Pacific Islander, and 0.4 are American Indian (New Jersey Department of Education, 2016). During the 2015-2016 school year, 27% of students were identified as having disabilities, 15% were considered economically disadvantaged, and 0% were identified as English Language Learners. During that year, the Partnership for Assessment of Readiness for College and Careers (PARCC) assessment was administered, and 61.8% of students met or exceeded expectations of the English/ Language Arts/Literacy portion. On the math portion of the assessment, 60.3% of students met or exceeded expectations.

     Classroom. This study was conducted in a classroom designed for small group instruction, and included three chrome books. The study took place during after school hours, from 4:00- 5:00 three days per week. All students in the study were classified as having a disability. Students were in fourth and fifth grade at the time of the study.

Participants

    Student A. Student A is a 9 year old fourth grade white female who is classified with specific learning disability (SLD). She receives pull out resource replacement for language arts. In 2014, Student A was given the Wechsler Individual Achievement Test (WIAT-111). She scored in the low achievement range overall. She was able to demonstrate letter recognition, letter sound correspondence, rhyming, phonemic awareness, and visual discrimination to support reading readiness. She was not able to complete the Oral Reading Fluency or Reading Comprehension items. She partially met expectations on the English/Language Arts/Literacy portion of the PARCC test in Spring 2017. As of Spring 2017, her guided reading level is a "K" which is considered the middle of second grade. On her third grade Unit 1 assessment she scored a 67%. On her Unit 2 assessment she scored a 75%. On the part A grade 3 assessment she was asked to read a passage and answer comprehension questions. On the Part B she was asked to use text evidence.

    Student B. Student B is 10 year old fifth grade white female classified with CI. In the fifth grade, she receives in-class resource support for language arts. In the summer of 2016, her scores on the CTOPP-2 (Comprehensive Test of Phonological Processing) phonological memory and rapid symbolic naming performance fell in the poor ability range. Her performance for Phonological Awareness was found to be average. Based on WIAT-III results her reading skills generally fell in the lower limits of the average range to the below average achievement range. Her performance for the Reading Comprehension subtest fell in the low limits of the average range. She demonstrated a relative weakness with regard to inferential comprehension. As of spring 2017, her

guided reading level is a "P" which is considered the beginning of fourth grade. She

partially approached expectations on the English/Language Arts/Literacy portion of the

PARCC test in Spring 2017. Student C needs extended time to complete reading tasks

and she is working towards understanding grade level vocabulary.

Student C. Student C is a nine year old fourth grade white female classified with

SLD. In the fourth grade she received in class resource for Language Arts. In the fall of

2012, her scores on the Young Children' Achievement Test (YCAT), were within the

poor range. On the Bracken School Readiness Assessment (BSRA-3), her scores fell

within the average range. She pointed to letters, colors, sizes/comparisons, and shapes. In

fall 2012, she took the Wechsler Intelligence Scale for Children Wechsler Preschool and

Primary Scale of Intelligence (WPPSI-11), and received a full scale intelligence score in

the average range. In the area of verbal comprehension, however, she scored below

average in processing speed. As of spring 2017, her guided reading level was "M" which

is considered the beginning of third grade. On the district reading assessment, she scored

a 6/18 for answering questions using text evidence. She partially approached expectations

on the English/Language Arts/Literacy portion of the PARCC test in spring 2017. Table

1 presents the basic information of the participants.

Table 1

General Information of Participants

Student	Age	Grade	Classification
A	9	4	SLD
B	10	5	CI
C	9	4	SLD

Research Design

The study was conducted using a single-subject ABAB design. During phase A, students received traditional reading instruction and read passages at their individual lexile levels. Phase A was followed by instruction in how to use Close Reading through the Achieve3000 program. Instruction was followed by phase B, the Intervention phase in which student used Close Reading/Achieve 3000 independently. Each A and B phase was then repeated.

Materials

Lesson materials. Materials for each lesson were taken from Achieve3000 (2013) online lesson plans. These included answer keys, curriculum keys which included article summary, lesson objectives, key concepts, lesson vocabulary, teacher

recommendations, prep for parcc, stretch lesson, rubric, and graphic organizer. The same materials were used for all phases of the study.

Expository texts (phase A). Individual lexile levels were determined by students taking a level set pre-test on Achieve3000. The assessment provided data about students reading ability and results about lexile data. To collect Baseline data, Achieve3000 individual lexile passages were printed out on student's individual lexile level during each Baseline phase to maintain consistent materials during each Intervention. Students were given a cold read, with a sheet of paper with the typed text. Students independently read the expository text. They answered eight comprehension questions, and wrote their response using text evidence on lined paper.   Expository texts on Achieve3000 are rich in content to match topics in science, social studies, and other content areas.

