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Examining The Effects Of Self-regulated Strategy Development In Combination With Video Self-modeling On Writing By Third Grade Students With Learning Disabilities

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EXAMINING THE EFFECTS OF SELF-REGULATED STRATEGY DEVELOPMENT IN COMBINATION WITH VIDEO SELF-MODELING ON WRITING BY THIRD GRADE STUDENTS WITH LEARNING DISABILITIES

by

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ABSTRACT

This research examined the effects of self-regulated strategy development (SRSD), a cognitive strategy instructional method, on opinion writing by third grade students with learning disabilities. A video self-modeling (VSM) component was added to the SRSD method. A multiple probe across participants, single-subject design was used to determine the effectiveness of the SRSD instructional strategy, (POW + TREE), in combination with video self-modeling. Data from various components of writing, including essay elements, length of responses, time spent writing, and overall writing quality, were collected and assessed to determine the effectiveness of the intervention. All students who received the intervention improved their overall writing performance on opinion essays as measured by the number of opinion essay elements, including topic sentence, reasons, examples, and ending. During the maintenance phase of the intervention, students who received a VSM booster session increased their total number of opinion essay elements back to mastery levels.

This dissertation is dedicated to my Papa who always inspired me to follow my dreams, my parents, Terrance and Patricia, who have always worked so hard to better my life, and my husband Kevin—because of YOU this was possible.

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"Every student can learn, just not on the same day, or the same way." – George Evans

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LIST OF ACRONYMS

EE – Essay Elements

FCAT – Florida Comprehensive Assessment Test

FLDOE – Florida Department of Education

IDEA – Individuals with Disabilities Education Improvement Act

IOA -- Inter-observer Agreement

LD – Learning disabilities

POW – Pick my ideas, Organize my notes, Write and say more

PND – Percentage of non-overlapping data

SRSD – Self-Regulated Strategy Development

TOWL-3 – Test of Written Language, 3rd Ed.

TREE – Topic sentence, Reasons (3 or more), Examples, Ending

VSM – Video self-model

CHAPTER ONE: INTRODUCTION

This research examined the use of a Self-Regulated Strategy Development (SRSD) instructional method to teach an opinion writing strategy in combination with a video self-modeling component and considered its effects on the quality of written expression by third graders with learning disabilities (LD). A multiple probe across participants, single-subject design was employed. The first chapter provides an overview of the research as a background of this study, describes the issues to be addressed, and introduces the methodology and research questions. Finally, definitions used throughout this research are provided.

Background of Study

Writing is an essential tool for communication, understanding, and learning. Writing communicates history, can be used to persuade others, and describes personal feelings (Graham 2006b; Graham & Hebert, 2010; Graham & Perin, 2007b). For students in school, writing provides a measure of understanding and learning. It creates a permanent product and makes knowledge available to be reviewed and assessed. Writing not only demonstrates what an individual knows but also enhances understanding of knowledge (National Commission on Writing, 2003).

Individuals who cannot write well are at a disadvantage in school, work, and their personal lives (Graham & Perin, 2007b; MacArthur, 2009). In school, writing is critical for students to demonstrate their knowledge across the content areas. Those who struggle with writing may have difficulty demonstrating their knowledge, which can impact school performance (Graham, 2006b; Tracy, Reid & Graham, 2009). Consequently, opportunities for college attendance may be affected,

as many entrance criteria use an applicant's writing sample as a qualification (Graham, 2006b; Graham, Olinghouse, & Harris, 2009; Rogers & Graham, 2008). In the workplace, employees may use email, create documents, or generate a variety of reports. Without writing competence, one's chances for employment or promotion may be reduced (MacArthur, 2009; Rogers & Graham, 2008; Tracy et al., 2009). For students with disabilities, writing is important as it increases independence and improves communication (Wollak & Koppenhaver, 2011). With advancements of technology such as email and text messaging, individuals who do not write well may also struggle to communicate in their social lives (MacArthur, 2009; Rogers & Graham, 2008).

Despite writing's importance, the academic emphasis on reading and mathematics continues. In 2001, the No Child Left Behind Act was focused on reading and mathematics reforms. The focus on writing was virtually nonexistent in the efforts of school reform across the United States (Cutler & Graham, 2008; McCarthey, 2008). To highlight the current condition of student writing abilities and the lack of focus on recent legislation, the National Commission on Writing (2003) released its report, *The Neglected R: The Need for a Writing Revolution*. The Commission found that most students in the United States cannot write well enough to meet the demands in both higher education and the workplace. The National Commission on Writing (2003) called for policymakers and stakeholders to put writing into the center of the educational agenda.

Recently, two major educational reform initiatives addressed the need for students to be college and career ready. First, the Obama administration released the *Blueprint for Education Reform*, which outlines the proposed priorities for the Reauthorization of the Elementary and Secondary Education Act (ESEA) (U.S. Department of Education, 2010). The blueprint proposed

raising standards for all students to be college and career ready, regardless of their socioeconomic status, race, language background, or disability status, by the completion of high school. In addition, states were given the opportunity to receive funds to improve the quality of their assessments in language arts and mathematics to accurately measure student growth (U.S. Department of Education, 2010). Through this competitive funding program—*Race to the Top*—states, districts, and schools were rewarded through incentive funding to propose, develop, and implement innovative educational reform plans that result in closing the achievement gap among students to ensure all students are college and career ready (U.S. Department of Education, 2009).

Currently, student writing performance among all students in the United States continues to need improvement. The most recent administration of the National Assessment of Educational Progress (NAEP, 2011) assessed student writing in grades 8 and 12 only. The assessment results indicated that 27% of eighth grade students scored at or above the level of "proficient," and 3% at or above the level of "advanced." For students with disabilities, only 5% of students in grade 8 were at or above the "proficient" writing level nationally (National Center for Educational Statistics, 2012).

Within the state of Florida, 48% of 4th grade students who took the Florida Comprehensive Assessment Test (FCAT) 2.0 Writes standardized writing assessment received a 3.5 out of 6 total points on the holistic rubric scale. Although there is not a "passing score," the number of students that receive a 3.5 on the FCAT 2.0 Writes is reported (Florida Department of Education, Department of Assessment, 2012). However, only 21% of students with LD received a score of 3.5 or above on the FCAT 2.0 Writes standardized assessment (Florida Department of Education,

2012). To have a better understanding of the current performance of students with LD, we must identify the specific components of writing as well as areas that need improvement for student proficiency.

The second major educational reform initiative is the Common Core Standards Initiative (CCSI), led by the National Governors Association and Council of Chief State School Officers (2012). The initiative seeks to create and provide a clear framework of standards to improve student learning to prepare students for college and the workforce (CCSI, 2012). Currently, 45 states and 3 territories have formally adopted the Common Core State Standards (CCSS). The CCSS in English and Language Arts address students' ability to write logical arguments, including opinion writing in the earliest grades. Further, students are required to read and write across the content areas to prepare to meet the demands for college and career (CCSI, 2012). All students, including those with disabilities, are expected to reach a mastery level of academic performance for each of the standards (Seok, DaCosta, Kinsell, Poggio, & Meyen, 2010).

With the widespread adoption of the CCSS, districts are revisiting their writing curriculums to ensure alignment with the CCSS. Within the CCSS, writing is used as a tool to show understanding, state opinions, and build knowledge through research projects and analytical responses (CCSI, 2012). The CCSS use an integrative approach to writing across a variety of genres, particularly informational and persuasive expository text (CCSI, 2012). Students in grades K-6 will develop and strengthen knowledge using components of the writing process and other approaches (CCSI, 2012).

Writing Process

There is not one unified approach to writing nor one uniform approach to writing instruction (Berninger, Garcia, & Abbott, 2009; Pritchard & Honeycutt, 2006). However, the process writing approach sets the theoretical foundation for writing instruction (Calkins, 1994; Graves, 1983, Hillocks, 1986). Although there is not one common definition, Graves' seminal model of the process writing approach, which consists of planning, drafting, revising, editing, and publishing for authentic audiences (Bromley, 2007; Fletcher & Portaluppi, 2001; Graves, 1983), is widely used. This process writing approach became a basis for the Writers' Workshop method of writing instruction developed by Calkins (1983) and Graves (1983) from their research on the writing behaviors of students within elementary school settings.

Writers' Workshop (Calkins, 1994) is a child-centered approach that supports students throughout the writing process. Students are provided the structured framework of the writing process including expectations for writing (Atwell, 1987; Calkins & Harwayne, 1987). Teachers of Writers' Workshop can observe and address individual student needs through mini lessons, which are teacher-directed skill-focused meetings (Calkins & Harwayne, 1987). Each student completes the process of rehearsing, drafting, and revising at his or her own pace. The Writers' Workshop method allows students to manage their own writing and learning throughout the various stages of the writing process. This method continues to be used among teachers today. In fact, Cutler and Graham (2008) conducted a writing survey among primary grade teachers. Of the teachers surveyed, 72% indicated they used some type of the writing process approach within their classrooms in combination with a traditional skills approach.

With the continued use of the writing process, teachers in special education were interested to learn about specialized instruction in writing for students with disabilities. In the next section, the difficulties students with LD have with the writing process approach and discuss specialized strategies to address their specific needs will be examined.

Writing and Students With Learning Disabilities

For students with LD, writing can be an overwhelming and difficult task. Students with LD experience problems with many parts of the writing process, including composing, organizing and generating ideas, transforming ideas into sentences, transcribing these sentences onto paper, revising, editing text, and then publishing their papers (Graham & Harris, 2003; Troia, 2006). This complex process of writing leads students with LD to procrastinate and avoid writing tasks altogether (Klassen & Welton, 2009). Students with LD struggle and understand less about the nature of the writing process, as well as the features of good writing, different genres, and the purpose and audience for writing, than their general education peers (De la Paz, 2007). Students with LD have limited skills in the planning, composing (text producing), and revising phases within the writing process (Graham & Harris, 2003, 2009; Santangelo, Harris, & Graham, 2008). Consequently, students with LD may have difficulty using and regulating strategies within the writing process (Cutler & Graham, 2008).

Some researchers have claimed that the instruction provided within the writing process is not powerful enough to ensure that students, especially those with LD, are provided with adequate support to acquire writing skills and processes (Cutler & Graham, 2008; Graham & Sandmel, 2011). Much of the writing process and Writers' Workshop method of writing instruction focuses

on students' maintaining self-direction and sustained writing as they complete the stages of the writing process (Graham & Harris, 1996). These writing tasks, such as writing substantial amounts of information with minimal teacher support and focusing on parts of speech, were ineffective without supplementary support (Baker, Chard, Ketterlin-Geller, Apichatabutra, & Doabler, 2009). In particular, students with LD need a more explicit approach that includes writing strategies (Harris & Graham, 1996). Graham and Harris (1993, 1996, 2003, 2009) suggested that the writing problems of students with LD stem from three core areas: (a) difficulty with transcribing ideas into text, as this process may interrupt the ability for students to generate ideas; (b) limited knowledge of the writing process and inability to access this knowledge, which may interfere with the cognitive process of writing; and (c) limited knowledge of effective writing strategies, which may inhibit their ability to begin or complete the writing process. As a result, explicit strategy instruction and support from writing strategies are critical to help students with LD develop complex writing abilities (Graham & Harris, 1996).

Research has shown that the use of explicit, interactive, and scaffolded instruction of composing strategies and strategies for self-regulating the writing process result in improved student writing performance (Mason, Harris, & Graham, 2011). A strategy can be defined as a way that a person purposively takes to complete a goal (Alexander, Graham, & Harris, 1998). Strategies include ways that people think and act when planning, performing, and evaluating their completion of a task (Alley & Deshler, 1979; Deshler & Schumaker, 2006). Strategy instruction can be especially helpful for students with LD, as it breaks down and organizes the writing components. Students are given a plan to follow and steps to take to complete their plan.

Furthermore, strategies make the thinking processes within writing more visible and concrete (Harris, Graham, Mason, & Friedlander, 2008).

Metacognitive strategies are often combined within goal setting and self-regulation procedures that can help shape students' behavior (Zimmerman & Schunk, 2011). Metacognition encompasses the ability to understand and control one's own thinking and knowledge (Flavell, 1979). Strategies provide students with the knowledge and skills necessary to manage genres, the writing process, and their own self-efficacy (knowing their ability to achieve a goal) (Englert et al., 1991; Graham & Harris, 2003; Santangelo et al., 2008; Schumaker & Deshler, 2009).

Self-Regulated Strategy Development (SRSD) in Writing

The self-regulated strategy development (SRSD) instructional strategies method developed by Harris and Graham (1996) provides an explicit strategic approach to writing instruction (Graham & Harris, 1989; 2003). SRSD is a method, or approach, that involves developing mini-lessons in writing based on individual student needs.

Modeling and discussion are crucial components of the writing process approach that are used within the general education classroom setting (Graham & Harris, 1996). As students comprehend and learn the multiple components of the writing process, the need for teacher support decreases (Graham & Harris, 2003; 2009). Overall, SRSD provides assistance in mastering the writing process effectively by increasing the metacognitive processes employed by the student through explicit, supported instruction of the specific components of the writing process (also referred to as metastrategy information) (Calfee & Miller, 2007; Harris & Graham, 1996). SRSD

has had a strong impact on the overall quality of students' writing in over forty studies to date (Graham, McKeown, Kiuhara, & Harris, 2012).

The SRSD instructional method is different from typical strategy instruction in two critical ways. First, self-regulation and explicit instruction are important features of the model and are integrated throughout the various stages of writing instruction. Second, students are taught to develop and use writing strategies and various genres and to remain engaged and motivated (Harris, 1985; Harris & Graham, 1992; Santangelo et al., 2008).

The SRSD instructional method in writing consists of six stages that enable students to apply the strategy to a given writing task (Graham & Harris, 2005). These stages are a framework for instruction, and they can be modified or repeated as necessary based on individual needs (Harris et al., 2008). SRSD consists of the following stages, which can be used with any type of genre: (a) develop background knowledge about the strategy and introduce the applications for which it is used; (b) discuss the purpose and benefits of the strategy; (c) model the strategy using teacher think alouds; (d) memorize the goals and stages of the strategy; (e) support the use of the strategy through scaffolds based on individual needs and; (f) develop independent performance of use over time and across multiple settings (Graham & Harris, 2003; Harris & Graham, 1985, 1996; Harris et al., 2008). Within these stages, students are taught goal setting and self-regulation procedures, as well as self-statements that assist students in using the strategy independently (Graham & Harris, 2003; Santangelo et al., 2008). These stages are implemented within a series of lesson plans that address each stage. Lesson plans may contain more than one stage and may be repeated based on student needs.

The next section examines technology to enhance writing instruction within the classroom setting for students with LD.

Technology and Writing Instruction

Technology has the potential capability to support teaching and learning within the writing process (National Commission on Writing, 2003, 2006; Peterson-Karlan & Parette, 2007). In addition, new technologies can be applied to enhance the goals of typical literacy instruction to improve students' skills or strategy knowledge (McKenna, Labbo, Reinking, & Zucker, 2007). Technology can also support a variety of needs for diverse learners. Struggling writers at all grade levels can benefit from the specific scaffolds and engagement that technology provides (McKenna et al., 2007). In fact, research has suggested that planning and organizational skills for students with LD can improve with the addition of technology tools that provide procedural facilitation including text structure supports. However, additional research is needed to examine the effectiveness of tools within these areas on the writing of students with disabilities (Englert, Manalo, & Zhao, 2004; Englert, Zhao, Dunsmore, Collings, & Wolbers, 2007; Peterson-Karlan & Parette, 2007).

The abundance and accessibility of video tools may provide supports for a variety of students within the classroom. These tools can be used to enhance current strategies that have been examined in the literature but may offer an additional benefit when used in combination with technology. The next section presents a brief discussion of video self-modeling with implications for students with LD.

Video Self-Modeling

Modeling is a process in which observers pattern their beliefs, behaviors, and ideas after the display by one or more models (Schunk, 1987). Modeling is a crucial tool for acquiring literacy skills, attitudes, behaviors, and beliefs (Rosenthal & Zimmerman, 1978) and has been shown to be an effective teaching tool (Bandura, 1986; Prater, Carter, Hitchcock, & Dowrick, 2012; Woolfolk, 2010). One influencing component of modeling includes using models that are similar to the student (Schunk, Pintrich, & Meece, 2007). In fact, Dowrick (1999) argued that using the student as a model is a powerful tool. By performing the skill on video as a model to view, students not only learn the skill but also strengthen their beliefs and self-efficacy about learning the skill. Students who have positive expectations on performing a task may improve their actual performance (Bandura, 1986, 1997). Self-modeling has been applied to many situations within special education. However, not many studies have addressed academic performance (Dowrick, Kim-Rupnow, & Power, 2006; Hitchcock, Dowrick, & Prater, 2003).

Video self-modeling (VSM) is defined as a "procedure using the observation of images of oneself engaged in adaptive behavior" (Dowrick, 1999, p. 23). VSM allows students to see themselves performing a task that may be more advanced than those they typically perform (Buggey, Toombs, Gardener, & Cervetti, 1999; Mechling, 2005). One advantage to VSM is that the students see themselves (rather than others) as a model. Self-modeling of behaviors may increase students' self-efficacy. The use of video may give the student enjoyment while demonstrating an appropriate model that is most similar to themselves (Brown & Middleton, 1998; Hitchcock, Prater, Dowrick, 2004; Mechling, 2005). Significantly, VSM may be used to achieve maintenance or consistency of that skill (Hitchcock et al., 2004).

There are two types of VSM: positive self-review and feedforward (Hitchock et al., 2004). Positive self-review is a compilation of best performances by students in order for them to review and remember their achievements, even when seldom achieved. The feedforward method captures students' observed success that is above their current capability (Dowrick et al., 2006; Dowrick, Tallman, & Connor, 2005). The general principle of feedforward self-modeling is to promote images of success within the future even when students have previously experienced failure (Dowrick et al., 2006). This method promotes the self-efficacy of acquiring a specific skill or strategy.

The VSM feedforward method has been studied with students with Asperger's syndrome in combination with a SRSD method in persuasive writing (Delano, 2007). The goal of the researcher in this study was to increase both word production and the overall quality of writing. The present study extends this research (Delano, 2007) to students with LD, as well as using video technology that is accessible on an iPad or desktop computer. Furthermore, students with LD who have difficulty with writing often experience memory problems (Graham & Harris, 1996, 1999). The use of a video self-modeling component in combination with a specific SRSD writing strategy may improve the acquisition of skills.