Achieve3000 (phase B). During the Intervention phases, expository texts were identified by Achieve300 at individual student lexile levels. Achieve3000 differentiates grade appropriate, nonfiction passages, matched to student's individual lexile set. As students read the passages, they used comprehension strategies provided by Achieve3000. The strategies the program provides are a before reading poll, annotating the text, activity questions with a graphic organizer, an after reading poll, and a thought question using text evidence. For each lesson, there was a focus statement. First, students were asked to evaluate the evidence for and against the poll statement. The teacher introduced key vocabulary to pre-teach academic terms. Students used this information in the Thought Question using text evidence. Next, students were introduced to the graphic organizer with the poll question to set the purpose for reading. Then, students completed the five step routine at their level. Students took notes in the Reading Connection that

provided them with notes to use in their Thought Question. The teacher guided students to digitally annotate the text by using the Digital Highlighting Tool. Next, students used annotations to identify evidence that they will use in their Thought Question response. A discussion was facilitated where students shared the evidence they found. Students were reminded that writing is a process where they can utilize the graphic organizer and notes they type on Achieve3000. Teacher modeled how to revise their thought question by adding details and using higher level vocabulary and more complex sentence structures. A teacher led discussion was implemented to discuss the process students went through to find supporting evidence.

Survey. At the end of the study, students completed a survey using a Likert scale of 1 (strongly disagree) to 5 (strongly agree). Students placed an X in the column for the number that best represented their feelings. Students rated statements regarding the usefulness, ease, and enjoyment of the Close Reading strategy using Achieve 3000. Figure 1 shows the survey that students completed.

Close Reading Survey

Directions: Read each sentence below and place an **X** in the column you feel most accurately indicates your feelings.

Statements	Strongly Agree 5	Agree 4	Undecided 3	Disagree 2	Strongly Disagree 1
I found close reading easy to use.					
The annotating kept me on task.					
I would rather use technology to stay on task.					
Achieve3000 application was a distraction.					
I would use the text evidence to support my comprehension of informational texts.					
I enjoyed using Achieve3000 in class.					
I am prepared for tests and quizzes after using close reading strategies.					
I would like to share this strategy with friends and other students.					

Figure 1. Close reading strategy development survey.

Achieve3000 procedures. Lessons were highly structured and were taught

according to the directions of Achieve3000 (2013). Lessons are described briefly below.

Lesson 1. During Lesson 1, the teacher reviewed the purpose of expository texts, comprehension strategies, and using text evidence. The teacher discussed the different types of expository text and real-life articles. Students took an assessment on "Achieve3000" to get individual lexile levels.

Lesson 2. Lesson 2 began with a traditional reading passages on students individual lexile levels. No new instruction was implemented with the students. Students answered eight comprehension questions and one short answer using text evidence.

Lesson 3. Lesson 3 started with instruction how to utilize Achieve3000 computer program. Students watched a short video on the tools of Achieve3000. For example, the lessons started with a poll so that students can state their opinion about the top he or she will be reading about that day. Next, students read the article to practice reading. Students read it closely by using the reading connections to take notes, highlighting as they read, and looking for words they do not know. Then, students completed an activity and set of questions to answer. Students answered a poll again to see if their opinion changed or stayed the same after reading the article. The last step was the thought question. Students wrote a short answer using the information they found when they read using the reading connections as evidence.

Lesson 4. Lesson 4 started with another review of the tools on Achieve3000. Students login to Achieve3000 and took a before reading poll to activate prior knowledge and interest. The teacher reviewed the text structure of the article and text features. The teacher pointed out highlighted vocabulary words and their definitions. Students read the nonfiction article and annotated the text by summarizing, generating questions, and setting the purpose. Before students get to the thought question, students completed a

graphic organizer. The graphic organizer assisted students with the thought question

responses. Next, the teacher displayed a copy of the graphic organizer on the board and

modeled for students how to use the organizer. Then students were instructed to their

reading connection notes to complete the graphic organizer. Next, the students completed

the "activity" to answer eight multiple choice comprehension questions. The teacher

showed the students the "Informative Thought Question" rubric. Lastly, students

completed the thought question utilizing text evidence and referring to their annotations,

and graphic organizer. Students read their short essays and used the rubric to identify

which components they utilized in their writing. The teacher facilitated the discussion,

asking students where missing parts could have been added. The teacher reminded the

students that the goal is to include all the essay parts. Figure 2 presents the rubric.

Criteria:	5 percentage points	4 percentage points	3 percentage points	2 percentage points
Purpose for Writing *Do you inform, or tell about, the given topic?*	You clearly tell about the given topic.	You mostly tell about the given topic.	Your writing needs to tell more about the given topic.	Your writing must tell about the given topic.
Organization *Does your writing have a clear beginning, middle, and ending?*	Your writing has a clear beginning, middle, and ending.	Your writing has a beginning, middle, and ending, but one or more parts need work.	Your writing is missing parts of the beginning, middle, or ending.	Your writing needs a clear beginning, middle, and ending.
Details *Do you use facts, definitions, and details in your writing?*	Your writing includes many facts, definitions, and details.	Your writing includes some facts, definitions, and details.	Your writing includes few facts, definitions, and details.	Your writing must include facts, definitions, and details.
Sentence Structure and Style *Is your writing clear? Do you use different kinds of sentences? Do you use words to join your ideas together?*	Your writing is clear and you use different kinds of sentences. You use words to join your ideas together.	Your writing is mostly clear. You use more than one kind of sentence. You often use words to join your ideas together.	Your writing is sometimes clear. You mostly use one kind of sentence. You sometimes use words to join your ideas together.	Your writing needs to be clear so that it is easy to follow. You should use different kinds of sentences. You need to use words to join your ideas together.
Mechanics *Did you check your spelling, punctuation, and capitalization? Did you look for other mistakes?*	You have no spelling, punctuation, or capitalization errors. You have no other mistakes.	You have very few spelling, punctuation, and/or capitalization mistakes. You have few other mistakes.	You have some spelling, punctuation, and/or capitalization mistakes. You have some other mistakes.	You have many spelling, punctuation, and/or capitalization mistakes. You have many other mistakes.

Figure 2. Informative Thought Question Rubric

Lesson 5. Lesson 5 began with another assessment of whether students have memorized the annotating text method of close reading (summarizing, generating questions, and setting the purpose). Next, the teacher showed the students how to use the graphic organizer on their own so that they no longer needed to rely on the teacher modeling. The graphic organizer assisted the students with the thought question. Students then set a goal for the days reading passage, based on what they did previously. Students read a nonfiction article on Achieve3000 on their individual lexile level and answered five comprehension questions. Students continued to the thought question. Next, the students completed the "activity" to answer eight multiple choice comprehension questions. Lastly, students completed the thought question utilizing text evidence and referring to their annotations, and graphic organizer. Students referred to the "Informative Thought Question" rubric.

Measurement Procedures

Achieve 3000. All students' work was answered on Achieve3000. The short answer with text evidence was typed into the program. Comprehension questions were scored number correct out of total questions. The essay was scored using a five point rubric. The quality of the short answers were assessed using a five point rubric as shown in Figure 2. Short answers were assessed by the teacher after they were typed.

The Likert Survey. As shown in Figure 1, was used to assess student satisfaction with the CR instruction. For each question, the total number of responses was counted for each choice.

Data Analysis

Each comprehension assessment was recoded into a percentage on a spreadsheet. Each student's mean and standard deviation was calculated for the dependent variables for each phase. The means for the Baseline was compared to the means for the later phases. Graphs were used to visually analyze the data. Results were interpreted by reviewing academic scores on the daily warm up assessments. Daily warm up assessments were graded on a scale 0 to 10 (or as a percent out of 100). Student data was graphed for each phase of data collection and analyzed visually for trends. Furthermore, at the end of second Phase B, students completed a Likert scale survey to report their satisfaction of close reading. The independent variables was Close Reading instruction. The dependent variables were comprehension and text evidence.

Chapter IV

Results

The purpose of this research study was to determine the effect of close reading on the expository text comprehension and use of text evidence by students with learning disabilities. Students were given various informational texts and were asked to make inferences and use text evidence. Students were asked to do this with and without close reading strategies such as annotating, repeated readings, text-based discussions, and responding to the text using quantitative single subject methodology with an ABAB design.

After inferencing and citing text evidence, students were given a brief multiple-choice comprehension assessment based on the text. At the end of the study, the students were given a survey to evaluate their satisfaction with close reading specifically inferencing and citing textual evidence to comprehend complex nonfiction texts.

Comprehension

Research question one asked, will the use of Achieve3000, a close reading program, improve the comprehension of students with learning disabilities? Students' comprehension scores were obtained through daily comprehension assessments. Individual student comprehension scores were obtained by averaging daily warm ups to assess comprehension of expository text passages. The assessments were graded as a percentage. Means and standard deviations of student's scores were calculated and are shown in table 2.