Statement of Problem

Students with LD have difficulty with written performance, specifically with planning and organizing information for opinion essays. In addition, many students with LD have difficulty with memorizing and maintaining the strategy after instruction has been conducted and completed

(Graham & Harris, 2003). This dissertation seeks to examine the effects of SRSD in combination with VSM on writing by third grade elementary students with LD.

Significance of Study

Quality research needs to be completed on current technologies that support the compositional writing by students with LD (Peterson-Karlan & Parette, 2007). Additionally, further research is needed to study the effects of technologies that are integrated within writing interventions that have been proven to be effective (Graham, MacArthur, & Fitzgerald, 2007; Graham & Perin, 2007b; Peterson-Karlan & Parette, 2007). This study examines if the use of an instructional package, VSM in combination with the SRSD instructional method to teach an opinion writing strategy, will increase the written performance of third grade students with LD.

Research Questions

Rationale

Research-based strategies, such as self-regulated strategy development (SRSD), have demonstrated to improve the performance of students with LD (Graham & Harris, 2006, 2009; Graham, Harris, Mason, 2005). Despite research supporting SRSD strategies in writing, its implementation continues to lag compared to other types of writing instruction (Graham, 2006a). The purpose of this study was to examine alternative delivery methods of SRSD to students with LD. This study also builds on research specifically looking at the SRSD strategy in opinion writing (Mason, Kubina, & Taft, 2009) in combination with VSM. Using a video self-model (VSM)

component, students see themselves completing the steps of the strategy. The VSM component may support the students throughout the process while being a tool for teachers to use after the study is complete. If teachers notice that a student's performance is degraded, the VSM can be used as a booster session, an instructional session that provides a "refresher" to the strategy components as well as steps learned.

This study addressed the following research questions:

1. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays by students with learning disabilities, as measured by number of opinion essay elements, length, and duration of writing?
2. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the overall quality of opinion essays for students with learning disabilities, as measured by a holistic rubric within a non-experimental pre-post-test?
3. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the standard writing scores for students with learning disabilities as measured by the TOWL-3?

Operational Definitions

In this section the researcher clarifies the meaning of terms that are used in this study. The terms are defined through prevalence in the relevant and researched literature.

Booster Sessions

Booster sessions help maintain performance of the writing strategy. They are planned in advance and are used to keep the strategy in use past the introduction and acquisition of the strategy. They can be anticipated or scheduled. They often consist of reviewing or renewing self-regulation procedures, strategy review, collaborative practice of the strategy; discussion of strategy use; discussions of generalization and strategy use; and continued planning for anticipated struggles with using the strategy (Graham & Harris, 1996; Harris et al., 2008).

Explicit Instruction

Explicit instruction is a systematic, direct, engaging, and success-oriented instruction that has been shown to promote achievement for all students (Archer & Hughes, 2011).

Feedforward method

The feedforward method of video self-modeling is a strategy that records images of students successfully performing a strategy that they have not yet learned (Dowrick et al., 2006).

Genre

Genre is a form of writing with specific features that provide context and structure for a particular purpose and audience. For example, the narrative genre includes personal or made-up stories and typically includes elements such as characters and plot, whereas the opinion genre can

include letters and essays that incorporate features such as an introduction, thesis statement, supporting material, and conclusions. (Graham et al., 2012).

Maintenance

Maintenance is the ability of students to continue to use the strategy throughout their writing after the strategy has been taught and mastered (Graham & Harris, 1996).

Metascript

Metascript is a basic set of lesson plans with guidelines that can be modified, revised, or combined to best meet student and teacher needs (Graham & Harris, 2005; Graham, Harris, & Troia, 1998).

Metacognition

Metacognition is the awareness of domain-specific skills, knowledge, and strategies as well as when to apply them for effective and efficient performance (Troia, 2002).

Metastrategy

Metastrategy is the ability of students to understand the meaning, potential, and limitations of the writing strategy (Calfee & Miller, 2007; Graham & Harris, 2003; Harris & Graham, 1996).

Opinion Essay

Opinion essay is a written response that tells the reader what the writer believes or thinks about a certain topic (Harris et al., 2008).

Overall Writing Quality

Overall writing quality assesses the effectiveness of a piece of writing (Graham et al., 2012).

Persuasive Essay Elements or Opinion Essay Elements

Persuasive or opinion essay elements, often referred to as text elements, are specific features within persuasive writing, for example topic, reason, example, and ending (Graham et al., 2012).

Process Writing Approach

Writing process refers to a recursive process of prewriting, drafting, revising, editing, and publishing (Graves, 1983). Although there is not one defined approach to writing instruction, many teachers use the process approach to writing: planning, drafting, and revising the initial written drafts (Englert et al., 1991). This approach integrates a variety of activities in a workshop environment, which encourages writing for authentic purposes and audiences, personalized instruction, and the cycle of writing (including planning, editing, and revising) (Graham & Perin, 2007b). The approach emphasizes high levels of student interaction and uses brief mini lessons that focus on individualized skills (Graham & Perin, 2007b).

Scaffolding

Scaffolding is a "process that enables a child or novice to solve a task or achieve a goal that would be beyond his unassisted efforts" (Wood, Brunner, & Ross, 1976, p. 90)

Self-Monitoring

Self-monitoring occurs when individuals can assess whether or not they have met their individual goals and they then record the results. (Harris et al., 2008).

Self-Regulation

Self-regulation is the process that helps students in managing their behavior, thoughts, and emotions in order reach a learning goal (Hidi & Boscolo, 2006).

Strategy Instruction

Strategy Instruction teaches students to break down tasks into smaller, systematic steps in order to complete the given tasks (Deshler & Schumaker, 2006).

Students with Learning Disabilities

For the purposes of this study, students with learning disabilities is defined as under the federal regulation within the Individuals with Disabilities Education Act (IDEA). The term shall have the meaning given in federal law at 34 C.F.R. §§300.7 and 300.541.

Specific learning disability is defined as follows:

(i) General. The term means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.

(ii) Disorders not included. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

Florida law states:

A specific learning disability is defined as a disorder in one or more of the basic learning processes involved in understanding or in using language, spoken or written, that may manifest in significant difficulties affecting the ability to listen, speak, read, write, spell, or do mathematics. Associated conditions may include, but are not limited to,

dyslexia, dyscalculia, dysgraphia, or developmental aphasia. A specific learning disability does not include learning problems that are primarily the result of a visual, hearing, motor, intellectual, or emotional/behavioral disability, limited English proficiency, or environmental, cultural, or economic factors (6A-6.03018, F.A.C.).

Self-Regulated Strategy Development (SRSD)

Self-Regulated Strategy Development (SRSD*)* is a type of cognitive strategy instructional method that encompasses both strategy instruction and self-regulation of the writing process. SRSD combines both writing instruction for students with disabilities as well as explicit self-regulation processes (Harris et al., 2008).

Strategy

A strategy is a way to complete a task. Strategies include ways that people think and act when planning, performing, and evaluating their completion of a task (Deshler & Lenz, 1989).

Technology Tool

A technology tool is a device that supports how students recognize and develop contexts for learning (Wertsch, 1991).

Video Self-Modeling

Video self-modeling is a "procedure using the observation of images of oneself engaged in adaptive behavior" (Dowrick, 1999, p.23).

Writing probe

Writing probe is an assessment measure that examines the students' ability to create a written response to opinion essay writing prompts.

CHAPTER TWO: REVIEW OF LITERATURE

This chapter reviews the literature on writing instruction with a specific focus on students with learning disabilities (LD). The researcher presents an overview of the foundations of writing. Next, a description of the cognitive process of writing, including both a developmental framework and current writing practices focused at the elementary level is provided. Following that, characteristics of students with LD, in general and specifically with respect to writing are described. The section that follows provides an overview of the research and development on writing instruction using the self-regulated strategy development (SRSD) instructional method in elementary school settings. An overview of instructional technology follows, specifically video self-modeling, with implications for classroom instruction in writing.

Foundations of Writing Instruction

Writing was not an explicitly taught discipline until the late 1950s and early 1960s. At that time, the focus of writing instruction was synonymous with handwriting skills, punctuation, and grammar (National Council of Teachers of English, 2009). Lessons were often taught in isolation and disconnected from the complete writing process. Writing was viewed as a linear process in which mastery of skills such as handwriting and spelling led to mastery of writing as a whole (Bridge & Hiebert, 1985). Teachers would assign topics and then wait for students to complete their responses (Simpson, 1986). Revising was infrequent and teachers evaluated writing based on first drafts. Seldom would teachers see the final product until it was ready to be handed in and graded (National Council of Teachers of English, 2009).

Cognitive Process in Writing

During the 1960s and 1970s, the focus began to shift to the cognitive processes involved in writing. Janet Emig (1971) was one of the first to research the process writing approach within her dissertation on *The Composing Process of Twelfth Graders* (Emig, 1971; Moore, 2004). Emig conducted a case study of eight twelfth graders in which she asked the students to respond to a writing prompt. The students composed their writing response aloud through the use of a tape recorder over four instructional sessions. The resulting audiotapes recorded the explicit cognitive processes used by the students when composing essays. The recordings were analyzed, and they demonstrated that the writing process was a complex and recursive process. These findings were different from theories and instruction in writing at that time. The writing process was reconceptualized as a series of stages beginning with prewriting and planning. The results of Emig's researcher further demonstrated that writing was more complex than previously thought and that changes in instruction of writing composition needed to occur.

Hayes and Flower (1980) conducted a study of the writing process in which they examined adult college students' thinking while writing. From listening to the participants' oral statements, they formulated a model of writing that pinpointed three cognitive processes directly controlled by the writer (Hayes & Flower, 1980). These included the (a) task environment, which encompassed external factors such as topic and audience; (b) mental processes, such as determining what to write, how to write from a plan, and reviewing the written text; and (c) long-term memory, which refers to the writer's knowledge of purpose for writing, topic, and audience (Hayes & Flower, 1980). Flower and Hayes (1981) viewed writing as a self-regulating process in which writers create goals to guide the process. At times, these goals can change or new ones may emerge

(Flower & Hayes, 1981; Harris & Graham, 1996). This model of writing (Flower & Hayes, 1981) contradicted previous thinking that writing was a linear process and progressed through stages (Berninger et al., 2009; Nystrand, 2006). Instead, Flower and Hayes proposed that planning, translating ideas into writing, and revising interacted recursively throughout the writing process, with the writer self-regulating the process (Berninger et al., 2009; Flower & Hayes, 1981; Harris & Graham, 1996) As the writing process continued to be studied, it was viewed as an increasingly complex cognitive and recursive activity (Graham, 2006b).

Writing in the Elementary School

Research by Emig (1971) and Graves (1973) described variables that specifically influenced the writer during the writing process. Prior to this research by Emig (1971) and Graves (1973), skills for writing were the main components addressed within the school setting (e.g., spelling, handwriting, grammar, etc.). As a result of their research, writing began to be taught differently in schools to address both authentic social and academic purposes (Britton, 1978; Berninger et al., 2009). Consequently, the writing process was also taught across the grade levels. Teachers in elementary classrooms began to teach writing through the process approach. Graves (1983) and Calkins (1983) supported the belief that writing instruction for multiple purposes across multiple genres should be taught in the elementary schools.

Marie Clay (1982) conceptualized that reading was not a separate process from writing. Reading and writing should be integrated within the classroom. Clay developed *Readers' and Writers' Workshops*, focused on child-centered and individualized approaches to reading and writing using authentic literature. Clay's approach continued to be examined and grew throughout

the 1980s. Nancy Atwell (1987) continued to develop Clay's approach, *Writers' Workshop. Writers' Workshop* utilized the main aspects of the writing process approach. The implementation of *Writers' Workshop* varies, but it includes critical components of the writing process: (a) mini-lessons of writing skills with strategies in composition and quality traits; (b) dedicated time to write for a specific audience and purpose using the writing process (i.e., planning, drafting, editing, revising, and publishing); (c) writing conferences between teacher and student to identify and work on individual writing goals; and (d) opportunities to share and read their work (Atwell, 1987; Berninger et al., 2009).

The process writing approach was supported by researchers in the field of writing as an effective approach to teach writing to most students (Atwell, 1987; Calkins, 1983; Englert, 1992; Graves, 1983; Hillocks, 1984). This approach to writing emphasizes student engagement with authentic writing tasks. Although there is not one view on the teaching of the process approach to writing, it is most often viewed as idea generating or planning, drafting, revising, editing, and publishing (Moore, 2004).

Many teachers continue to use components of the writing process approach within their classrooms (Troia, Lin, Monroe, & Cohen, 2009). Cutler and Graham (2008) conducted research on the pedagogical writing practices of teachers in grades 1 through 3. Their findings indicated that almost three out of four teachers used a process approach combined with traditional skills instruction when teaching writing. Sixty-five percent of teachers surveyed did not use a commercial program to teach writing, while the remaining 35% reported using 137 different programs (Cutler & Graham, 2008).

Most recently, Graham and Sandmel (2011) synthesized studies on the process approach to writing instruction. Overall, they found 29 experimental and quasi-experimental studies in grades 1-12 that met the criteria of the analysis. The earliest was in 1971 (Adams) with the latest conducted in 2002 (Roberts). Overall, they found that the process approach to writing instruction improved the overall quality of writing that was produced by typical students in general education classes (ES = 0.34). Recommendations for a more explicit approach were discussed. Given the widespread implementation of the process writing approach by elementary teachers to meet most students' reading and writing needs, a more explicit approach to instruction continued to be developed, researched, and validated for students who struggle with written expression and writing.

Graham and Harris (1993, 1996) conceptualized a theoretical framework of writing development, the Self-Regulated Strategy Development (SRSD), based upon four main components: (a) strategic behavior, (b) writing skills, (c) knowledge of writing, and (d) motivation for writing. Proficiency across these writing development components is crucial for students to be successful (Klassen & Welton, 2009).

The first component of SRSD, strategic behavior, is defined as the way that students work in order to express their ideas through writing. It occurs while students are identifying information, thinking about it, deciding their next step, and evaluating their results (Gibson, 2008). Effective writers have a solid understanding of the strategic processes within the writing process (Graham & Harris, 2009; Graham et al., 2009; Harris, Graham, & Mason, 2003, 2006). Additionally, strategic behavior encompasses planning and revising. In fact, planning and revising are the most important skills to acquire in writing development (Graham & Harris, 2009). In addition, strategic behavior includes metacognitive behaviors within the writing process. Self-regulation strategies improve

writing performance for both developing and proficient writers (Graham & Harris, 2000). Effective writers understand and use metacognitive knowledge and strategies to develop, organize, plan, and revise throughout the writing process (Klassen & Welton, 2009).

The second component of SRSD, writing skills such as handwriting and spelling, plays an important role in writing development (Graham, 2006a; Graham & Harris, 2009). Students need a basic mastery of these skills to become proficient writers. A number of research studies in writing report that handwriting and spelling predict students' writing proficiency (Graham, Berninger, Abbott, Abbott, & Whitaker, 1997) and sentence construction (Graham, Harris, & Fink, 2000; Graham, Harris, & Fink-Chorzempa, 2002).

The third component, knowledge of writing genre and basic elements, is another crucial building block of writing development. This component includes the ability to know what and how to write for various purposes and audiences (Graham, 2006a; Graham & Harris, 2009). For example, Olinghouse and Graham (2009) found that knowledge of writing genre and basic elements accounted for variance among fourth-grade students' story quality, written output, and vocabulary diversity.

Motivation is the final component of Graham and Harris' theoretical framework of writing development (2009). Motivation includes four extensive categories identified by researchers: self-efficacy and beliefs, goal orientations, personal and situational interest, and attributions for outcomes (Troia, Shankland, & Wolbers, 2012). Graham (2006a) indicated that motivation is a significant component to improve students' writing abilities. In 2007, Graham, Berninger, and Fan researched student attitudes as a predictor of writing performance. Their results showed that instruction tailored to increase motivation has a positive impact on student writing performance.

Self-Regulated Strategy Development (SRSD) is an instructional method developed by Harris and Graham (1992) in alignment with the writing process and includes the four main components of their theoretical writing framework. The SRSD instructional method includes explicit writing strategies, procedures for self-regulation of the strategies, and motivation strategies within the writing process (Graham & Harris, 2000, 2009). SRSD is taught within six instructional stages of writing skills and incorporates self-regulation strategies (Graham & Harris, 2000, 2005, 2009; Harris et al., 2008). The instructional model of SRSD promotes knowledge of strategies, as well as independent use and self-regulation of the strategies by the student within the writing process.

Collaboration between the student and teacher throughout learning is a critical component (Graham & Harris, 2000, 2009). As a student uses the SRSD instructional model in writing, teacher feedback and support are based upon student learning. Over time, a gradual shift of strategy used by the student occurs as teacher prompting fades. The SRSD instructional model is not time based; rather, it is based on criteria. Students progress through each instructional stage at their own pace based on mastery of criteria (Graham & Harris, 2000, 2009).

As mentioned, the Self-Regulated Strategy Development is not a complete writing program. Rather, the writing strategies of the SRSD instructional model are an important part of an overall writing program. Preferably, writing strategies should be taught within the context of a *Writers' Workshop* program or process writing approach (Graham & Harris, 2005).

To summarize, four components of writing development are the underpinnings of the SRSD instructional model. This SRSD instructional model was developed and validated to teach writing to students who struggle with writing (Graham, 2006a; Graham & Harris, 2009). The next section

describes the characteristics of students who struggle with written expression and writing, specifically students with LD.

Students with Learning Disabilities

Students with learning disabilities (LD) represent 4.9% of students nationally (U.S. Department of Education, National Center for Educational Statistics, 2012). The federal definition, included in the Individuals with Disabilities Education Improvement Act (IDEIA, 2004), is the following:

> The term shall have the meaning given in federal law at 34 C.F.R. §§300.7 and 300.541.
>
> Specific learning disability is defined as follows:
>
> (i) General. The term means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
>
> (ii) Disorders not included. The term does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

The characteristics of students with LD often impact specific academic domains, including (a) listening comprehension (receptive language); (b) oral expression (expressive language); (c) reading skills; (d) reading comprehension; (e) written expression; (f) math calculation; and (g)

math reasoning (Fletcher, Lyon, Fuchs, & Barnes, 2007). Sometimes students have difficulties in one or more academic areas. This situation is referred to as comorbidity (Fletcher et al., 1998). The majority (80-90%) of students with LD demonstrate difficulties in reading as well as writing (Fletcher et al., 2007; Kavale & Reese, 1992; Lyon et al., 2001).

Characteristics of Students With Learning Disabilities and Writing

Students with LD struggle with writing specifically in (a) regulating strategic behavior, such as planning and revising; (b) knowledge of the writing process (c) skills including the ability to produce text; and (d) motivation to write. Research found that students with LD spent less time compared to their typical peers in planning, self-monitoring, and evaluation (Graham & Harris, 2003; MacArthur & Graham, 1987). This finding is supported by Scardamalia and Bereiter's theory (1986), which suggested that students with LD simply retrieve knowledge about a given topic without planning or organizing ideas into relationships.

Students with LD have difficulty both accessing and organizing knowledge of a topic and writing with accuracy. In multiple studies in writing, students with LD focused on idea generation and knowledge telling, a simplified version of the Flower and Hayes (1981) model of the writing process. Graham (1990) conducted a study that found that students with LD in fourth and sixth grade produced double or even triple the amount of output when prompted. Even with prompting, however, the mechanical process of writing interfered with the process of generating their ideas (Graham & Harris, 2003). As students with LD focus on writing a word or remembering how to spell, they often forget what they were going to write. Students with LD also may lose what they

were going to write in their working memory, as their handwriting may not be fast enough to keep up with their ideas (Graham & Harris, 2003).

These issues create further difficulty with the revision process. In numerous studies, revisions by students with LD focused on appearance, word substitutions, and mechanical errors (Graham & Harris, 2003; MacArthur & Graham, 1987; MacArthur, Graham, & Schwartz, 1993). However, in two studies (De La Paz, Swanson, & Graham, 1998; Graham, 1997), the process of revision improved with explicit guidance and assistance in the procedures associated with revision.

Finally, knowledge about writing, including genre, audience, conventions, and literary devices, by students with LD is limited (Graham & Harris, 2003). When compared to their typically achieving peers, students with LD are less knowledgeable about the process involved in organizing and categorizing their ideas as well as revising and evaluating their text (Englert, Raphael, Anderson, Gregg, & Anthony, 1989; Graham & Harris, 2003).

Self-Regulated Strategy Development and Students With Learning Disabilities

As previously described, the Self-Regulated Strategy Development (SRSD) instructional method was developed and validated to teach writing to students who struggle with writing, including students with LD (Graham, 2006a; Graham & Harris, 2009). Necessary writing skills, knowledge of writing genres, strategies, and self-regulation are explicitly taught within the SRSD instructional method. This explicit instruction assists students with LD as they often need more explicit, extensive, and direct instruction to master the process of writing as compared to their typically achieving peers (Graham & Harris, 2003). Also, the SRSD model is interactive learning between the teacher and student during the instructional process. Individualized instruction of

writing processes, skills, and knowledge is based on student performance and mastery of established criteria. Students must meet criteria for mastery before advancing to the next lesson. SRSD instruction continues until the student uses the strategy and self-regulation procedures effectively (Graham & Harris, 2003). SRSD is an ongoing process in which new strategies are introduced and previous strategies are enhanced (Graham & Harris, 2003).

Stages of Self-Regulated Strategy Development

Six stages within the SRSD instructional method are used to develop writing strategies. These stages include lessons that scaffold knowledge and skills of the writing process and the four components of SRSD (previously described). The six stages of SRSD are described next.

Stage 1. Develop and activate background knowledge: During this stage, teachers begin by developing and activating any prior knowledge necessary to use the strategy effectively. This stage develops any beginning skills that are needed to understand the strategy. The teacher reads and discusses models of writing in this stage. The teacher also models positive self-statements (Graham & Harris, 2009; Harris et al., 2008).

Stage 2. Discuss it: This stage focuses on the purpose of the strategy. The mnemonic for remembering the strategy is introduced. The teacher and student discuss the purpose and goals of the strategy. This stage includes a discussion of strategy use, both within the current writing task as well as generalizing the use to other genres. If available, teachers discuss individual assessment data and graphs of student performance in writing. Students set goals and make a commitment to learn the strategy and collaborate with the teacher throughout this process (Graham & Harris, 2009; Harris et al., 2008).

Stage 3. Model it: This stage provides teacher modeling of the strategy use. Self-instructions and self-regulation behaviors are modeled. The students focus on the tasks to complete, including planning, strategy step statements, self-evaluation, error correction, coping, and self-reinforcement. As part of the modeling process, the teacher sets the goals and models assessment of the goals (Graham & Harris, 2009; Harris et al., 2008).

Stage 4. Memorize It: Students practice memorizing the mnemonic and strategy and the personal self-statements. Students must meet criteria for memorization mastery at 100% at this stage.

Stage 5. Support it: This stage involves support and scaffolding from the teacher to assure that the students meet the criteria for mastery of the strategy. Prompting fades as the students achieve mastery (Graham & Harris, 2009; Harris et al., 2008).

Stage 6. Independent performance: The student uses the strategy correctly and independently in this final stage. Students should be able to use self-instructions without support (Graham & Harris, 1996; Graham & Harris, 2005; Graham & Harris, 2009; Graham et al., 2009). Throughout the stages, support for maintenance and generalization are discussed and modeled (Graham & Harris, 2009).

The next section will analyze the current research in writing including historical and recent meta-analyses in writing. Results and effect sizes will be reported. Lastly, two meta-analyses on the SRSD instructional method for teaching writing strategies will be described.

Writing Research: Analysis of Current Research

Numerous meta-analyses have been conducted on writing research. Reviews of these meta-analyses are organized in this section into topics of writing and composition (Hillocks, 1984); written expression for students with LD (Gersten & Baker, 2001); strategy instruction for teaching writing (Graham, 2006b); teaching writing to adolescents (Graham & Perin, 2007a); single subject designs for writing instruction (Rogers & Graham, 2008); and writing instruction for elementary students (Graham et al., 2012). Also included are two meta-analyses that examined SRSD implementation with students with LD (Graham & Harris, 2003).

In 1984, Hillocks completed a meta-analysis that summarized the experimental research findings related to the teaching of composition. He examined the effects of writing treatments on the quality of students' written products. The review examined every experimental and quasi-experimental study produced between 1963 and 1982. Over 500 published studies and dissertations were reviewed.

Hillocks classified studies into two different categories of interventions. The first category addressed the teachers' mode or form of instruction. The treatments were different based on components of instructional pedagogy . Four modes of writing instruction were examined, along with their average weighted effect size (ES): (a) presentational (featuring lecture and teacher-led discussion), ES = 0.02; (b) environmental (materials and engaging students in a writing process to meet specific goals), ES = 0.44; (c) natural process (including writing and revising, featuring peer interaction and positive feedback), ES = 0.18; and (d) individualized (including tutoring and specific materials to meet individual needs), ES = 0.17 (Hillocks, 1984; 1986). Some of the studies were classified in both the environmental and mode of instruction category in relation to how they

were defined (Applebee, 1986; Graham & Perin, 2007a; Hillocks, 1984, 1986). Results of this study showed that the environmental model (e.g., students engaged within the writing process) were much more effective then the presentational mode of teaching. This finding continued to propel research within writing to find effective methods of writing instruction as well as for ways to provide support for engagement within the process approach of writing.

Gersten and Baker (2001) completed a meta-analysis on writing interventions for students with LD. Participants within these studies were from grades one through nine and received instruction in narrative or expository writing. Overall, the writing intervention studies produced a moderate to large effect on the written performance of students with LD. As a result, Gersten and Baker recommended three components that should be included within writing instruction: (a) explicit steps of strategy instruction; (b) text structure instruction for each genre; and (c) teacher or peer feedback regarding writing performance. However, the authors found that these are rarely implemented in classrooms.

Graham (2006a) conducted a meta-analysis on strategy instruction within writing. Thirty-nine writing studies were identified. Of these studies, 19 were single-subject research designs and 20 were comparison group designs. A summative ES across studies produced a mean of 1.15. The impact of strategy instruction on quality of essay elements written by all students had a moderate to large ES at .80 and .60. Overall, the group comparison studies showed that strategy instruction improved students' writing consistently in the areas of writing quality, essay elements, and revisions across different types of students. The findings from the single-subject design analyses indicated that the average ES across all designs yielded a mean point of non-overlapping data (PND) of 90%. A result of PND at 90% or better is an illustration of a very effective result. The

SRSD instructional method was used in 45% of the group comparison studies and 68% of the single-subject design studies (Graham, 2006a).

Graham and Perin (2007a) completed a meta-analysis of writing instruction with adolescents (grades 4-12) of 123 studies with similar results as the above meta-analysis by Graham (2006a). First, studies that encompassed explicit teaching strategies for planning, revising, and editing compositions had a large effect (ES = 0.82). Second, studies that taught strategies and procedures for summarizing reading materials yielded a strong result (ES = 0.82). Next, developing instructional arrangements for students to work together to plan, draft, and edit compositions had a moderate to strong result (ES = 0.75). Results from research studies on setting clear goals had a moderate to strong result (ES = 0.70). The findings and resulting recommendations supported explicit and systematic processes and strategies in writing for adolescents (Graham & Perin, 2007a).

Rogers and Graham's (2008) meta-analysis on single-subject design writing interventions found 88 studies that met the inclusion criteria. Of these studies, they calculated an average effect size (ES) for treatments that were tested in four or more studies that used a similar outcome measure. The results indicated nine treatments were effective. These included: (a) strategy instruction for planning or composing; (b) teaching grammar; (c) goal setting; (d) strategy instruction for editing; (e) using a word processor; (f) reinforcement of writing outcomes; (g) use of prewriting activities; (h) teaching of sentence construction; and (i) strategy instruction for writing paragraphs. Twenty-five studies examined the effectiveness of teaching strategies for planning/drafting text for students in grades two through nine. These studies all used the SRSD instructional method. Most of the studies targeted a genre of writing to assist in generating and

organizing ideas. Overall, teaching students a planning/drafting strategy had a large impact on increasing the number of genre elements in their writing. The mean PND for these studies was 96% (range = 100% to 67%) for post intervention. Teaching strategies using the SRSD instructional method also yielded a moderate impact on the generalization of elements from an instructed genre to an uninstructed genre with a mean PND of 85% (range = 100% to 67%).

Graham and colleagues' (2012) meta-analysis on writing at the elementary level identified 115 experimental and quasi-experimental studies. An average weighted effect size (ES) was calculated. The results indicated that strategy instruction yielded an ES of 1.02 across 20 studies. Of these studies, 14 used SRSD instruction (ES = 1.17) and 6 were non-SRSD writing instruction (ES = 0.59). The authors examined adding self-regulation to strategy instruction, which had an ES = 0.50. Peer assistance was examined over four studies and had an ES of 0.89. Assessing writing with adult feedback was analyzed over five studies and yielded an average weighted ES of 0.80. Product goals were examined in seven studies with an average weighted ES of 0.76. The writing practices within elementary classrooms with the greatest effect sizes of this meta-analysis (Graham et al., 2012) included (1) strategy instruction (Graham, 2006a); (2) peer assistance (Graham, 2006a; Graham & Harris, 2003; Graham & Perin, 2007a); (3) product goals (Graham & Perin, 2007a); (4) pre-writing activities (Graham & Perin, 2007a); (5) word processing (Bangert-Drowns, 1993; Goldberg, Russell, & Cook, 2003; Graham & Perin, 2007a; Morphy & Graham, 2012); and (6) process approach to writing instruction (Graham & Perin, 2007b; Graham & Sandmel, 2011). The findings from this meta-analysis indicated that further research is necessary. It is also noted that most of the research examined here involved teaching typically developing

students. More studies need to be conducted in writing with struggling writers (Graham et al., 2012).

Two meta-analyses focus on the SRSD method and students who were at risk for LD or who had LD (Baker et al., 2009; Graham & Harris, 2003). Graham and Harris's (2003) meta-analysis identified 18 studies that involved writing. Overall, SRSD produced large effect sizes for quality, structure, and length of student writing (ES = 1.47–3.52) and PND (71%–100%). Within their sample, six studies examined opinion essays. This research included four single subject and two group designs. Graham and Harris (2003) reported variable results from low to high effect sizes (ES = 0.32–5.18 and 70%–100% PND) on length, elements, coherence, and quality for struggling students and students with LD.

In addition, Baker et al. (2009) conducted a meta-analysis on teaching writing using SRSD to students at risk for LD. Twenty-one studies—five experimental and quasi-experimental studies and 16 single-subject studies—were analyzed. All five experimental studies met the criteria for rigorous research standards set forth to become an evidence-based practice (Gersten et al., 2005). Effect sizes for each of the five SRSD in writing experimental studies ranged from +0.80 to +1.85. The average weighted effect size was +1.22. This outcome included a 95% confidence interval with a low of +0.92 to a high of +1.53. The confidence interval did not include 0; therefore it met Gersten and colleagues' criteria (2005) for being an evidence-based practice for students with and at risk for LD. Horner et al. (2005) established seven indicators to evaluate the quality of research for each study. Five single-subject studies would have to meet all of the quality indicators for the practice to be considered evidence based. In addition, these studies would have had to be conducted by three different researchers across three different locations. There would have had to have been a

minimum of 20 total participants across the studies. Of the 16 SRSD single-subject studies examined, 9 of them met the criteria for an evidence-based practice. PND results for these single-subject studies were not included. However, the result of this meta-analysis is that Baker et al. (2009) concluded that SRSD is an evidence-based practice for teaching writing to students with LD and those who are at risk for LD.

Self-Regulated Strategy Development and the Elementary School: Literature Review

The SRSD instructional method has been explored in writing for specific genres, including narrative, expository, opinion, story, and report writing. SRSD has been implemented with various populations of students, including gifted, typically developing, struggling students, and students with disabilities. Numerous studies examined SRSD for students with and without disabilities in grades one through twelve (Graham, 2006a). SRSD in writing in the opinion or story genre essays use a mnemonic strategy. The beginning of the strategy is "POW" (P = Pick my idea; O = Organize my notes, W = Write and say more). The mnemonic strategy assists students with completing the writing process. POW is paired with "TREE" (T = Topic; R = Reasons; E = Example; and E = Ending), another genre strategy that helps students organize their thoughts for writing within that genre.

A systematic review of the literature of SRSD with students with LD in the elementary school was conducted using the ERIC, Education Full Text, Professional Development, and PsycInfo databases. The terms "writing" and "self-regulated strategy development" were searched. One hundred twenty-nine peer-reviewed studies published over the last 25 years were identified. From these studies, 28 were chosen to be reviewed as the research was conducted in the elementary

setting. After reviewing these articles, the ones selected below (Table 1) used the SRSD method for persuasive or opinion writing. These studies all used the mnemonic “POW + TREE” as one of the instructional stages of writing within the research.

Table 1: Research Studies: SRSD in Opinion Writing in the Elementary Setting

Researcher	Methods	Subjects/Setting	Key Findings
Graham, S., & Harris, K. (1989). Improving learning disabled students' skills at composing essays: Self-instructional strategy training. *Exceptional Children, 56* (3), 201-214.	Multiple baseline across subjects design with multiple probes in baseline IV: Instruction in opinion writing through use of 3 step TREE mnemonic DV: Story parts, number of words, overall quality ratings	3 students in 6th grade with LD Resource room Suburban elementary school	Overall, strategy instruction had a positive effect on students' writing performance and self-efficacy.
Graham, S., Harris, K. R., & Mason, L. L. (2005). Improving the writing performance, knowledge, and self-efficacy of struggling young writers: The effects of self-regulated strategy development. *Contemporary Educational Psychology, 30*(2), 207-241.	Random assignment across three conditions: IV: a. SRSD instruction only in instruction opinion writing (POW + TREE) or story writing (POW + WWW What=2, How=2) b. SRSD plus peer support c. Comparison—typical instruction –Writer's Workshop DV: Composing time, number of words, essay elements, and overall quality, and writing knowledge, self-efficacy	Urban elementary setting—67% of participants were on free or reduced lunch 74 at risk third grade students across 12 classrooms within 4 schools Of these students, 20 had a disability; 12 had LD N=12 for each condition as students were in pairs	Students in the SRSD condition and SRSD plus peer support condition spent more time composing their stories as the comparison condition ($p<0.03$, ES=2.62). Students in the SRSD only condition wrote more words than in the comparison condition ($p<0.017$, ES=1.55). For story writing: students in the SRSD condition and SRSD plus peer support conditions included more story elements in their papers then the comparison condition ($p=0.00$, ES=1.79 for SRSD only; $p=0.00$,

Researcher	Methods	Subjects/Setting	Key Findings
			ES=1.76 for SRSD plus peer support). For opinion writing Students in SRSD included more basic elements for persuasive writing than the comparison condition (p=<0.003, ES=2.04 SRSD only; p=<0.003, ES=1.46 SRSD plus peer support).
Lienemann, T. O., & Reid, R. (2008). Using self-regulated strategy development to improve expository writing with students with attention deficit hyperactivity disorder. *Exceptional Children, 74*(4), 471-486.	Multiple baseline across participants with multiple probes during baseline IV: SRSD instruction opinion writing (POW + TREE) DV: essay elements, number of words, quality ratings	2 fourth graders with ADHD 2 fifth graders with ADHD Rural elementary school in midwest	All students' essays were longer and complete and quality ratings were within the normal range. PND for essay element and number of words was 100%. All students increased the performance of number of essay elements. In addition, an immediate change in level of number of words was observed. Holistic quality scores for writing increased by 285% to 417%.
Little, M., Lane, K., Harris, K. R., Graham, S., Story, M., & Sandmel, K. (2010). Self-regulated strategies development for opinion writing in tandem with school	Two multiple probe designs—one with students with internalizing behaviors and the other with students with externalizing behaviors	13 second grade students—7 boys and 6 girls identified with externalizing or internalizing behavioral concerns and poor writing skills.	SRSD for writing within positive behavior supports is an effective approach for students who are poor writers and at risk for EBD.