Table 2

Comprehension: Daily Mean and SD across Phases

	Baseline		Intervention 1		Baseline 2		Intervention 2	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	%	%	%	%	%	%	%	%
Student A	55.4	12.3	60.4	7.4	60.2	3.2	75.0	3.5
Student B	69.0	11.9	76.0	8.2	76.0	6.5	79.0	6.5
Student C	40.0	15.8	58.6	12.0	60.6	3.9	54.0	5.4

Student A is 9- year old Caucasian female with a learning disability. During the first Baseline, Student A's mean comprehension score was 55.4%. Student A's mean score during the first Intervention phase increased to 60.4%. Student A's mean score decreased to 60.2% during the second Baseline, then during the second Intervention phase again increased to 75%. Student A's daily data is shown in Figure 2.
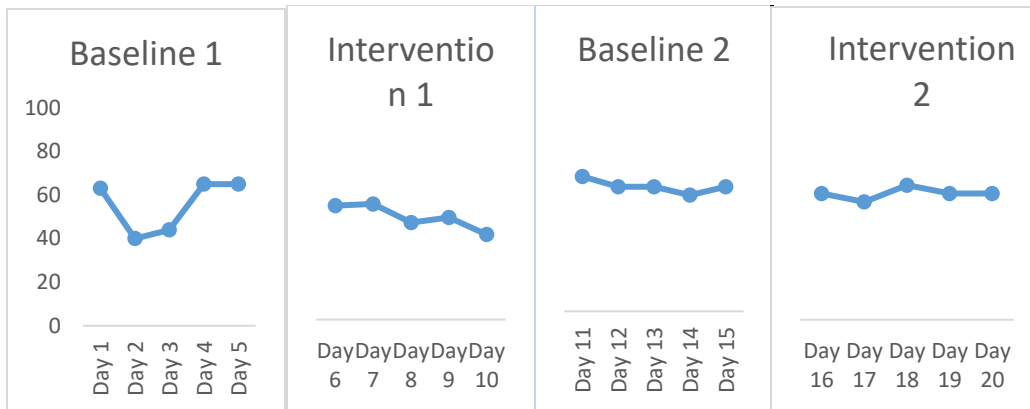
Figure 3. Daily Comprehension warm up scores Student A

Student B is 10- year old Caucasian female with a learning disability. During the first Baseline, Student B's mean comprehension score was 69%. Student B's mean score during the first Intervention phase increased to 76%. Student B's mean score remained consistent at 76% during the second Baseline, then during the second Intervention phase again increased to 79%. Student B's daily data is shown in Figure 4.
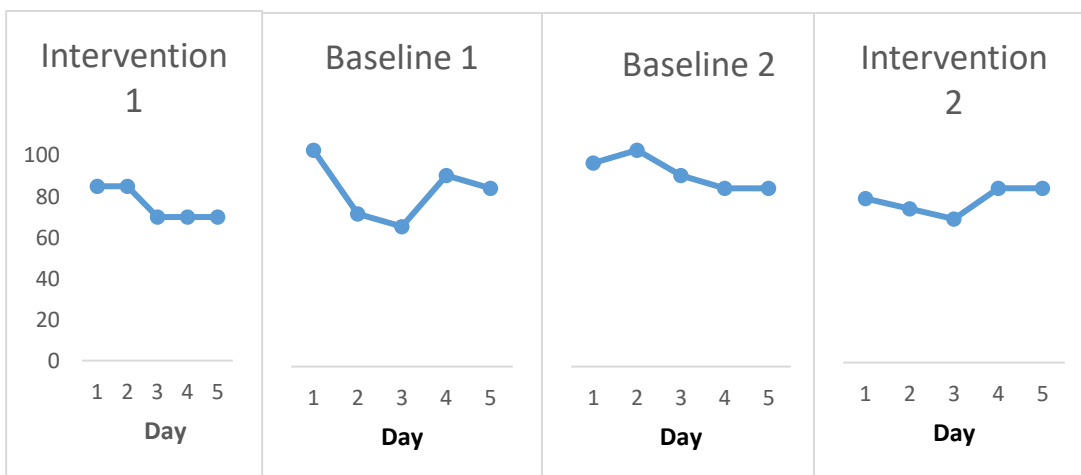

Figure 4. Daily Comprehension warm up scores Student B

Student C is 9-year old Caucasian female with a learning disability. During the first

Baseline, Student C's mean comprehension score was 40%. Student C's mean score

during the first Intervention phase increased to 58.6%. Student C's mean score increased

again to 60.6% during the second Baseline, then during the second Intervention phase

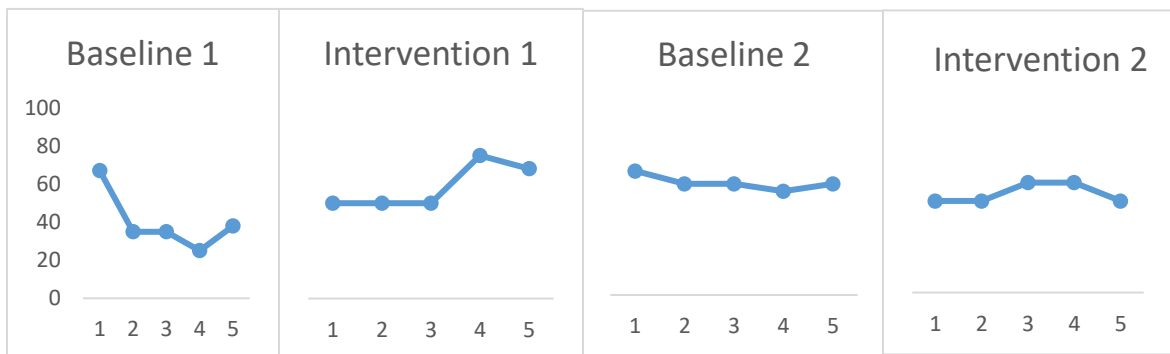decreased to 54%. Student C's daily data is shown in Figure 5.