Researcher	Methods	Subjects/Setting	Key Findings
wide positive behavioral support: Effects for second-grade students with behavioral and writing difficulties. *Behavioral Disorders, 35*(2), 157-179.	IV: SRSD instruction opinion writing (POW + TREE) Positive behavioral supports DV: essay elements, number of words, and quality		Both groups of students showed strong improvement with opinion writing with SRSD instruction.
Mason, L. H., & Shriner, J. G. (2008). Self-regulated strategy development instruction for writing an opinion essay: Effects for six students with emotional/behavior disorders. *Reading and Writing*, *21*(1), 71-93.	Multiple probe across subjects design, grouped into comparison baselines to compare effects across subjects IV: SRSD instruction opinion writing (POW + TREE) DV: essay parts, quality of essay, number of words written, and number of transition words written	Six 2nd through 5th grade students with EBD in a Midwestern elementary school All demonstrated need for writing support via Individualized Education Plan	All students improved performance in writing persuasive essays following SRSD instruction. Following independent practice, the students' demonstrated performance decreased. This contradicts previous research for both students with and without disabilities that receive SRSD.
Sexton, M., Harris, K., & Graham, S. (1998). Self-regulated strategy development and the writing process: Effects on essay writing and attributions. *Exceptional Children, 64*, 295-311.	Multiple baseline across participants with multiple probes during baseline IV: TREE strategy DV"	3 fifth-grade students with LD and 3 sixth-grade students with LD Suburban elementary school	Overall, students increase their overall use of strategy 4 students were able to maintain performance for 3 wks after instruction

Graham and Harris (1989) conducted a multiple-baseline across participants, multiple probe design study with three sixth graders with LD in which they learned a strategy to assist in the planning component of essay opinion writing. They began with having the students (a) Think about who will read this and why am I writing it, (b) Plan what to say using TREE, and (c), Write and Say more. The students then used TREE to develop opinion essays. The researchers noted that after students received instruction with SRSD, students spent more time planning their writing, and their essays had an increased number of words written, an increase in essay elements, and an increased coherence. In addition, all students increased their mean performance of essay elements following intervention and maintenance conditions as compared to baseline conditions.

Next, Sexton, Harris, and Graham (1998) extended these findings. A multiple-baseline across-participants design with multiple probes throughout baseline was conducted with six students with LD in fifth and sixth grades. The students were instructed with SRSD, specifically the TREE strategy for opinion writing. Overall, students increased their overall use of the strategy. All of the students increased their essay writing ability. All students experienced a considerable increase of essay elements as compared to baseline levels for all students. In fact, the number of essay elements increased by over 150% for all students who participated in the study. Four of the students were able to maintain performance of increased performance for at least three weeks after instruction. Two of the students generalized the strategy into the general education classroom setting. Contrary to the study completed by Graham and Harris (1989), students were less successful in maintaining the gains after instruction. This maintenance

problem highlights the importance of providing booster sessions and follow up procedures for maintenance (Harris & Graham, 1992; Sexton et al., 1998).

Graham and colleagues (2005) completed a study with 317 third grade students across 12 classrooms within four schools. Students were assigned to three conditions: SRSD instruction, SRSD and peer support, and typical practice. Within the SRSD instruction group, students were taught two strategies—one for opinion writing and one using a mnemonic for narrative essays. Students in the peer-support condition were taught the same strategies as the SRSD group but with the addition of peer support throughout the stages of instruction. Students in the SRSD condition and SRSD-plus-peer-support condition spent more time composing their stories than the comparison condition ($p < 0.03$, ES = 2.62). Students in the SRSD condition produced essays that were longer than the comparison condition ($p < 0.017$, ES = 1.55). Within the opinion writing genre, students in the SRSD condition and SRSD-plus-peer-support condition included more basic elements for opinion writing than the comparison condition ($p < 0.003$, ES=2.04 for SRSD only; $p < 0.003$, ES=1.46 for SRSD plus peer support). Overall, students wrote longer, more complete, and qualitatively better papers within both conditions compared to the comparison condition. Graham et al. (2005) noted that students who received SRSD were far more motivated than those students in the comparison conditions.

Mason and Shriner (2008) completed a study with six students with emotional behavioral disorders (EBD) in 2nd through 5th grades. A multiple probe across participants design was used to teach students a SRSD strategy (POW + TREE) for opinion writing. Students were divided into two groups, Group 1 (younger students) and Group 2 (older students). Group 1 PND for essay parts were calculated at 100% for instruction, 77% for post instruction,

and 100% for maintenance. For group 2, PND for essay parts were calculated at 100% for instruction, post instruction, and maintenance. Overall, the results illustrated that all had improved writing performance. The results demonstrated and provided evidence that elementary students with EBD can be taught a strategy to write an opinion essay. However, following independent practice, the students' demonstrated performance, which is the highest baseline performance and the minimal criterion level, decreased. This finding contradicts what had been demonstrated previously in the research for both students with and without disabilities that received SRSD instruction, as students typically maintained their performance at a similar post-instruction level (Graham, 2006). The authors noted that modeling is a critical stage in SRSD, particularly for students with EBD. Recommendations included both repeated practice over time and self-regulation procedures to support students' independence, generalization, and maintenance.

In 2008, Lienemann and Reid investigated the effects of an opinion writing strategy (POW + TREE) with two students in fourth grade and two students with ADHD in fifth grade. The instruction was given one-on-one outside of the classroom setting. As a result of SRSD instruction, students' essays were longer, more complete, and of improved quality. The percentage of non-overlapping data (PND) for the number of essay elements and number of words was 100%, meaning the intervention was highly effective for all participants. Most improved was the holistic quality of all students' essays, which increased by 285% to 417% across all participants. Previous studies had similar results for quality of essays after receiving the intervention. These holistic quality results were at or above the normal range for writing quality. This finding is of importance as this intervention normalized performance.

Little et al. (2010) investigated the effects of SRSD in combination with positive behavioral supports for students with writing difficulties for opinion essays. Participants included 13 second-grade students with EBD. A multiple baseline across participants design with multiple probes during baseline was used. The SRSD strategy implemented was POW + TREE. Overall, results indicated that SRSD had a positive impact on opinion essays written by students with EBD, as PND was 100% on elements. In addition, essays were longer and were qualitatively better. Findings from this study are consistent with previous research that indicated that SRSD instruction is an effective method for improving the writing skills of students with poor writing skills.

Despite the plethora of research on strategy instruction in writing, effects of components on writing instruction, and effects of SRSD, few studies investigated the use of technology within any of the components of writing instruction within SRSD. In the next section video modeling is explained, its theoretical basis is discussed, studies that used video self-modeling are identified, and future directions for the use of video self-modeling and writing are suggested.

Instructional Technology and Writing

As advances in instructional technology continue to increase, the resulting changes will impact instructional content and delivery in literacy. The requirements of becoming fully literate will evolve in both cognitive and social terms due to technology (MacArthur, 2006). Computer technologies will have more direct effects on education for two reasons. The integration of text and other media, including the internet, expands the definitions and functions of literacy. Second, many forms of media and electronic technologies also engage students as writers rather than just

readers. As technology evolves, educators will use increasing numbers and types of technology tools to develop effective writing skills (MacArthur, 2006).

Labbo and Reinking (1999) stated that technology integration within literacy instruction needs to be (a) accessible, (b) used as an enhancement to traditional instruction, and (c) used to prepare students for the future. In addition, technology can become a learning tool that can provide reminders for students as they write (Englert et al., 2004). The use of video self-modeling will be described as a potential technology for students with LD to use in combination with SRSD in the elementary setting.

Video Modeling

Video-based modeling (VBM) uses modeling and visual strategies through the use of an effective delivery model for improving skills (Bellini & Akullian, 2007; Biederman & Freedman, 2007; Mason, Ganz, Parker, Burke, & Camargo, 2012). VBM is the process of recording the performance of a targeted behavior for students to cognitively internalize and later reproduce the modeled behavior (Hitchcock et al., 2003; Mason et al., 2012). VBM provides an exemplar of what is being taught within technology integration (Mason et al., 2012). Its three variations include (a) video modeling with other as a model (VMO), (b) video self-modeling (VSM), and (c) point of view modeling (Shukla-Mehta, Miller, & Callahan, 2010). VMO requires recording of a peer demonstrating a skill (Allen, Wallace, Renes, Bowen, & Burke, 2010). VSM records the individual participant demonstrating the skill (Hitchcock et. al, 2003). Point of view modeling records the model from the perspective of the model where the model is not seen (e.g., recording the hands of someone making a sandwich).

VBM is an evidence-based intervention within the special education research literature, in particular for those with ASD (Bellini & Akullian, 2007; Rayner, Denholm, & Sigafoos, 2009). VSM will be discussed historically along with its future directions for use with students with LD.

Modeling is a process in which the observers pattern their beliefs, behaviors, and ideas after the display by one or more models (Schunk, 1987). Modeling is a crucial means for obtaining literacy skills, attitudes, behaviors, and beliefs (Rosenthal & Zimmerman, 1978) and has been an effective component of instructional pedagogy (Prater et al., 2012; Woolfolk, 2010).

VSM is defined as a "procedure using the observation of images of oneself engaged in adaptive behavior" (Dowrick, 1999, p. 23). VSM allows students to see themselves performing a task that may be more advanced than the way that they typically perform the task (Buggey et al., 1999; Mechling, 2005). An advantage to VSM is that the students see themselves as a model rather than others. Self-modeling of behaviors may increase students' self-efficacy as they see themselves demonstrate the desired behavior (Brown & Middleton, 1998; Hitchcock et al., 2004; Mechling, 2005).

Two terms are employed within VSM; feedforward and positive self-review. Feedforward refers to videotaped images of target skills that will be mastered in the future. The video is created by coaching the student to achieve the skill in order to create a sample of the desired behavior (Dowrick, 1999; Hitchcock et al., 2004). Feedforward is often used to teach new skills. Positive self-review captures the images of the best performance samples that may be uncommonly achieved. This technique may be used to achieve maintenance of a skill or consistency (Hitchcock, 2004).

The use of VSM has been studied extensively in research with students with autism (Ayres & Langone, 2007; Shukla-Mehta et al., 2010). However, the current research examined video self-modeling in terms of academic behaviors for students with LD.

Video Self-Modeling Theory

Video self-modeling (VSM) is based on Bandura's social cognitive theory. Bandura (1977) developed a social cognitive learning theory on three essential elements. First, people can learn through observation. Second, the internal mental state is critical within the process. Last, Bandura suggested that although something has been learned, it may not result in a change of behavior. Observational learning through the modeling process consists of four processes: attention, retention, production, and motivation (Bandura, 1986). Modeling will not occur unless the observer pays attention to the pertinent events. Retention requires the observer to process modeled information and store it into memory through rehearsal. Production takes the modeled behaviors and translates them into actual behaviors. Last, motivation influences the observer if a useful skill is modeled. Students will be more likely attend to the models and remember what has been modeled if a useful purpose has been established (Zimmerman & Schunk, 2011). Bandura believed that children learn by observing a model of the target behavior or by receiving directions without personal experience.

Bandura (1986) defined self-efficacy as the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Students obtain information to evaluate their self-efficacy from their actual performance as well as modeled experiences (Zimmerman & Schunk, 2011). VSM provides a powerful model for the students

and may increase student self-efficacy (Hitchcock et al., 2004). In addition, students who have positive expectations for the anticipated outcome of an activity or strategy will then create self-efficacy, which may influence their effort, determination, and achievement (Bandura, 1986; Schunk & Zimmerman, 2012). In other words, if students believe a particular strategy will be effective for them, their achievement will improve.

Students acquire self-efficacy through outside support, encouragement, and observing their own successes, which defines self-modeling (Bandura, 1986, 1997; Dowrick, 1983, 1991, 1999; Dowrick et al., 2006). Feedforward self-modeling promotes self-efficacy and student learning within their zone of proximal development. The zone of proximal development, or ZPD, is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Video self-modeling provides a successful model of targeted behavior for students to learn, produce, and retain the targeted behavior during successive approximations within students' zone of proximal development. In closing, the images of VSM provide "a powerful model, the most similar and culturally appropriate model—the student him or herself" (Hitchcock et al., 2004, p. 90) to learn, produce, and retain a new skill or behavior.

Video Self-Modeling in the Classroom

Few research studies have examined the effectiveness of VSM with academic tasks. Hitchcock and colleagues (2003) completed a review of literature on VSM that found 18 studies that focused on academic skills and behaviors that were conducted within school-based settings.

The targeted skills included in the search were not reported, although some academic skills were. Some examples of these academic skills included math achievement with fractions, conversational skills, and reading fluency. The authors found that the effect of VSM was usually immediate, and it was used to prevent the deterioration of learned skills. However, classroom behaviors were the primary variable in most studies. Hitchcock et al. (2003) reported that these studies did support the efficacy of VSM to improve student outcomes in school settings. Recommendations for future research in VSM include working with small groups of students or whole classrooms of students as well as targeting academic skills.

A second literature review on VSM completed in 2012 examined studies that used the effects of VSM interventions on students' school-based academic performance (Prater et al., 2012). The literature review resulted in eight studies with 181 participants. The samples in these eight studies were students, ages 6-17 years old, identified as having disabilities or academically at risk. Oral reading fluency, reading comprehension, written language, letter identification, and arithmetic were the focus of research using VSM. Only one study focused on the effects of VSM on written language.

Delano (2007) examined the effects of VSM on writing skills with three students with Asperger syndrome. The students were in eighth and tenth grades. A multiple baseline design across responses (words written and functional essay elements) was used. Procedures were implemented separately for each participant. The participants were first taught SRSD to increase the number of words written in their essay responses. After a baseline session, the student created a video self-model of the self-monitoring strategy. The researcher provided the student with a chart, essay sample, and a script that discussed the purpose and implementation of the

strategy. After the script, the student was instructed to make a video of the strategy. The student read the script and modeled the strategy. Throughout the video, the researcher provided verbal prompts to the student, as necessary. After, the researcher removed the verbal prompts and also ensured that the script was not visible within the video. Before each intervention session, the student viewed the video about the self-monitoring behavior. After the student demonstrated a 10% increase for the number of words written for three consecutive sessions, instruction on the second skill of SRSD was initiated.

Next, the student was taught an SRSD method for functional essay elements. Each student participated in a sixty-minute session with the researcher to create a video of the student modeling the TREE strategy to plan and write an opinion essay. At the beginning of each subsequent intervention session, the student viewed and discussed the video. Next, generalization probes were conducted one week and three months after the final sessions.

During intervention, the three students increased the number of words written within the essay. These effects were maintained over three months. Also, the number of essay elements increased during the intervention stage but did not maintain over time and one student declined. The results were inconclusive regarding the effects of VSM on student writing performance over time. The author recommended that further research on VSM and academic skills continue to be undertaken.

In closing, as technology continues to be more accessible, instructional implications need to be researched. Prater et al. (2012) noted that VSM has many benefits and should be researched further. For one, VSM can be easily applied and combined with other academic interventions. It can also be a motivator for academic improvement and be used to reinforce skills at home or in

other settings. VSM has been particularly recommended to be studied with students with disabilities as well as those at risk for academic failure.

Purpose of Study

The purpose of this study is to replicate and extend the literature in significant ways. First, the research seeks to replicate the effects of the SRSD instructional method for students with LD in opinion writing. Next, this study seeks to determine video self-modeling as a technology tool to use in combination with SRSD in the classroom. Last, the researcher hopes to increase the acquisition of the SRSD instructional strategies model for students with LD in writing.

CHAPTER THREE: METHODS

The researcher proposed this study to examine the effects of Self-Regulated Strategy Development (SRSD), an instructional method used to teach strategies in writing with the addition of a video self-modeling (VSM) component, when applied to opinion essay writing by 3rd grade students with LD. A multiple probe across participants design study was conducted in a public elementary school within a city in the southeastern United States.

Self-Regulated Strategy Development (SRSD) instruction has been shown to be effective for students with a range of abilities, ranging from students with LD to students performing above average and across grade two through high school (Graham, 2006b; Graham & Harris, 2003). This study extended recent research in essay writing with the addition of a VSM component to SRSD during initial instruction and maintenance of strategy use by students with Asperger's syndrome (Delano, 2007). In the following sections, the framework of the study is presented. First, the setting and participants are described. Next, the experimental design, procedures, and measures for the study are defined. Last, the data analysis procedures are presented.

Research Questions

This researcher addressed the following research questions:

1. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays by students with learning

disabilities, as measured by number of opinion essay elements, length, and duration of writing?

2. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays for students with learning disabilities, as measured by a holistic rubric within a non-experimental pre- and post-test design?
3. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the standard writing scores for students with learning disabilities as measured by the TOWL-3?

Setting

The study took place within a school located in a metropolitan area in the southeastern United States. The elementary school had 175 students in grades K-4. The philosophy of the school focused on the use of technology and the arts to meet each individual student's needs within inclusive settings. Each classroom included a general and special educator, as well as assistants, depending on students' needs. All students received typical instruction in reading, mathematics, writing, and science based upon the state curriculum standards, the Florida Next Generation Sunshine State Standards. For the eight-week duration of the study, all third grade students received forty minutes of writing instruction. Writing instruction in third grade focused on opinion writing and sensory writing, including descriptive vocabulary words. Specifically

during the time period of the study, writing instruction consisted of personal narrative story writing, as well as writing in the science content area. Students received both whole-group and small-group writing instruction, differentiated based on individual needs. The study took place outside of the classroom in a one- on-one setting with the researcher. The students were instructed in a small room across from the classroom that contained six desktop computers, a whiteboard, and extra materials which were used for reading instruction. In addition, the room had one large mural with students from the school represented as well as two colored walls.

Instruction occurred before the school day began during morning work. Morning work included students arriving, unpacking their backpacks, and turning in their homework. Students were to read a book while the teacher or teacher assistant checked their planners, a place where students wrote down their homework. Additionally, parents and teachers used their planner to communicate about any issues or comments. In addition to the forty minutes of daily writing instruction provided by their teacher, students in this study received thirty minutes of additional writing instruction from the researcher.

Participants

The researcher completed the Institutional Review Board (IRB) process both through the University and school district. Permission to conduct the study was obtained from school and district administrators (see Appendix A). All third grade students who met the criteria were eligible for the study. Student criteria included that the student (a) was identified with a learning disability (LD) that met federal and state definitions for eligibility; (b) had current Individual

Education Plan (IEP) goals in the area of expressive language and/or written expression; (c) attended school regularly; and (d) was able to write with paper and pencil.

After a portfolio review check was completed with the assistance of the administrator, the teachers of the eligible students sent home the IRB permission form for consent to participate in the study. Once parental permission was received from the pool of eligible students, the Test of Written Language-3 (TOWL-3, Hammill & Larsen, 1996) Form A was administered. The established criterion for inclusion in the study was a score of at least one standard deviation below the average grade-level criterion score for third grade on the TOWL-3 by the individual student. Of this initial group of eight students, six were considered eligible for participation based on their results from the TOWL-3. The sample of students chosen was as homogeneous as possible in order to establish experimental control based on the experimental design (Gast, 2010). All of the students had a language-based LD and received services for written expression.