Figure 5. Daily Comprehension warm up scores Student C

Use of Text Evidence

Research question two asked, will the use of Achieve3000, a close reading

program, improve the citing of text evidence by students with learning disabilities

completing story retellings of expository texts? In addition to daily comprehension

assessments reported upon above, student use of text evidence was assessed through

Achieve3000. These short answers were graded using the rubric seen in Table 2. Student

scores were calculated and are shown in Table 3.

Table 3

Text Evidence: Mean and SD Across Phases

	Baseline		Intervention 1		Baseline 2		Intervention 2	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	%	%	%	%	%	%	%	%
Student A	25.6	23.6	64.8	4.4	71.2	10.3	84.8	6.5
Student B	51.8	7.7	69.6	12.2	63.2	1.7	70.4	2.1
Student C	43.8	6.9	72.8	12.4	62	2	79.2	6.5

Daily text evidence assessments. During the first Baseline, Student A's mean score for the daily text evidence acquisition writing assessment was 25.6%. During the first Intervention phase, Student A's mean score on the text evidence assessment increased by 39.2 percentage points to 64.8%. During the second Baseline, Student A's mean score on the text evidence assessment was 71.2%, and during the second Intervention phase, Student A's mean score increased by13.6 percentage points to 84.8%. During the first Baseline, for the text evidence assessment Student A's mean score was 25.6. During the first Intervention phase, Student A's mean score on the text evidence assessment increased to 64.8%. During the second Baseline, Student A's mean score on the text evidence assessment was 71.2%, and during the second Intervention phase, Student A's mean score increased to 84.8%. Student A's daily data is shown in Figure 6.
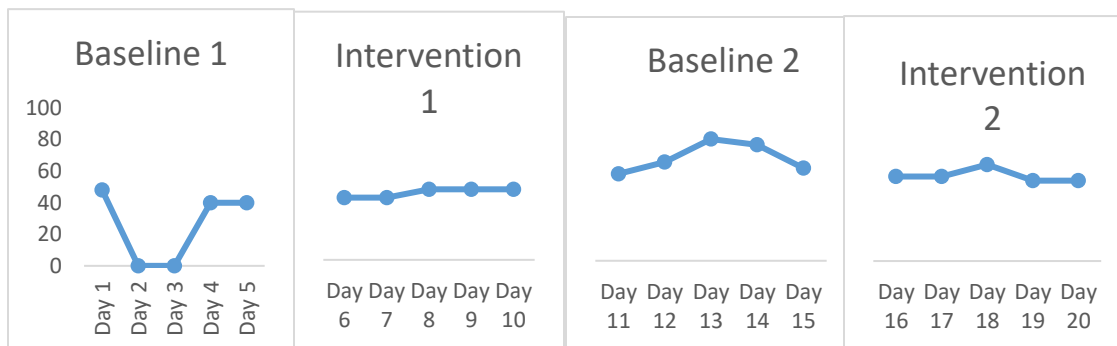
Figure 6. Daily text evidence warm up scores Student A

Student B's mean score during the first Baseline for the text evidence assessment was 51.8%. When the Interventions Achieve3000 and CR were initially put into place, Student B's mean score increased to 69.6%. During the second Baseline, Student B's mean score on the text evidence decreased to 63.2%. Student B's mean score increased again during the second Intervention phase to 70.4%. During the first Baseline for the daily text evidence Student B's mean score was 51.8%. During the first Intervention phase, Student B's mean score on the text evidence assessment increased to 69.6%. During the second Baseline, Student B's mean score on the text evidence assessment was 63.2%, and during the second Intervention phase, Student B's mean score increased to 70.4%. Student B's daily data is shown in Figure 7.
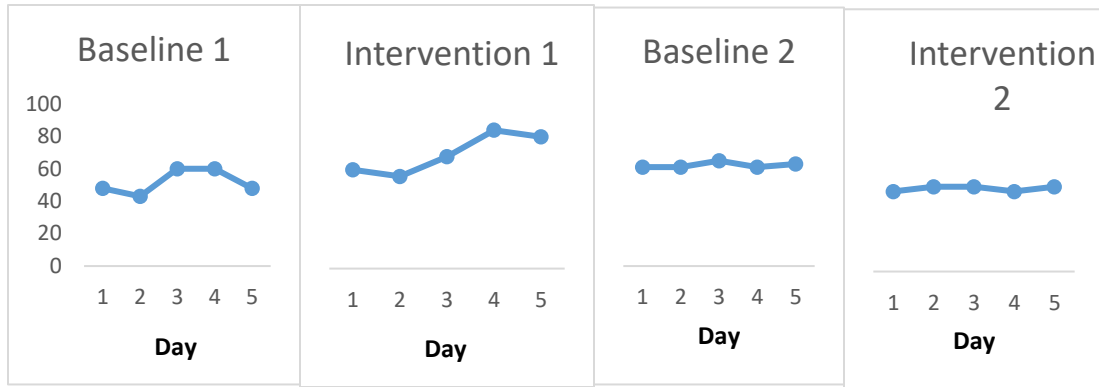
Figure 7. Daily text evidence warm up scores Student B