Experimental Design

The research questions were addressed by using a multiple probe across participants design to evaluate instruction across student performance over time (Gast & Ledford, 2010; Horner & Baer, 1978). One of the core strengths of this design was that it ensured that a change in student writing performance was the result of the intervention rather than an extraneous event occurring at the same time (Gast, 2010). Intermittent probes were provided as an alternative to continuous baseline measures, which when used with writing may be impractical or may fatigue the student (Horner & Baer, 1978).

Each student, one at a time, created a VSM describing the SRSD instructional strategy in writing, as well as completing the SRSD lessons with the researcher. Mastery criteria for the SRSD lessons were defined as 100% mastery of retention of strategy steps and use of at least five elements within their opinion essay responses (De La Paz & Graham, 1997; Mason, Kubina et al., 2009; Mason & Shriner, 2008). All students received the first five lessons. If any student was not demonstrating mastery of the five opinion essay elements such as topic, reasons or examples, and ending, by the end of lesson five, the student would repeat the necessary lesson with the researcher. Students continued to receive up to five additional sessions (for a total of ten) to reach mastery. All students within this study reached mastery by ten sessions.

Experimental conditions included baseline, intervention, and maintenance phases. Throughout this study, quality indicators for single-subject research were met, as developed by Horner et al. (2005). This study addressed these indicators through student selection, as the students were as similar as possible. In addition, a minimum of three students were selected, and a minimum of three data points were collected during the baseline phase. Also, a minimum of three demonstrations of experimental control at three different points in time were required and met. Inter-observer agreement occurred for at least 20% of sessions at 80% accuracy, another established minimal standard (Horner et al., 2005).

The primary research question was addressed in a multiple probe across participants design: "To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays by students with learning disabilities, as measured by number of opinion essay elements, length, and duration of writing?" This design was

appropriate for evaluating the effects of an academic intervention in that the behavior was irreversible or cannot be unlearned (Gast, 2010). This design demonstrated intra-subject direct replications that increased the internal validity of the results. A return to baseline was not required to establish experimental control that addressed many ethical concerns evident in other single-subject designs (Gast, 2010). Last, multiple probe designs provided maintenance and progress monitoring over time. A multiple probe (Horner & Baer, 1978) across participants design differs from a multiple-baseline-across-participants study because of the frequency of the pre-intervention data collected. Multiple probe designs call for the baseline to be collected on an intermittent rather than continuous basis. Because many students find writing a laborious task (Troia, 2006), this design was used to maintain student motivation for writing during treatment. Students responded to writing probes that consisted of FCAT 2.0 Expository Writes Prompts. Each probe response was evaluated to measure the number of opinion essay elements, number of words, and duration of writing.

The second research question was addressed through a non-experimental pre/post design: "To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the overall quality of opinion essays for students with learning disabilities, as measured by a holistic rubric within a non-experimental pre- and post-test?" Students were given a writing probe, which was modeled after the FCAT 2.0 Expository Writing Prompts (see Appendix E for examples). Students were assessed from baseline to maintenance treatment using the holistic rubric from the FCAT 2.0 Writes rubric to measure overall quality.

The third research question was addressed by using a pre/post non-experimental design: "To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the standard writing scores for students with learning disabilities as measured by the TOWL-3? Students' overall performances on the standardized assessment, TOWL-3 Forms A and B, were compared from baseline to maintenance treatment.

Procedures

Pre-Tests

For the pre-test condition, students were administered an FCAT 2.0 Writes expository (opinion) writing probe. Because motivation is a factor in writing, the students completed an interest inventory (see Appendix B) to identify topics for the writing prompts (Graham & Harris, 2009). Student received a choice between two prompts during the pre-test condition. Results were assessed using the FCAT 2.0 Writes holistic rubric to receive a quality measure (see Appendix C). The rubric includes the standardized form for the FCAT 2.0 Writes holistic rubric, as well as a modified form for the purposes of this study. The FCAT 2.0 Writes procedures and protocol instructions were given to students to complete their prompt within a sixty-minute period (see Appendix D). In addition to the FCAT 2.0 Writes probe administration, student were administered the TOWL-3 Form A during the participant selection phase.

Because motivation is a significant part of the theoretical writing framework and affects students' writing performance, motivation was addressed by providing a choice of writing prompts for this study (Graham & Harris, 2009). Writing prompts were created and selected

based on their capacity to engage students while not requiring prior academic content knowledge (Straub, 2012). Next, the prompts were modeled after the opinion (expository) prompts used in the fourth-grade Florida Comprehensive Achievement Test in Writing (FCAT) (e.g., *Everyone has a favorite food. Think about your favorite food. Now explain why this food is your favorite.)* (Florida Department of Education, 2008). After the prompts were created, the readability for each prompt was assessed using the Flesh-Kincaid Readability scale on Microsoft Word (see Appendix E for examples). The writing prompts consisted of a reading level of 1.8 to 3.8 on the readability scale. Note the prompts were read to the students during baseline, intervention, and maintenance procedures. Students received their accommodations such as larger lined paper, increased size of prompts for presentation, as well as any other standardized testing accommodations, which were on their Individualized Education Plan (IEP).

Baseline Phase Procedures

Students were administered at least five writing probes during the baseline phase (see Appendix F for specific procedures). Writing probes consisted of an FCAT Writes 2.0 opinion writing prompt. Students were read each probe and were provided with a choice of two prompts that moderated the effects of both (1) motivation for writing and (2) lack of background knowledge (Straub, 2012). Students were given standardized administration procedures that mirrored exact testing conditions (see Appendix F).

This process occurred for five sessions. After each session, the number of opinion essay elements was calculated. The student with the most stable data became the first to receive the

intervention. In addition, students who were not yet in the intervention phase received intermittent baseline probe measures (Gast, 2010).

Instructional Phase Procedures

The self-regulated strategy development (SRSD) instructional method for writing was taught to three third grade students identified with LD. Specific lessons as validated and described by Harris et al. (2008) were implemented and used for opinion essay writing using SRSD. These lessons were taught to participating students and coupled with a video self-model (VSM). The combination of the SRSD instructional model in writing with VSM created an instructional package that was delivered within this research study.

Video Self-Modeling (VSM)

The SRSD instructional model had an additional component of video self-modeling (VSM). The National Professional Development Center on Autism Spectrum Disorders adapted LaCava's steps for video modeling. Ten steps were addressed in creating the video self-model (VSM) (see Table 2) (National Professional Development Center on Autism Spectrum Disorders, 2010).

Table 2:Video Self-Modeling Procedures

Steps	Procedures
Step 1: Target behavior for teaching	Researcher focuses on identifying target behavior and clearly defining it.
Step 2: Have correct equipment	Researcher acquires a video recording device (Flip-cam) and decides how video will be used during playback (iPAD). Comfort using equipment is established.
Step 3: Plan for video recording	Researcher writes script detailing exactly what needs to be contained in videos.
Step 4: Collect baseline data	Researcher identifies the skills the students have before instruction takes place.
Step 5: Make the video	Researcher assists in making video that will be used during the VSM intervention. Includes editing, removing errors or prompts, and complete voice-overs if necessary.
Step 6: Arrange the Environment for Watching Video	Researcher identifies environment where the VSM will be watched and ensures materials from video are used during intervention.
Step 7: Show the video	Researcher allows student to watch the video an appropriate number of times before expected skill is displayed.
Step 8: Monitor Progress	Researcher notes how often and whether the students are making progress as well as whether they are referring to the video.
Step 9: Troubleshoot if the learner is not making progress	Researcher identifies if the student is not making progress and identifies changes needed.
Step 10: Fade the video and prompting	Researcher fades the use of the video and encourages independent use while individualizing viewing patterns for the student.

The VSM was created during the first introductory lesson of SRSD with each individual student using procedures described and validated in earlier research (Delano, 2007). The students were introduced to the concept of opinion essays and to the mnemonics to be mastered within SRSD. After a brief introduction to SRSD and the mnemonic strategies, each student created a VSM prior to instruction from the researcher-generated script (see Appendix G). The VSM script included the required mnemonics and the necessary SRSD elements. Each student-created VSM was reviewed for accuracy and edited for clarity by the researcher using Camtasia software. In addition, each student's video was assessed to ensure that all components of the script were addressed to assure fidelity to treatment condition (see Appendix G). Videos were less than three minutes in length. However, videos took one day (thirty minutes) to record with the students. Editing took about two to three hours in length after the VSM was recorded. The researcher edited the footage of the student discussing the script the same day that the student recorded it. This ensured that the VSM was ready to use the following day.

Each day before SRSD instruction, the student watched the VSM. Once the student had watched the VSM, instruction in SRSD as outlined in procedures began (Harris et al., 2008). Students were assessed on their memorization of the POW+TREE mnemonic, demonstration of opinion essay elements, total words written, and duration of essay writing as measured by responses to prompts after each 30-minute period of instruction (Graham & Harris, 2009). A rubric was be used to determine the number of essay elements and words written (see Appendix H).

Self-Regulated Strategy Development

The Self-Regulated Strategy Development (SRSD) instructional method included six basic stages. Students in the study received the SRSD instruction for opinion writing individually. Each student received instruction across the six stages of SRSD, which included develop background knowledge, discuss it, model it, memorize it, support it, and independent performance (Harris & Graham, 1996; Harris et al., 2008). The stages provided the framework for instruction. The last SRSD stage, independent performance, was assessed following the five previous instructional phases. All students completed the first five stages across five lessons. However, the last stage, independent performance, was repeated and continued until the student had met the criterion for mastery, which was at least five opinion essay parts in the written product. All students completed SRSD instruction within ten sessions (Harris & Graham, 1996; Harris et al., 2008).

Sessions occurred five days a week for thirty minutes, using standard protocol teacher materials researched and published by the developers (Harris & Graham, 1996; Harris et al., 2008). In addition, students continued to receive their typical writing instruction from their current teacher within the general education setting. Typical writing instruction included both whole-group and small-group instruction that aligned to the Florida Next Generation Sunshine State Standards. A writing process approach was used. During the time of the study, narrative story writing was the focus. Self-regulated strategy development (SRSD) was not taught in a scripted manner since it is an individualized and personalized method that is based upon student need (Harris et al., 2008). Lessons based on materials published by developers (Harris et al., 2008) were individualized based on student needs. Some examples included modification of the

graphic organizer, increased teacher support, repeated lessons, and presentation of additional writing models (Graham & Harris, 2005). During the acquisition of the strategy, when students were learning about how and when to use the specific writing strategy mnemonic, a metascript was provided with a general format and guidelines for the researcher to follow (Harris & Graham, 1996; Harris et al., 2008). In addition, an observational lesson checklist that served as a measure of fidelity of implementation was provided to ensure that the researcher addressed each step within each stage and lesson (see Appendix I).

Mastery of all steps of the writing strategies within SRSD in opinion writing was evidenced when students could independently respond to a prompt with all five opinion essay elements using self-regulation techniques with the opinion writing strategy (POW + TREE) and without the use of any supports (e.g., graphic organizer) (Harris et al., 2008). This mastery occurred for at least three out of five probes with three scores higher than five opinion essay elements as measured by the opinion essay elements rubric as discussed previously.

Overview of SRSD Lessons

The SRSD instructional method in opinion expository writing utilized a mnemonic "POW + TREE" as an organizational framework for writing. The students were taught to use POW (P=Plan your notes, O=Organize with TREE, W=Write and say more). The mnemonic TREE (T=Topic, R=Reason, E=Example, E=Ending) is a specific mnemonic that is used for opinion essay writing. The TREE component of the mnemonic device guided the students as they planned for their opinion essay response. As the student and researcher progressed

throughout the lessons, gradual responsibility of the strategy was transferred from researcher to student (see Appendix I for lessons and Appendix J for materials).

Table 3: Lesson Description

Lesson	Stage	Lesson Activities	Criterion	Assessment Tool
1	Develop Background Knowledge/ Discuss It	No Probe Introduce mnemonic and graphic organizer Researcher models using mnemonic. Practice using POW + TREE using student generated responses Create Video Self Model (VSM)	Assessed on student memorization of POW + TREE Continue on to Lesson 2	Checklist of memorization of mnemonic
2	Develop Background Knowledge/ Discuss It Memorize It	Watched VSM Received Probe Shown model opinion essay and identified parts Introduced to graph Discussion for ways to improve essay	Writing response assessed for opinion essay parts, number of words, and time spent writing Assessed on student memorization of POW + TREE	Opinion essay elements rubric Checklist of memorization of mnemonic
3	Model It Memorize It	Watched VSM Received Probe Ask students on memorization of POW + TREE If don't remember, practice using cue cards Review previously written essay Graphed opinion essay and identify missing parts. Goals were established	Writing response assessed for opinion essay parts, number of words, and time spent writing Assessed on student memorization of POW + TREE	Opinion essay elements rubric Checklist of memorization of mnemonic

Lesson	Stage	Lesson Activities	Criterion	Assessment Tool
4	Model It Support It Memorize It	Watched VSM Received Probe Reviewed mnemonic Researcher modeled steps in essay Self-statements developed	Writing response assessed for opinion essay parts, number of words, and time spent writing Assessed on student memorization of POW + TREE	Opinion essay elements rubric Checklist of memorization of mnemonic
5	Independent Performance	Watched VSM Student receives prompt. Researcher discusses prompt. Student independently completes essay and graphs goal.	Writing response assessed for opinion essay parts, number of words, and time spent writing Continued Lesson 5 until Criterion was reached—students wrote 5 opinion essay elements independently.	Opinion essay elements rubric

Maintenance Procedures

Once the initial student demonstrated mastery of performance after three out of five probes, instruction for the next student was initiated. Following the instructional phase, the maintenance phase began. Each of the students continued to receive opinion essay prompts weekly during maintenance. If the first student's performance declined, the student watched the VSM as a booster session for SRSD. Each student continued to receive booster sessions up to at least three trials. Data were collected using identical procedures across all students.

Post-Test Procedures

Once instruction was completed across three students, the post-test utilizing the FCAT Writes 2.0 Prompt was given to measure holistic quality. Similar procedures to the pre-test were administered (see Appendix F). In addition, a standardized measure of writing performance, the TOWL-3 Form B, was administered. Results from both of these assessments were used to compare pre- and post-test data. Last, each student was given a questionnaire in a one-to-one setting regarding their feelings regarding SRSD and the VSM in writing to assess the independent variable's social validity (see Appendix K). The researcher read aloud the questionnaire and students responded using the "smiley face" cues. One question was presented at a time.

Dependent Variable

Several measures were used to determine the effects of SRSD on participants' writing performance. Data were collected on the number of opinion essay elements (see Appendix H),

overall essay quality as measured by the FCAT 2.0 Writes rubric (see Appendix C), length as measured by number of words, and duration of time spent writing during baseline data collection, intervention, and maintenance phases. Overall essay quality was measured by the FCAT 2.0 Writes Rubric during baseline to maintenance. Each measure is explained below.

Measures

Student performance was measured by examining the responses to the opinion writing prompts (modeled after the FCAT Writes 2.0) given by the researcher daily during instruction and intermittently during maintenance (see Appendix F for procedures). In order to accurately measure student writing performance, technically sound measures that monitor student progress in writing (McMaster & Campbell, 2008) were used.

Responses to the daily writing probe were scored for quality measures across four areas that included (a) opinion essay elements, (b) length of essay (number of words), and (c) duration of time spent writing. The first measure was the number of opinion elements or parts (essay parts) based upon opinion essay elements identified by the SRSD developers (Harris & Graham, 1996). Studies have used the number of opinion essay parts included in an opinion essay to determine writing performance (Graham & Harris, 2009; Lienemann & Reid, 2008; Mason, Kubina et al., 2009). The secondary measures were the length of essay (number of words) and duration of time spent writing. The measures were totaled based on similar procedures from Mason, Kubina et al. (2009).

Opinion Essay Elements (Essay Parts)

The primary measure used to establish the baseline performance was the number of opinion elements essay parts. The acronym TREE represented the number of written essay elements (parts) (Graham & Harris, 2009). Therefore, students scored one point for each opinion essay element part in their response to the prompt. Points were earned for the following opinion essay element parts: (a) one for the topic sentence; (b) one for each reason; (c) one for each example; and (d) one for the ending. Each opinion essay could have multiple reasons or examples. To meet the minimum criterion, five opinion essay elements were included within the essay (Harris, et al., 2008).

Length

The number of words as visually inspected by researcher measured the length.

Duration of Writing

The time spent writing was calculated using a stopwatch to measure the duration of time spent both planning and composing written drafts. Total duration, the total amount of time the student was engaged in either planning or composing writing during the entire session, was calculated (Ayres & Gast, 2010).

Non-experimental Pre-Post Measure of Overall Quality

Graham and Perin (2007a) reported that a holistic measure is the most common method to score writing quality. Thus, the use of a holistic scale was implemented within this study. An overall quality measure was determined with the FCAT 2.0 Writes holistic rubric (Florida

Department of Education, Office of Assessment, 2013b) within a non-experimental pre/post design (see Appendix C). The rubric measured four writing elements: (a) focus, (b) organization, (c) support, and (d) conventions. Instead of focusing on one area of writing, the rubric considers the integration of all four elements (Florida Department of Education, Office of Assessment, 2013b). Focus encompasses how clearly the paper presents the main idea, theme, or point. Organization refers to the structure or plan of development and the relationship of one idea to another. Support is the quality of details the writer used to explain, clarify, or define. Word choice and specificity are two examples that illustrate the support criterion on the rubric. Conventions are the punctuation, capitalization, and spelling. Inter-rater reliability was computed for each of the pre- and post- test prompts using the holistic rubric.

Assessment of Treatment Integrity

Procedures were implemented to ensure procedural fidelity. First, all sessions were video recorded during pre- and post-testing as well as across all phases (baseline, intervention, and maintenance) to ensure fidelity of implementation. Next, a procedural fidelity checklist was used to ensure that all procedures were implemented across pre- and post-testing as well as across all phases (baseline, intervention, and maintenance). Last, 30% of the total sessions were randomly selected for treatment integrity. All of these selected sessions were evaluated by two graduate research assistants for inter-observer agreement of at least 80% accuracy. The point-by-point method was used to compare actual to projected procedures. Additionally, event recording was used to get a total percentage of accuracy for lesson procedures. (Gast, 2010).

Inter-rater Reliability

Two graduate research assistants who did not know the purpose of the study determined inter-rater reliability. The graduate research assistants received instruction on accurately assessing opinion essay elements using the holistic scoring rubric of the FCAT 2.0 Writes. Graduate research assistants received instruction to assess treatment fidelity during four thirty minute training sessions. The two graduate research assistants rated sample opinion essay responses until a 100% inter-rater reliability was met for five sample essays. Mastery was determined by 100% agreement over at least five samples.

Graduate research assistants used the same procedures from training to assess the student writing samples. A checklist was used to assess 30% of student writing samples. The goal was to have at least 80% agreement for inter-rater reliability. The student essays were assessed on their written performance throughout each of the phases—baseline, intervention, and maintenance. Inter-rater reliability was collected during baseline, instruction, and maintenance. Agreement was calculated for overall written quality based on the FCAT 2.0 Writes rubric from pre- and post-test conditions. Point-by-point agreement was calculated for the number of opinion essay parts written. An agreement check was taken on the number of words written. (Delano, 2007).

Standardized Measure

To address research question #3, the Test of Written Language-3 (TOWL-3) (Hammill & Larsen, 1996) was administered before and after the intervention during the pre and posttest sessions. Results were analyzed using the TOWL-3 story construction, vocabulary, spelling, and

style tasks. The story construction subtest measures overall story quality as measured by plot, prose, character development as well as several composition elements. The vocabulary subtest measures vocabulary knowledge from student constructed sentences using a given vocabulary word. Next, the spelling task requires students to write sentences from dictation. Student responses are assessed in spelling, punctuation, and capitalization. Last, the style subtest analyzes proper use of spelling, punctuation, and capitalization. Pre-and post-test scores were reported including standard scores, percentiles, and grade equivalents.

Because the intervention was an assessed measure of opinion essay writing, the TOWL-3 should be analyzed as a measure of generalization as it measures a student's ability within the story construction or narrative genre.

Reinforcement Schedule

The classroom behavior management system, *Class Dojo,* reinforced students throughout the day. This class-wide behavior plan was used for reinforcements during the writing sessions with the researcher. Students received one point for attending the session and one point for completing the session. The points earned within the additional writing time with the researcher were accumulated and added to students' total points earned throughout the day. At the end of the week, students could turn in these points in exchange for prizes at the school store.

Secondly, the students completed a reinforcement survey to determine appropriate reinforcers in addition to the point system (*Class Dojo*) used within the classroom. To increase student motivation, individualized reinforcers were used across the conditions. Individual student

reinforcers included a chance to use a preferential writing instrument, an opportunity to use a sensory ball while writing, an edible reinforcer such as crackers, pretzels, etc.

Data Analysis Procedures

Visual Analysis

Visual analysis is the most commonly used data-analysis strategy in single subject research design (Gast & Spriggs, 2010). Visual analysis was used for the primary dependent measure (number of opinion essay elements), as well as for the essay length for each probe. Visual analyses were completed both within and across conditions. Changes in mean level, trend data, and overall variance were calculated (Gast & Spriggs, 2010).

Percentage of non-overlapping data (PND) was calculated for number of opinion essay elements and length of responses. PND was calculated by determining the following: (1) range of data points in the first condition, (2) counting the number of data points in the second condition, and (3) counting the number of data points that fell outside the range of values in the first condition. Next, the numbers of data points that fell outside the range of the first condition were divided by the total number of data points in the second condition and then were multiplied by 100 (Gast & Spriggs, 2010). A result of 90% is a large effect, 70–90% is a medium effect, and 50–70% is a small effect (Gast & Spriggs, 2010).

Social Validity

Wolf (1978) called for social validity to be determined in response to three key areas addressing the social significance of the goals, the social appropriateness of the procedures, and

the social importance of these effects. The goals of the study were significant because they sought to extend the current research in writing using the SRSD instructional method enhanced with VSM for students with LD. The procedures were appropriate as considerations of student interest and motivation were implemented. In addition, the use of the FCAT 2.0 Writes prompts was appropriate, as these writing prompts would be used within their general education classroom. Students will be working towards completing the FCAT 2.0 Writes Assessment in the following year. Students need to demonstrate mastery on state writing assessment in grade 4. The social importance of this study was determined with a questionnaire completed (see Appendix K) by each individual student. The content included feedback about both the intervention and potential for continued use in the classroom by the student.

Responses provided further information on the social validity of the intervention and further insight into student preferences about the intervention and possibilities of future use.

Content Validity

Content validity ensures that the measurement tool is measuring the construct intended. Content validity is a category of construct validity and is defined as the degree that an assessment instrument is relevant to a construct for the purposes of assessment (Haynes, Richard, and Kubany, 1995). To ensure the assessment tool is measuring the appropriate writing constructs, an expert in the field of literacy was given six samples of writing from each student. Samples were from baseline, independent use, and post-test phases. The expert rated each sample as high, medium, or low in content validity.

Expert Reliability

A literacy coach at the elementary level reviewed the writing prompts that were administered to the students in the study and concluded they were appropriate. In addition, the literacy coach viewed the video self-models and agreed that they were suitable.

Summary

This chapter offered details into the methods used to discover the answers to the three proposed research questions. Detailed procedures and measures were described. Chapter four provides the results from the conducted research study for each research question and across each participant.

CHAPTER FOUR: RESULTS

The purpose of this study was to examine the effectiveness of the Self-Regulated Strategy Development (SRSD) instructional strategies method for teaching the opinion writing strategy, (POW + TREE), in addition to a video self-modeling component, on the writing performance of third grade students with LD. This chapter presents the results of the study, organized according to three specific research questions. Interobserver agreement and treatment fidelity are described first. Next, student data results for number of opinion essay elements, number of words, and duration of time spent writing are reported. Then, overall quality of opinion essays within a non-experimental pre- and post-test are discussed. Finally, the standard writing scores from the TOWL-3 pre-and post-test are reported, as well as information regarding social validity.

Assessment of Treatment Integrity

Interoberver agreement and inter-rater reliability were obtained across all dependent measures. Specific results are listed in Table 4. The procedural fidelity for lesson plans, VSM checklist utilized event recording. All other measures utilized the point-by-point agreement.

Table 4: Interobserver Agreement Percentage for Dependent Measures

Dependent Measure	Mean	Range
Number of Essay Elements (EE)	88.5	50-100
Total Number of Words	100	100
Duration of Time Spent Writing	100	100
Holistic quality	92	84-100
TOWL-3 Contrived Writing Score	98	95-100
TOWL – 3 Spontaneous Writing Score	85	70-100
TOWL – 3 Overall Writing Score	93	84-100
Treatment Procedural Fidelity Checklist –Probes	95	90-100
Treatment Procedural Fidelity Checklists—Lesson Plans	95	90-100
Video-Self Modeling Checklist	94	85-100

Treatment Fidelity

The following procedures were completed to ensure fidelity of administration of assessment measures, as well as fidelity of treatment of the independent variable, SRSD instructional strategies method with VSM component. All baseline sessions in which students received a writing probe were video recorded. The researcher read aloud a script to the students during the administration of the writing probe. A random sample of 20% of writing probe sessions were reviewed by two graduate research assistants across three phases of the intervention (baseline, intervention, and maintenance). The graduate research assistants were provided with a checklist to ensure that all steps within the procedures of the writing probes were completed. Overall, 95% agreement of treatment fidelity was calculated of the total steps for the administration of the baseline prompts.

Interobserver agreement was also calculated for all instructional sessions with lesson plans and video recordings. A checklist (see Appendix I) of the instructional components provided by the developers was provided to the graduate assistants for their review of 20% of the total lessons. Graduate assistants tagged incidences so that event recording was used to record the target behaviors during the lesson. This method was used as the lesson plans were not scripted. Core components for each lesson were included with opportunities for the teacher to increase the support, repeat an instruction, or elaborate when necessary. The numbers of core components included in each lesson were summed during the same observation period. Agreement is calculated by dividing the smaller number by the larger number and multiplying by 100, yielding a total percent agreement. A total percent agreement was calculated based on the instructional components and checklist, a percentage of 95% agreement was calculated between the observers.

Finally, all video self-models were checked to ensure that the same components of SRSD instruction in opinion essays were included. Interobservers were given a checklist of specific components (see Appendix G) that were to be included within each video self-model. Event recording was utilized to get a number for each component. Interobservers watched the videos and checked off each component as they observed them. Overall, 94% agreement was calculated across all of the student videos.

Inter-rater Reliability

Inter-rater reliability was calculated for all writing samples. In terms of baseline, instruction, and maintenance writing samples, 88.5% agreement was calculated for essay

elements. Each element was given a score of one point. The opinion essay elements included: topic sentence, reason, example, and ending. Students could have more than one reason or example (see Appendix H for rubric). Each inter-rater calculated the total number of elements across each category. Next, using point-by-point agreement, a total score was calculated. Point-by-point agreement is calculated using the formula below.

$$\text{Point-by-point agreement} = \frac{Number\ of\ agreements}{Number\ of\ agreements + Number\ of\ disagreements} \times 100$$

There was 100% agreement between the two raters calculated in terms of duration of time spent writing and number of words written for each of the writing samples. Duration of time was calculated by viewing the video and using a stopwatch to calculate time the students were writing their opinion essays. Number of words written was calculated by counting the total number of words in each opinion essay response.

Multiple Probe Across Participants

The first research question is as follows:

1. To what extent does the SRSD instructional strategy method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays by students with learning disabilities as measured by the number of opinion essay elements, length, and duration of writing?

A multiple probe across participants design was used to answer the above question. Students responded to opinion essay writing probes during baseline, intervention, and maintenance phases. During the baseline phase, all students responded to a minimum of five baseline probes. Students' opinion essays were scored on number of opinion essay elements, length (number of words), and duration (time spent writing).

Visual inspection was used to analyze these data. Visual inspection refers to coming to a conclusion or judgment about the reliability or consistency of intervention effects through visually inspecting the data (Kazdin, 2011). The number of opinion essay elements (topic, reasons, examples, and ending) is initially discussed as that is the primary measure of writing quality for the purposes of this study. In addition, secondary measures of data including essay length (number of words) and duration (time spent writing) were also collected as indirect measures of overall writing quality. Visual inspection requires specific characteristics across data to be analyzed in relationship to the magnitude and rate of change across the phases. Changes in mean, level, and trend is then described (Kazdin, 2011). Also, a visual analysis of trend are reported within each phase which describes the trend direction, or slope. A trend line is referred to as accelerating, or increasing in ordinate value over time, decelerating, decreasing in ordinate value over time, or zero celerating, which means the data series is parallel to the abscissa (Gast & Spriggs, 2010). The split-middle method was used to estimate trend across a condition (Gast & Spriggs, 2010).

Individual student results of essay elements, length, and time spent writing were calculated and reported for each student. Finally, each student had a pre- and post-test work sample. Each work sample was selected from baseline (pre-intervention), and each post-

intervention sample was taken after they have been presented with all five lessons (see Appendices L, M, N).

Number of Opinion Essay Elements

The primary measure, number of opinion essay elements (EE), showed an overall increase after students received the intervention of SRSD instruction in writing in combination with video self-modeling (VSM) as compared to the baseline condition. The mean, level, and trend for EE across all participants within the baseline, intervention, and maintenance phases are shown in Figure 1. During the intervention phase, all students met the criterion level of independent performance. The criterion level of performance included mastery of the specific SRSD writing strategy (POW + TREE) as demonstrated by the student's ability to respond to opinion essay probes containing at least five opinion essay elements from the categories of topic, reasons, examples, and ending and across three out of five sessions within the intervention condition only. All of the students increased their overall mean essay elements score as compared to the baseline condition. In addition, Table 5 displays the mean number of opinion essay elements across the baseline, intervention, and maintenance phases.

Percentages of Non-Overlapping Data (PND) are reported between the baseline and intervention conditions (Table 5). Percentages of Non-Overlapping Data (PND) are calculated by (a) establishing the range of data-point values from the first condition (baseline); (b) counting the data points in the second condition (intervention); (c) counting the number of data points in the second condition that fall outside the range of points in the first condition; and (d) dividing the number of data points that are outside the range of the first condition by the total number of

data points of the second condition, and (e) multiplying this number by 100 (Gast & Spriggs, 2010; Kazdin, 2011; Scruggs & Mastriopieri, 1998). PND statistics can range from 0 to 100. A PND of 90% represents a highly effective treatment, 70-90% is a medium or fair outcome, 50-70% is a small effect, and below 50% PND is considered to be unreliable or ineffective (Campbell & Herzinger, 2010; Scruggs et al., 1987). The PND is reported from baseline to intervention conditions in Table 5.

Notably, a score of five during the intervention condition indicated mastery of the SRSD writing strategy for opinion essays. During maintenance, students were expected to write opinion essays with at least five essay elements. If students were not able to continue mastery of the strategy, a VSM booster session would be conducted during a 1:1 setting with the researcher on the following day. Only one student, Bree, received a VSM booster session.

Table 5: *Students' Mean Opinion Essay Elements Across Experimental Conditions*

Student	Baseline	Intervention	Maintenance	Total PND
Bree	3	5	5.5	66.6%
Andre	3	7	9*	87.5%
Marie	3	10	n/a*	100%

**Note.* Marie was unable to complete maintenance due to the end of the school year. Andre was only to complete one session of maintenance due to his tardiness and absences. Total PND was calculated from baseline to intervention phases.

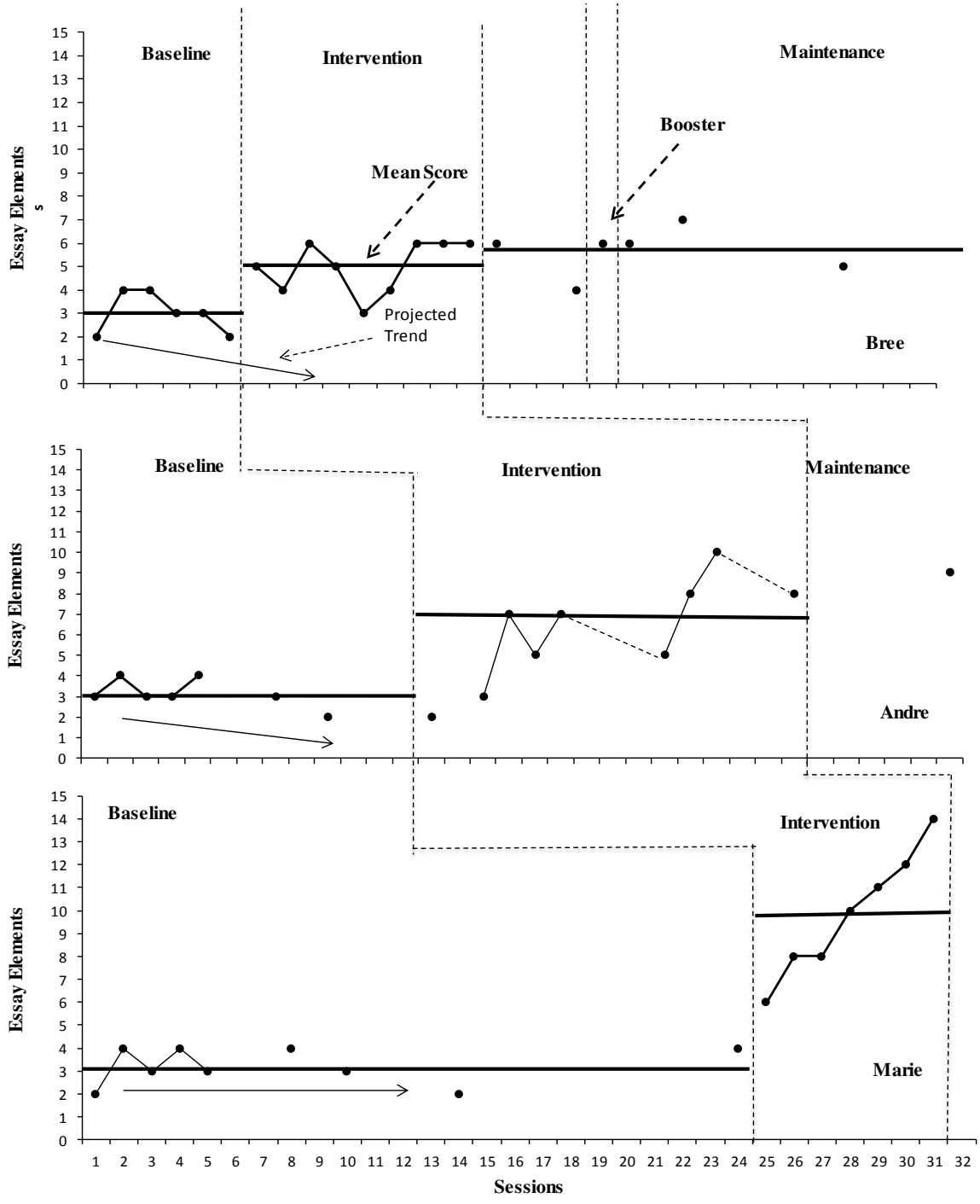


Figure 1: Effects of SRSD and VSM on Essay Elements

Bree began baseline with a mean level of EEs at three. The trend direction of EEs during baseline was decelerating, or a decreasing trend over time. After receiving the intervention of SRSD and VSM, Bree's mean level of EE increased to five. The mean level change of EE from baseline to intervention was an increase of 67% overall. Bree received nine sessions of the intervention phase. Following intervention, Bree's mean EE increased to 5.5 during maintenance. In addition, the level of change was accelerating, or increasing, with a change from two EEs to five EEs from baseline to intervention phases. From intervention to maintenance, the level of change was zero, which indicated zero celeration. During maintenance, she received one VSM booster session. Following that session, her EE increased from 4 to 6. PND was calculated at 66.6%, which indicates a small effect (Campbell & Herzinger, 2010; Scruggs et al., 1987).

Andre began baseline with a mean level of EEs at three. However, the trend direction of EEs during baseline was decelerating, or decreasing. After receiving eight sessions of the intervention of SRSD and VSM, Andre's mean level of EE increased to seven. The mean level change of EE from baseline to intervention was an increase of 133% overall. In addition, the trend direction was accelerating with a change from 2 EEs to 3 EEs from baseline to intervention phases. PND was calculated at 87.5%, which indicates a medium effect (Campbell & Herzinger, 2010; Scruggs et al., 1987). Additionally, Andre was absent for five days total during the intervention. He was absent for three days after session four and for two days after session seven. Following intervention, Andre was absent for three days and tardy for three days during maintenance and was only able to complete one probe, which contained 9 EEs.