During the first Baseline, Student C's mean score on the writing text evidence acquisition was 43.8%. Student C's mean score increased to 72.8% in the first Intervention phase when Achieve3000 and CR were used as instructional strategies. Student C's mean score decreased during the second Baseline to 62%. When the Intervention was implemented again, Student C's mean score increased to a 79.2% on the text evidence assessment. During the first Baseline, for the daily text evidence assessment student C's mean score was 43.8%. During the first Intervention stage, Student C's mean score on the text evidence assessment increased to 72.8%. During the second Baseline, Student C's mean score on the text evidence assessment was 62%, and during the second Intervention phase, Student C's mean score increased to 79.2%. Student C's daily data is shown in Figure 8.
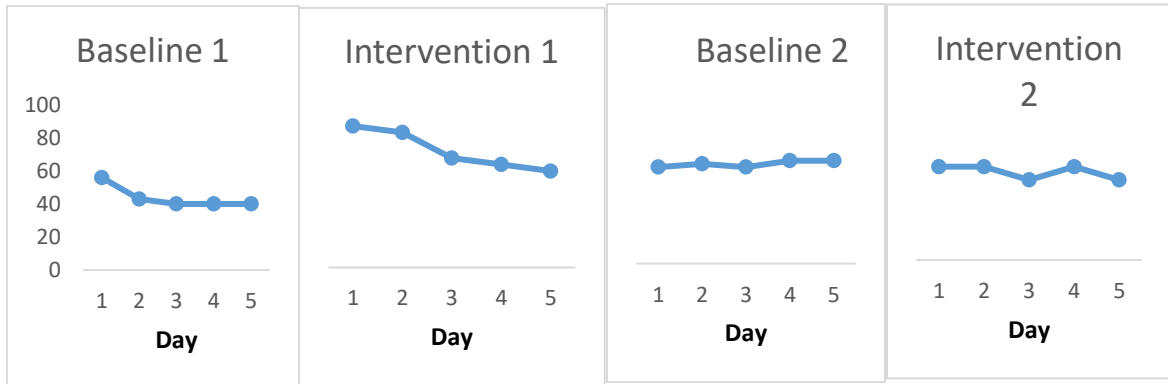
Figure 8. Daily text evidence warm up scores Student C

Survey Results

  Research question three asked, will students perceive the use of close reading as beneficial in improving their comprehension and retelling of expository text? All students completed a Likert scale satisfaction survey at the end of the study. Results were tallied and calculated into percentages. Table 4 represents the percentage of students that responded in each category to each statement.

Table 4

Social Validity Survey

Statements	Strongly Agree 5 (%)	Agree 4 (%)	Undecided 3 (%)	Disagree 2 (%)	Strongly Disagree 1 (%)
I found close reading (Achieve3000) easy to use.	33.3	33.3	0	33.3	0
The annotating kept me on task.	0	0	66.6	33.3	0
I would rather use technology to stay on task.	0	0	33.3	66.6	0
Achieve3000 application was a distraction.	0	33.3	33.3	33.3	0
I would use the text evidence to support my comprehension of informational texts.	0	100	0	0	0
I enjoyed using Achieve3000 in class.	33.3	33.3	33.3	0	0
I am prepared for tests and quizzes after using close reading strategies.	33.3	33.3	33.3	0	0
I would like to share this strategy with friends and other students.	33.3	0	66.6	0	0

Two out of the three students reported feeling prepared for tests and quizzes after

using the CR strategy (67%) and reported enjoying using Achieve3000 in class (67%)

with the third student reportedly undecided. Two out of three students also reported

finding Achieve3000 easy to use (67%), and reported that they enjoyed using technology

to stay on task. All students were in agreement that the use of text evidence supported

their comprehension of informational text (100%). Finally, students were undecided

(67%) about whether annotating kept them on task and about whether they would like to

share the strategy with a friend.

Chapter V

Discussion

The purpose of the present study was to investigate the effect of CR on the comprehension and use of text evidence by fourth and fifth grade students with disabilities. The study investigated the effects of CR using the Achieve3000 computer program, as well as the social validity of the CR instructional model. The research questions were as follows:

1. Will the use of close reading improve the comprehension of students with learning disabilities reading expository texts?
2. Will the use of close reading improve the citing of text evidence by students with learning disabilities completing story retellings of expository texts?
3. Will students perceive the use of close reading as beneficial in improving their comprehension and retelling of expository text?

Findings

The results show that all participants but one student increased comprehension between the Baseline and Intervention phases. The group mean for Baseline 1 was 54.8. The group mean for Intervention 2 was 69.3. This is an increase of 14.5 percentage points for the group mean. All participants showed an increase between Baseline 1 and Intervention 1. There was a group mean increase of 7.15 percentage points between the Baseline and Intervention 1. There was a group mean increase of 10.2 percentage points between Baseline and Intervention. All but one participant showed an increase between Baseline 2 and Intervention 2. There was a group mean increase of 3.7 percentage points between the second Baseline and Intervention data collection.

The results show that all participants increased text evidence in their writing between Baseline and Intervention phases. The group mean for Baseline 1 was 40.4. The group mean for Intervention 2 was 78.1. That is an increase of 37.7 for group mean. All participants showed an increase between the Baseline and Intervention 1. There was a group mean increase of 28.6 percentage points between the Baseline and Intervention. All participants showed an increase between Baseline 2 and Intervention 2. There was a group mean increase of 12.7 percentage points between the second Baseline and Intervention data collection.

Upon review of individual data collected on comprehension, student's scores overall improved minimally or remained consistent. The data may be explained by students had lack of interest in certain expository texts. Additionally, an observation was made that students rarely went back to annotate the text. This observation aligns with the low social validity survey response that annotating kept students on task. Student C had the largest increase on comprehension from Baseline 1 to Intervention 2. Her mean for Baseline 1 was 40 percentage points and her mean for Intervention 2 was 54 percentage points. This showed a 14 point increase in comprehension. The data suggests that Student C had the lowest lexile score. She often finished reading quickly and the observation was made that she did not attend to the lexile assessment. Therefore, the reading passages and comprehension questions may have been below her ability, resulting in an inflated improvement. Student A had a high increase in comprehension from Baseline 1 to Intervention 2 with an increase of 19.6 percentage points. Student B had an increase of 10 percentage points, and student C had an increase of 14 percentage points.

Upon review of individual data collected on text evidence, results were stronger. Student A had the largest increase on comprehension from Baseline 1 to Intervention 2. Her mean for Baseline 1 was 25.6 percentage points and her mean for Intervention 2 was 84.8 percentage points. This showed a 59.2 point increase in text evidence. Student B had a high increase in comprehension from Baseline 1 to Intervention 2 with an increase of 18.6 percentage points. Student C had an increase of 35.6 percentage points. The data suggests that students may have done better because there is an emphasis on PARCC and using text evidence to support comprehension questions within the classroom. More time is spent in the classroom teaching students how to go back into the text, use quotations, and reiterate text evidence to support his or her answer. Also, a graphic organizer was printed out so that students could keep track of their text evidence. The graphic organizer provided the students with explicit teaching and scaffolding and may in itself have led to increases in use of text evidence by students.

Individual participant data for comprehension showed that all students increased academic achievement the first time the Intervention was implemented. However, during the second Intervention, student A and B increased in academic achievement, whereas Student C decreased. Student C decreased 60.6 percentage points. Student A showed the largest increase of academic achievement from Baseline 2 to Intervention 2 with a mean growth of 14.8. Individual participant for text evidence showed that all students increased academic achievement the first time the Intervention was implemented. All students had higher academic achievement mean during the Intervention phases than during the Baseline. Student C showed the largest increase of academic achievement from Baseline 2 to Intervention 2 with a mean growth of 17.2.

Ritchey et al. (2017) suggest that it is key to have students engage in evidence-based practices when teaching informational text. Students in this study used multiple strategies to aide with comprehension. Strategies included scaffolding texts, activating background knowledge, identifying the main idea, summarizing, and reviewing text features. The students who received the intervention cycles did significantly better. This recommendation aligns with the impact of Achieve3000 in the present study along with the CR strategies of Achieve3000 interventions. However, both Achieve3000 and this present study express the need to focus on way to assess and increase student involvement, instruction, and interventions in the classroom for expository texts.