Marie began baseline with a mean level of 3 EEs. However, the trend direction of EEs during baseline was stabilizing. After receiving seven sessions within the intervention phase, Marie's mean level of EE increased to 10. In addition, the level of change was accelerating with a change from 4 EEs to 6 EEs from baseline to intervention phases. The mean level change of EE from baseline to intervention was an increase of 233% overall. PND was calculated at 100%, which indicates a large effect (Campbell & Herzinger, 2010; Scruggs et al., 1987).

Number of Words

Total number of words was calculated as a secondary measure of writing performance. A word is defined as any word written, regardless of spelling. Overall, total number of words within the written responses showed an increase for Andre and Marie. However, Bree's mean number of words decreased within her written essays after receiving the intervention of SRSD and VSM, as compared to the baseline condition (see Table 6).

Table 6: Students' Mean Number of Words Across Experimental Conditions

Student	Baseline	Intervention	Maintenance	PND Baseline to Intervention
Bree	52	46	53	0%
Andre	17	31	50*	87.5%
Marie	21	62	n/a*	100%

**Note.* Marie was unable to complete maintenance due to the end of the school year. Andre was only to complete one session of maintenance due to his tardiness and absences. Total PND was calculated from baseline to intervention phases.

Bree began baseline with a mean number of words at 52. The data were variable with a decelerating trend. After receiving the intervention of SRSD and VSM, Bree's mean level decreased to 46 total words. The mean level change of EE from baseline to intervention was a decrease of 11.5% overall. Following intervention, Bree's mean total number of words increased to 53 during maintenance. In addition, the level of change from baseline to intervention decreased with a change from 46 total words to 42 words from baseline to intervention phases. From intervention to maintenance, the level of change was from 50 to 50, which indicate a zero celeration, or stable, trend direction. PND was calculated at 0%, which indicates no effect.

Andre's mean number of words during baseline was 17. The data were varying within baseline, but began to stabilize. During the intervention phase, Andre's mean level of total number of words increased to 31. The mean level change of total number of words from baseline to intervention was an increase of mean level change of 82%. In addition, the level from baseline to intervention was accelerating with a change from 17 total words to 19 words from baseline to intervention phases. Andre was only able to complete one maintenance probe due to absences and tardiness as mentioned earlier. The length of his essay during the single maintenance probe was 50 words. PND was calculated at 87.5%, which demonstrates a medium effect.

Marie's mean level of total number of words during baseline was 21. The data were at a stable level during baseline. Marie's mean level of total number of words increased to 62 words during the intervention phase. The mean level change of total number of words from baseline to intervention was an increase of mean level change of 195%. In addition, the level from baseline to intervention was accelerating with a change from 20 total words to 33 words from baseline to

intervention phases. PND was calculated at 100%, which demonstrates a large effect (Campbell & Herzinger, 2010; Scruggs et al., 1987).

The mean, level, and trend for number of words across all participants within the baseline, intervention, and maintenance phases are shown in Figure 2.

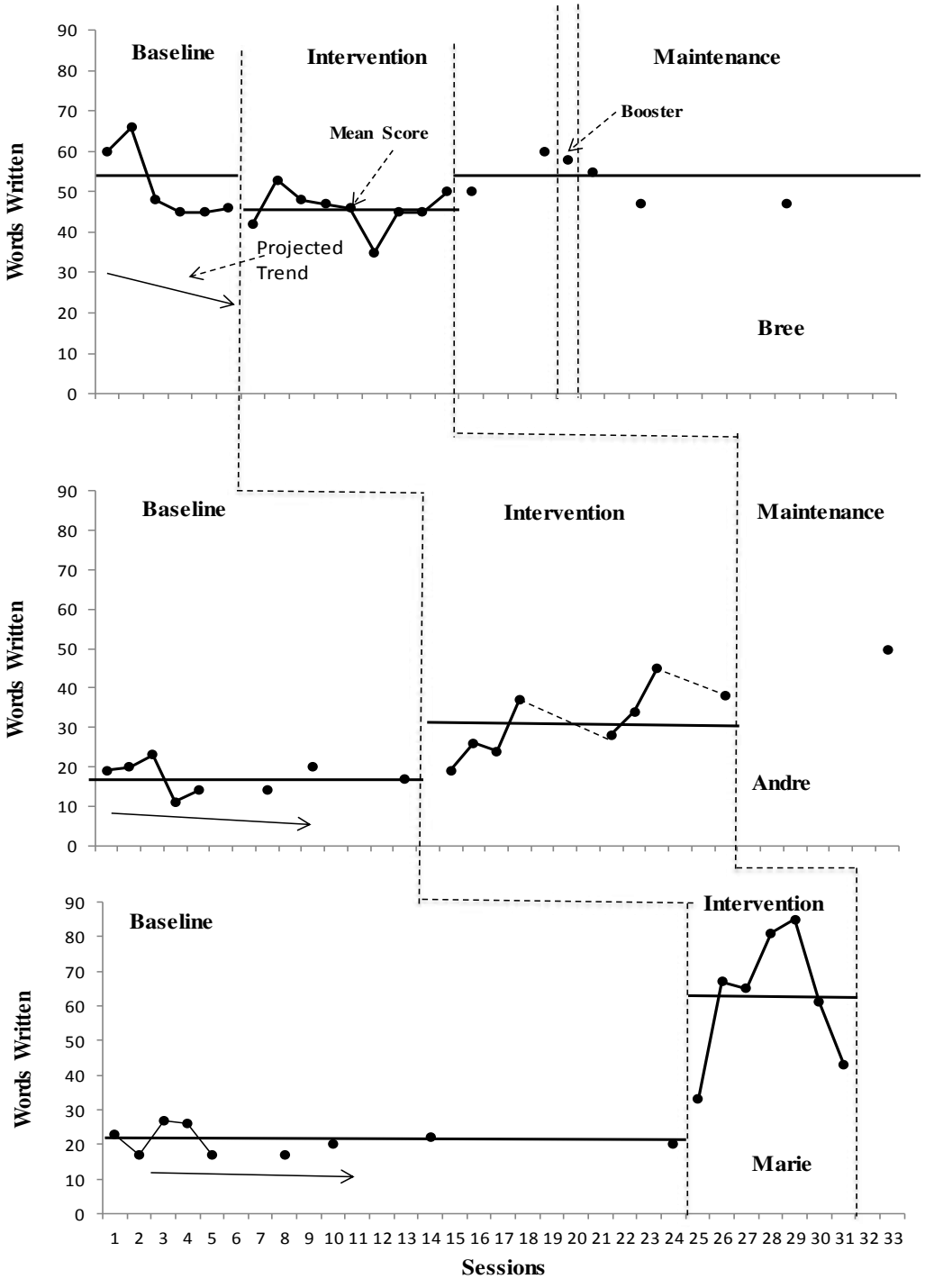


Figure 2: Number of Words

Duration of Writing

Duration of time spent writing for each writing probe was calculated. Time was recorded using a stopwatch. The time was determined from when the student began the writing probe until the student was finished (see Table 7).

Table 7: Average Time for Students' Written Essays

Student	Baseline	Intervention	Maintenance	PND
Bree	3.5	6.1	7.0	55%
Andre	3.5	11.8	12*	100%
Marie	8.5	19.5	n/a*	72%

Note. Marie was unable to complete maintenance due to the end of the school year. Andre was only to complete one session of maintenance due to his tardiness and absences. Total PND was calculated from baseline to intervention phases.

All students' duration of writing increased after introduction to the intervention (see Figure 3 below). Bree spent an average of 3.5 minutes writing during the baseline phase. The baseline phase trend was decelerating. However, after receiving the intervention, her time spent writing increased to a mean of 6.1 minutes. The trend direction was accelerating during the intervention phase. Overall, PND was calculated at 55%, which indicates a small effect.

Andre spent an average of 3.5 minutes writing during the baseline phase. Andre had a slightly accelerating but stabilizing trend level. His mean of time spent writing during the intervention phase increased to 11.8 minutes. Andre's PND between baseline and intervention was calculated at 100%, which indicates a large effect.

Marie spent an average of 8.5 minutes writing during the baseline phase. Marie's trend level was slightly variable but began to stabilize. Her mean time spent writing during the

intervention increased to 19.5 minutes. The trend direction was increasing but stable by the end of the intervention. PND was calculated at 72%, which indicates a medium effect.

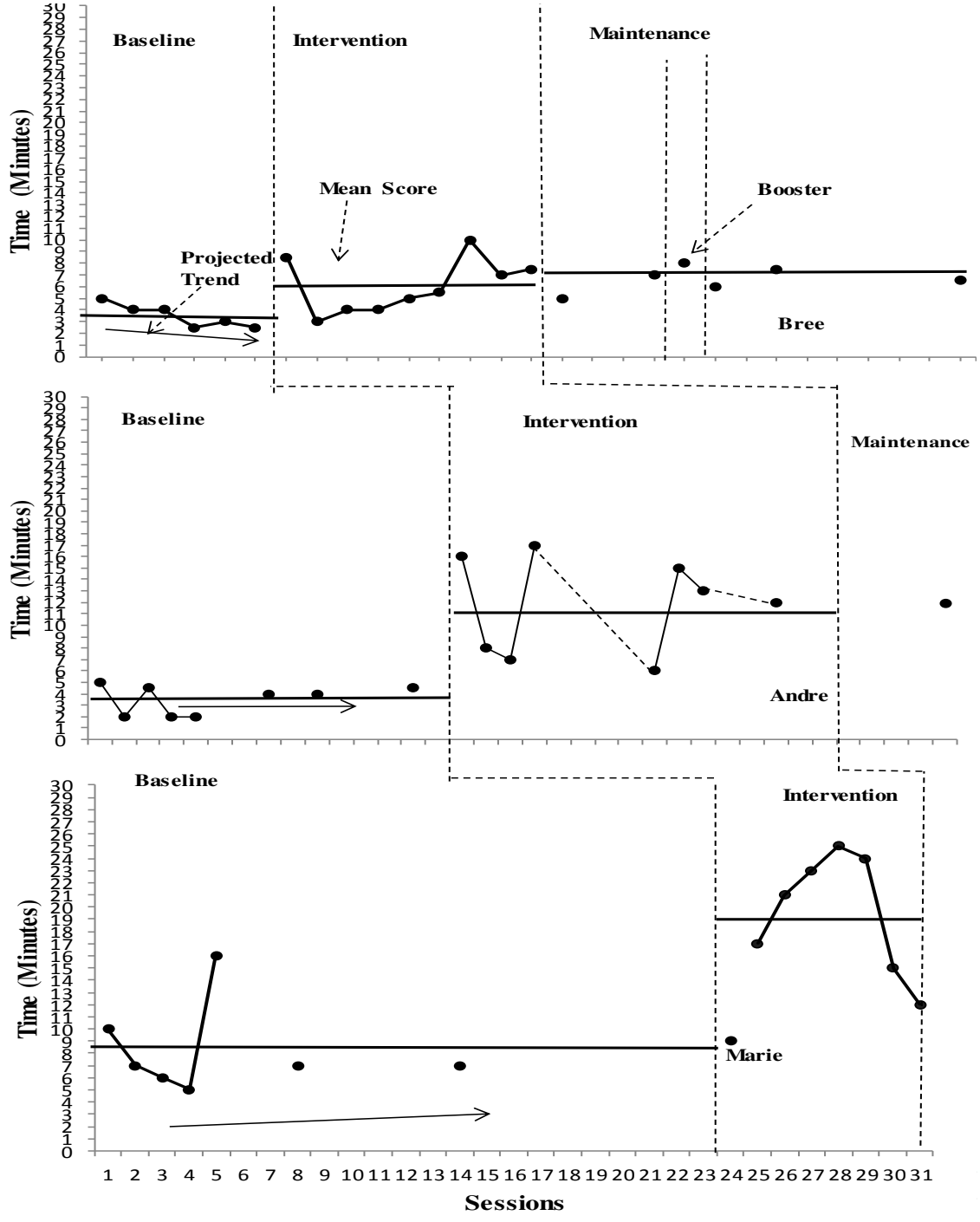


Figure 3: Student's Time Spent Writing (Duration)

Non-experimental Pre-and Post-Test

The findings regarding the second research question are addressed below:

2. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the overall quality of opinion essays for students with learning disabilities, as measured by a holistic rubric within a non-experimental pre-post-test?

Overall Holistic Quality

Overall quality was measured using the FCAT Writes 2.0 Holistic Rubric through a non-experimental pre-post design. The assessment consisted of expository opinion essay writing prompts that were modeled after the fourth-grade FCAT Writes 2.0 standardized assessment. These assessments were given based on standardized protocol materials from the state-administered assessments. Students were read instructions and were allotted up to 60 minutes of time to complete the assessment. The FCAT Writes 2.0 Holistic Rubric was used to assess the writing results from both the pre- and post-test assessments. Students were assessed in four areas: (a) focus, (b) organization, (c) support, and (d) conventions. These areas were combined to give an overall score ranging from 1 (lowest) to 6 (highest). Results from the assessment are featured in Table 8.

Table 8: Overall Student Holistic Quality Scores

Participant	Overall Holistic Quality		Overall Change
	Pre	Post	
Bree	1	1	0
Andre	1	2	1
Marie	1	2	1
Mean Total	1	1.6	0.6

Bree did not make overall gains in overall holistic quality as measured by the FCAT 2.0 Holistic Rubric. However, she did make gains in the area of conventions as compared to the pre-test assessment.

Andre did make some gains overall in holistic quality on his written performance on the post-test. He increased his performance in terms of organization and support. However, his lack of conventions and frequent misspellings slightly interfered with meaning.

Marie increased her writing performance on the post-test assessment for overall holistic quality. Her focus and support increased as compared to the pre-test holistic quality assessment.

The FCAT 2.0 Writing Assessment is derived from four components: focus, organization, support, and conventions. The rubric assesses each component on a scale from 1-6 (1 being lowest and 6 being highest). Each component is listed in Table 9 with pre-and post-test assessment scores.

Table 9: Holistic Rubric Pre-Post Components

	Focus		Organization		Support		Conventions		Total	
Participant	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Bree	1	1	1	1	1	1	1	2	1	1
Andre	1	2	1	2	1	2	1	1	1	2
Marie	1	2	1	2	1	2	2	2	1	2

Standardized Writing Assessment

The third research question was:

3. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the standard writing scores for students with learning disabilities as measured by the TOWL-3?

The above question was answered through a non-experimental pre-post design. The TOWL-3 Forms A and B were administered. Standardized protocol materials were used within this assessment.

Standardized Writing Assessment: Test of Written Language-3rd Edition (TOWL-3)

All three students were administered all parts of the TOWL-3 assessment. Below are the results of the pre-test (TOWL-3 Form A) and post-test (TOWL-3 Form B). Note that the TOWL-3 does not directly measure ability to write an opinion essay. Rather, the subtests and spontaneous writing measure should be treated as a sign of generalization from the intervention to the standardized assessment. The TOWL-3 features eight subtests. Vocabulary, spelling, style,

logical sentences, and sentence combining represent an overall contrived writing composite score. Contextual conventions, contextual language, and story construction are the final three subtests which together represent a spontaneous writing score. All eight subtests combined give an overall writing score. The spontaneous writing score subtests ask the students to write a story narrative essay in response to a picture prompt. Results of the TOWL-3 pre-and post-test assessments are in Table 10.

Table 10: Test of Written Language-3 (TOWL-3) Quotient Scores

Participant	Contrived Writing		Spontaneous Writing		Overall Writing	
	Pre	Post	Pre	Post	Pre	Post
Bree	74	79	79	79	75	78
Andre	81	78	81	83	80	79
Marie	79	85	89	106	83	93
Mean Total	78	80.6	86.3	89.3	79.3	83.3

The TOWL-3 scores for all subtests were reported as quotient scores with a mean of 100 and a standard deviation of 15 points. The quotient scores were defined as follows: very superior (131–165), superior (121–130), above average (111–120), average (90–100), below average (80–89), poor (70–79), and very poor (35– 69).

Bree's score increased by five points within the contrived writing section while staying consistent in the spontaneous writing session. Bree's overall writing score increased by 3 points.

Andre's contrived writing decreased by 3 points in the contrived writing component of the TOWL-3. His spontaneous writing score increased by two points. However, his overall writing decreased by 1 point.

Marie's writing scores increased across all three areas. The largest gain was spontaneous writing which increased by 17 points. In addition, her overall writing score increased by 10 points, as well as her contrived writing score increased by 8 points.

Overall, the mean total across all writing components increased. The most gains were seen within the spontaneous writing section.

Social Validity Measure

All students were administered an eight-question survey (see Appendix K) on their beliefs regarding the writing strategy after completing the post-test components. Students were administered this survey with the researcher. Each survey question featured a Likert scale (5=Yes! Very much, 4= It's good, 3= It's okay, 2= Not really, 1=No way!), as well as visual cues (see Appendix K) to assist in the understanding of each question for the students.

All three students took the survey. The survey was administered in a 1:1 setting with the researcher. All questions were read aloud and the student pointed to the answers using the visual smiley faces. Students were encouraged to be honest for each of their responses. Specific results are shown in Table 11.

Table 11: Social Validity Student Survey Results

Questions	Bree	Andre	Marie
I like writing.	4	4	4
The strategy helped me write better.	3	5	5
I enjoyed making the video for writing.	4	5	5
The video helped me memorize the strategy.	5	5	5
The strategy helped me write more words	5	5	5
The strategy helped me write for a longer time.	4	5	5
I use this strategy in my classroom.	5	2	3
I think the other kids should learn this strategy	4	5	5

Note. Likert Scale (5= "Very much!", 4= "It's good", 3= "It's okay", 2= "Not really.",1= "No Way!")

Overall, results indicated that the students felt that the use of the writing strategy helped them write more words over an increased period. In addition, students felt that other students should learn this strategy. In terms of generalizing the strategy, students felt "okay" (score of 3 on Likert scale) to use this strategy in their classroom.

Summary

Three students received the intervention of SRSD and VSM during supplemental writing instruction. Overall, experimental control was demonstrated as the research documented three demonstrations of the effect of the intervention at three different points in time across different participants (intra-subject replication) (Horner, et al., 2005). All three students demonstrated stable baselines before receiving the intervention. In addition, all students reached mastery of the SRSD instructional strategy method in opinion writing. Overall writing scores increased slightly as measured by the FCAT 2.0 Holistic Rubric as well as the TOWL-3. Effects on student's overall number of words and duration of writing varied. All of the students within the study felt that this was a strategy that should be taught to other students. The students within the study felt that the SRSD instruction in opinion essay writing as well as VSM improved their writing performance.