Similarly, Berkeley, Scruggs, and Mastropieri conducted a study on improving reading comprehension of students with disabilities (2010). An emphasis of this study was self-questioning when reading. Findings reveal that effective i9nterventions include explicit instruction was effective, such as spatial organizers, study aids, peer mediation and computer-assisted instruction. This study connects to utilizing computer-assisted instruction such as Achieve3000. Achieve3000 allowed for students to read a paragraph and type in a questions to monitor their reading as well as summarizing the paragraph. Spatial organizers such as annotating the text, summarizing, and asking questions, allowed students to go back and complete the text evidence question. Achieve3000 utilized study aides such as a graphic organizer to record text evidence to support the answer using the text. Overall, both the study and research supports the facts that students need to metacognitvely aware of text features and comprehension strategies in order to comprehend expository texts.

Results from the present study corroborate the findings of Gillam et al. (2017), and Kintsch (2013), and show an increase in comprehension with teaching text structures and scaffolding. Kintsch (2013) incorporates cognitive process such as inferencing and mental representation such as schemata and text structure to understand texts. Overall findings suggest that graphic organizers and spatial organizers were effective interventions for expository texts. Findings from both Gilliam and Kintsch support that evidence base practices helps students recall ideas and ask questions to monitor their reading. Additionally, findings are consistent with Achieve3000 interventions of scaffolding and providing corrective feedback with modeling.

In addition, Gillespie and Graham (2014) and Baker et al. (2003) identified a connection between writing and strategy instruction such as goal setting and process writing. Baker and colleagues suggests having students set a purpose for writing may provide incentives for students with LD who struggle with motivation. Gillespie and Graham (2014) state that since students with LD spend less time planning, they benefit from strategy instruction, goal setting, and process writing. Findings of the present study align with the results of Gillespie and Graham (2014) and Baker et al. (2003) yielding similar results of increased academic achievement for writing text evidence in the classroom.

Furthermore, the results of the student survey in using Achieve3000 and CR suggest students were satisfied. With the highest score a 5, showing strong agreement, and the lowest a 1, showing strong disagreement, students were given the survey at the conclusion of the study. Student's social validity survey results support the research

finding that the use of text evidence improved their comprehension of information, with all students in agreement.

Limitations

Time was a major limitation to this study. This study was conducted as a master's thesis during the spring semester. Phase A, the Baseline, was limited to one week and Phase B, the Intervention, was limited to two weeks as a result of Rowan University IRB approval and the end of the semester. This study would have yielded stronger findings if it was able to be expanded to an ABABAB design or if each phase was extended to two or more weeks.

Time of day was also a limitation to the study. The study was conducted after school hours. This means the session started at 3:30 and the class ran until 4:30. On certain days, some students were absent or did not dismiss to the session on time. Ideally the sessions were supposed to be four days a week, however, students had prior commitments. Often depending on each individual lexile, some student's passages were longer than others. Certain students had to complete reading the passage the next day, which created a gap in the learning process. Finally, sample size was also a limitation to this study. The single subject design study was conducted with three students. Data may not be able to be generalized beyond the three students.

Implications and Recommendations

Although this study has limitations, it shows the positive effects of CR on comprehension and use of text evidence. Implication for practice include the recommendation for educators to appropriately set time in the day for explicitly teaching

CR strategies. Teachers should be allotted professional development for using CR to ensure student success in the classroom. Teachers should be aware that CR should be used in conjunction with expository texts utilizing spatial organizers, study aids, peer mediation and computer-assisted instruction. Also, teachers need to create positive learning environments with appropriately leveled texts to scaffold both corrective feedback and modeling.

Implications for future research involving CR include recommendations for a larger population to identify the effects of daily CR practice to yield stronger results. Researchers should also identify appropriate assessments or programs to provide participants when determining academic achievement. Researchers may also consider increasing the duration of each phase of the study to ensure stronger connections between CR practice, comprehension, text evidence, and academic achievement. The findings of the present study add to the current research on CR in school settings, yet research is still needed to meet the needs of the teacher and the students in a classroom setting. Additional research is warranted to determine best practice when providing students with CR to increase reading performance.

Conclusion

The results of this study are encouraging. After examination of the data, it can be determined that daily CR participation assists in comprehension and use of text evidence. Ensuring that students are provided with direct instruction and process writing is important because it gives students a purpose for writing. Subsequently, setting purpose may provide incentives for students with LD who struggle with motivation. Strategies for comprehension such as underlining the main idea, circling confusing words, making

notes about the text, and using evidence can set expectations for positive engagement and understanding of expository texts. Participants in this study showed increased engagement during the Interventions. Due to participants scores, it is conclusive that daily CR had a strong effect on student academic achievement in both comprehension and text evidence. Text evidence garnered higher Intervention scores than the comprehension on students' academic achievement. This study suggests that further research with a larger sample size and extended period of Intervention is justified. Overall, it appears that providing students with CR strategies will help improve reading comprehension of expository texts. Further research is needed to determine teacher training on reading strategies so that teachers feel qualified and confident.

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