Chapter 5 presents the discussion of the results of the research study in terms of answering the research questions, future implications for practitioners, and limitations of the study. In addition, each student that was included within the study will be described and performance will be elaborated for each of the student participants.

CHAPTER FIVE: DISCUSSION

Introduction

This study employed a multiple probe across participants design to examine the effects of the Self-Regulated Strategy Development (SRSD) instructional method in combination with video self-monitoring (VSM) on students' opinion essays in writing. The participants included three third grade students with learning disabilities (LD). Overall, the researcher sought to examine the effectiveness of the SRSD instructional method in combination with video self-modeling (VSM) on written expression. This chapter provides a discussion of results for each student, limitations of the current study, challenges and implications of research including the relationship to the literature, as well as proposed areas for future research.

Purpose

As stated in Chapter 1, students with LD have difficulty with written expression, specifically with planning and organizing information for opinion essays. Many students with LD have difficulty with organizing, memorizing, and maintaining information after instruction has been conducted and completed (Graham & Harris, 2003). In addition, emerging technologies have been developed which support written expression by students with LD (Peterson-Karlan & Parette, 2007). Further research is needed to study the effects of technologies that are integrated within writing interventions (Graham, MacArthur, & Fitzgerald, 2007; Graham & Perin, 2007b; Peterson-Karlan & Parette, 2007). This study examined the use of an instructional package that

used VSM as a technology tool for an opinion writing strategy using the SRSD instructional method.

The research questions examined were:

1. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling (VSM), increase the overall quality of opinion essays by students with learning disabilities, as measured by number of opinion essay elements, length, and duration of writing?
2. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the overall quality of opinion essays for students with learning disabilities, as measured by a holistic rubric within a non-experimental pre-post-test?
3. To what extent does the implementation of the SRSD instructional method to teach the opinion essay writing strategy (POW + TREE), in combination with video self-modeling, increase the standard writing scores for students with learning disabilities as measured by the TOWL-3?

A multiple probe across participants design was utilized and quantitative data were gathered and analyzed. The current study extended the research conducted by Delano (2007) in which the effects of SRSD and VSM on the written expression of 8th and 10th grade students with Asperger's Syndrome were studied. This research employed similar methods to Delano's study but extended the research to examine the effects on third grade students with LD. Students

received one-on-one instruction by the researcher using the SRSD instructional strategies method in combination with VSM to create written opinion essays.

Summary

This research study sought to answer three research questions. The first examined the effects of the SRSD instructional strategies method in writing in combination with video self-modeling related to the overall quality of opinion essays written by students with LD as measured number of opinion essay elements, length, and duration of writing. Overall, all of the students' opinion essay elements and duration of writing increased. The length of the essays increased for two of the three students.

The second research question examined to what extent the SRSD instructional strategies method in writing in combination with VSM would increase the overall quality of opinion essays for students with LD as measured by a holistic rubric within a non-experimental pre- and post-test assessment. Two of the students increased their overall mean score of holistic quality between the pre-and post-test assessments.

The third research question examined the effects of the SRSD instructional strategies method in combination with VSM and to what extent it would increase the standard writing scores for students with LD as measured by the Test of Written Language-Third Edition (TOWL-3). The TOWL-3 is a standardized assessment, which measures contrived and spontaneous writing components. The spontaneous writing component is aligned most closely to the type of task within this current research study (e.g., response to a prompt). However, the

spontaneous writing component required the students to respond to a picture prompt. Two of the student participants had an increase on the spontaneous writing component on the TOWL-3 (Form-B) post-test assessment.

The overall TOWL-3 assessment scores may be viewed cautiously, as the subtests assess additional competencies not included within the intervention. The TOWL-3 focuses on spelling, style (including punctuation), vocabulary, sentence combining, and logical sentences. The components of the SRSD instructional method focused on the organization and structure within the written opinion essay prompts, not specifically on punctuation, spelling, or style. However, only the spontaneous writing section, which elicited students to respond to a prompt, is more closely aligned to the intervention. Therefore, the results of the TOWL-3 test scores should be examined with caution. Rather, the TOWL-3 assessment should be considered a measure of generalization or the extent to which an experimental effect is observed beyond the treatment setting (Gast, 2010).

Student Participant Results

Research results of the SRSD strategy in combination with VSM will be described for each individual student. First, overall results will be specifically interpreted for each student. Next, possible explanations and interpretations will be provided across each of the student participants.

Bree

Overall, Bree's overall essay elements increased with a PND that indicated a small effect. Bree wrote text fluently, but her responses often included repeated words and similar ideas during baseline. After receiving the intervention, the number of total words decreased. One component of the SRSD instructional method organizes topic and reasons within written responses. One can interpret that her words decreased as she became more focused and organized on the topic. However, Bree's total time increased across her written responses. Prior to receiving the intervention, she would often race through the writing task and would write text quickly. Her time may have increased as she focused on completing the organizing and turning her responses into sentences (see Appendix L for Bree's work samples).

In terms of holistic quality, Bree's overall score remained the same between the pre- and post-test assessments. However, her convention score increased as she focused on organization and sentence structure. The overall holistic quality measure may not have been sensitive enough to capture Bree's improvements.

The TOWL-3, standardized writing assessment score remained level after receiving the intervention. The contrived writing portion, which features five subtests that measure mechanics, vocabulary, spelling, and style, increased. However, the spontaneous writing score remained the same. However, it is to be noted that Bree did increase the number of sentences written. Nonetheless, her sentences were merely describing the picture and she did not follow the directions in which she was asked to write a story with a beginning, middle, and end. Bree's overall writing score increased.

Bree was 9 years old and was identified as LD, as well as having a language impairment. She was previously retained in second grade. Her goals in writing on her IEP included the use of graphic organizers to compose narrative stories and expository essays, which featured a beginning, middle, and end. Bree enjoyed *Hello Kitty*, shopping with her Mom and going to Disney World. She wanted to be a teacher when she grows up.

Bree was hesitant to begin writing instruction with the researcher in the morning at the beginning of the study. When the researcher began to pull Bree out of the morning routine, she would often complain about leaving her class and working on writing. She would verbally express her complaints in front of her peers. During instruction, she often would complain that she wanted to get back to her class so that she would not miss the morning routine. In response to this, the researcher began meeting her in the hallway before she came to her classroom to avoid disrupting her peers. Also, the researcher gave her a set amount of time that she would be missing class. In addition, a timer was set in with a list of tasks that had to be completed. With these modifications, Bree would participate within the lesson. Bree continued to be compliant as long as her reinforcers were presented to her in addition to her classroom behavior plan points.

In terms of written performance, Bree had difficulty generating ideas about a given topic, completing her graphic organizer, and copying her responses into sentences within the opinion essay. Bree would often repeat herself and reasons using words such as “It’s cute” or “It’s fun”. Bree would continuously repeat the same word throughout. This may be why her words decreased after learning the intervention as she began to stop repeating the same words and phrases.

The researcher provided further support to address the above concerns such as providing verbal prompts using "Wh" questions to elicit further responses. In the beginning of the study, when Bree was given a prompt, she would plan extremely fast on her organizer. Often at times, she would not copy from the graphic organizer and would quickly complete her written responses. As she continued to both repeat her words as well as not copy what was written on the graphic organizer, the researcher decided to number each reason on her graphic organizer. As Bree copied from the organizer to the paper, she needed to put a check by each box. The researcher modeled and demonstrated these processes. Once she was finished writing her essay, Bree was encouraged to read her essay back to herself. Once she implemented the above procedures, the researcher and Bree discussed repeating words and ways to address this such as reading the paper aloud and checking the graphic organizer to complete her opinion essay.

In terms of the VSM, Bree was hesitant to create the video self-model. At first, she had difficulty looking into the camera. Once the researcher showed a model of herself discussing the strategy on camera, she felt more comfortable. Bree watched the VSM each day without any complaints. Bree did keep her eyes focused on the VSM each time she was provided with the video.

Overall, Bree had difficulty maintaining and reaching five different parts. However, she did reach mastery. Bree did receive one VSM booster session as her performance dropped. After receiving the booster session, her performance did increase. However, the echoing of the similar words continued into maintenance and required prompting.

Bree needs to continue to improve by utilizing strategies to regulate her thinking processes. Teacher supports and scaffolds need to be continued to be implemented daily to ensure that she develops the processes needed to complete complex tasks. Technologies that provide Bree with a depth of prior knowledge and language experiences would have immensely benefitted her. Additionally, Bree would have benefitted from learning this strategy within her classroom, as she did not like the change of scheduling.

Andre

Andre's overall essay elements increased with a PND that indicated a medium effect. Andre's overall word count increased after receiving the intervention. However, he had difficulty with writing fluency as spelling and the mechanical process of writing interfered with his written products. If the issues with the mechanical process of writing had been eliminated, he may have been able to increase the amount of both essay elements and words written. Last, Andre's total time increased from baseline to the intervention phases. However, it was often challenging to keep him on task as the actual task of writing with a paper and pencil was extremely difficult for him (see Appendix M for Andre's work samples).

In terms of holistic quality, Andre's overall score increased from a 1 to a 2 between pre- and post-test assessments. His written expression increased in focus, organization, and support. However, his conventions remained the same between the pre- and post-test assessments.

The TOWL-3 standardized writing assessment score decreased after receiving the intervention. The contrived writing portion increased which features five subtests that measure mechanics, vocabulary, spelling, and style decreased by three points. The intervention did not

focus on these five component subtests. Andre's spontaneous writing score increased by two points. However, his overall writing score decreased by one point.

Andre was 9 years old and had a language impairment and LD in written expression, as well as Attention Deficit Disorder (ADD). His goals on his IEP included using a graphic organizer for planning to write or dictate a three to five sentence narrative or expository essay. It was also noted that he had difficulty with visual perception and memory. Andre enjoyed reading, going to the store, and playing *Xbox*. He wanted to join the Army when he grows up.

The researcher noticed that Andre was able to verbally discuss stories easily. Andre enjoyed telling jokes to his peers and to the researcher. He often would avoid the writing task at attempts to do this within instruction. Andre's motivation, vocabulary, and absences will be discussed.

For Andre, motivation within the writing process was an important factor. Andre's classroom teacher remarked that he was clearly unmotivated at times. However, within the intervention, the making of the VSM seemed to motivate him. He was not hesitant to look into the camera and he enjoyed watching the VSM daily. Additionally, the self-regulation and goal setting, such as graphing his performance, motivated him to write and to improve his last performance. His writing included reversals and frequent misspellings that interfered with the drafting and organizing of the writing process. This was often frustrating to him. However, the self-regulated portion of the strategy was extremely valuable to him as he was very much interested in improving his last performance. When writing, he often would get competitive with his previous performances and would set goals each time. Notably, he became more confident as he knew spelling did not count within the research study. Andre was encouraged as the

researcher explained that these activities were to help him get his ideas down on paper. Each time he would write, he would set a goal to include more parts each time he graphed his results. Sometimes, his writing would become fatigued and it would take him longer to complete his organizer. Towards the end of the study, Andre began to get frustrated as his total duration of writing began to increase and he was able to write for longer periods.

The researcher would bring in incentives for Andre as well as would allow him to play non-academic games on the iPAD for a few minutes if he completed his writing task. Andre would respond to the new incentive or game for a few days, but he had to continually be given a choice of different reinforcers.

Andre was able to verbally express his stories after he had written them down. He was also able to discuss a variety of topics during the intervention. He often used similes and metaphors illustrating his oral vocabulary ability. For example, one of the prompts asked about what he would want to be when he grew up. He discussed becoming a famous boxer. He was joking about being able to "punch someone" or "knock someone out". However, his last reason was about believing in yourself. He said when you are a boxer, you need to believe and trust in yourself in order to win. When prompted, Andre was able to elaborate and give a variety of details.

Absences frequently interfered with Andre's performances. Within the intervention phase, he missed five days of school. Andre also missed six sessions due to absences and tardiness during maintenance. We had to revisit two lessons and reteach lessons in order to progress through the strategy. The VSM did seem to refresh him memory in terms of the steps for completing his

opinion essay. Towards the end of the study, Andre quickly transferred the strategy to writing notes on paper without the use of the organizer. However, he remarked that he did miss the graphic organizer.

Andre remarked that he benefited from the strategy. However, the use of a scribe and/or speech-to-text technology would benefit Andre within the classroom setting. He particularly had difficulty with reversals, spelling, and handwriting legibility. These types of accommodations would be of a great benefit to him. He also showed interest in using *Siri,* a speech-to-text program on the iPad, to assist him in the writing process. He may benefit from the use of a variety of writing accommodations, especially technology.

Marie

Overall, Marie's overall essay elements increased with a PND that indicated a large effect. Marie increased her total word count. She became more focused and organized. Additionally, Marie's time increased on her written drafts. When her time did decrease, one could attribute this to her writing fluency increasing (see Appendix N for Marie's work samples).

In terms of holistic quality, Marie's overall score increased between the pre- and post-test assessments. Marie's score increased in the focus, organization, and support sections. The convention component remained the same. Marie was an adequate speller. Further detailed sentences would have enhanced her response.

The TOWL-3 standardized writing assessment score increased across all three areas after receiving the intervention. The contrived writing portion increased which features five subtests

that measure mechanics, vocabulary, spelling, and style. The spontaneous writing portion increased by 17 points. Marie's overall writing score increased. However, it is to be noted that Marie's pre-test Towl-3 score was in the average range (89, range 85-115).

Marie was 9 years old and had a specific LD. She was previously retained in third grade. Marie's goals for written expression included formulating sentences with appropriate grammar and usage as well as writing sentences to answer "wh" questions. Marie enjoyed playing with her cat, going to recess, and travelling. Her favorite subject was music and she wanted to be a fashion designer when she grows up.

Marie was compliant, cheerful, and always eager to work. She never complained about working with the researcher on her writing She often verbally told stories about her weekends or vacations to the researcher. She was able to hold a conversation with myself about a variety of topics. Marie enjoyed describing her examples for the reasons on her essays. Marie's writing performance in terms of strategy benefits, transition words, and continuous progress will be examined.

Marie wanted to please the researcher by doing her best on any writing probe she was asked to answer. In fact, she spent time during the baseline phases on her writing and carefully wrote her sentences. Once she received the intervention, Marie benefitted almost immediately. She would often clarify or ask questions regarding the strategy. Marie specifically enjoyed creating the VSM and was eager to share it with her mother. Marie watched the VSM intently during sessions. After Marie was introduced to the SRSD strategy, VSM, and graphic organizer, she immediately began to generate ideas to answer the opinion essay. She was much faster to

describe her ideas rather than write them. As she received the intervention, her time spent writing increased and then decreased as she gained fluency. Additionally, her total opinion essay elements also increased dramatically.

One area that Marie needed to work on was with transition words. After she learned the steps to the strategy, she used the following transitions, "My first example is…my second reason is…my second example is." After this continued, the researcher provided additional support to Marie, as well as a list of transition words. Once she read her opinion essay aloud, she would realize that her transitions sounded the same and she would often select an alternative from the list.

Overall, Marie's writing performance increased after receiving the intervention. She might have made more progress but unfortunately, she was unable to do so due to the time constraints of the study. It is recommended that she continues to receive instruction in using detailed descriptions, providing elaborations, and sentence variety to continue to improve her writing performance. Marie will need specific and explicit instruction in the above areas to continue her progress and growth.

Social Validity Results

The results are socially valid due to the alignment of the intervention and writing probes with curriculum standards, the Florida Next Generation Sunshine State Standards. Writing performance by fourth grade students in the public school system is assessed annually on the FCAT 2.0 Writes, a state-administered, high stakes assessment. Since the students who

participated in the current study are in third grade this year, they will be required to take this assessment next year. The intervention directly aligned with the curriculum standards and the intervention incorporated similar writing prompts and procedures. Further, the same assessment tool—FCAT 2.0 Writes Rubric, was utilized to assess student results of overall holistic quality within the pre- and post-test measure.

During this research, the intervention, SRSD with VSM, required a minimum of five sessions of at least thirty minutes to reach mastery of the strategy. The results of this intervention were reflected on overall increases in holistic scores as reported within the results section. Two of the students increased their holistic score from 1 to 2 (scale from 1—6) on the same rubric used to score the state assessments. It is to be noted that there is not a passing score on the FCAT Writes 2.0 rubric, but the score of 3.5 is considered to be passing by teachers and administrators. Future research to determine effects of the students may result in further increases of their overall holistic scores with additional time for implementation.

In addition, the student participants responded to the eight-question survey regarding the intervention. All of the students felt that this strategy was valuable to learn to use with their writing. Students agreed that other students who did not participate in the strategy should be taught the intervention.

Limitations

Despite the positive results within this current study on third grade students with LD, the findings will need to be replicated across different populations and settings over an extended

period. Limitations of this study include generalizability, lack of instructional conditions, delivery of intervention by researcher and very few maintenance points.

One limitation is the lack of generalizability of the results to the larger population. However, these results indicated that this intervention will elicit similar results across the students with similar characteristics in the same settings (Gast, 2010). Additional research needs to examine this intervention with a more heterogeneous group of students. Further, additional research needs to be conducted across various settings and among different populations.

Also, the pre- and post-test results must be examined with caution. The TOWL-3rd edition is typically used as a standardized measure for writing performance in much of the special education literature. It is recommended that another standardized testing tool be used when examining other genres of writing. Because story writing was not taught as part of this intervention, the TOWL-3 is not an accurate measure of opinion essay writing. It is recommended that either a curriculum-based measure is used or a standardized testing assessment is developed in writing to address various writing genres.

Another limitation was that the researcher delivered the intervention. Future studies need to examine the effects of this intervention package as implemented by another researcher, graduate assistant, or teacher for further validity and reliability of results.

A further limitation is a lack of maintenance probes within the study. This was because research was conducted at the end of the school year. Given the amount of time allotted, only one student, Bree, was able to complete weekly maintenance probes. Andre was frequently

absent and missed all but one maintenance session. Marie did not have the opportunity to complete any maintenance probes due to time restraints. Future research needs to examine the maintenance of this instructional method over a significant amount of time. Delano's (2007) study examined the maintenance probes across one week and three months. Results were variable but overall indicated a decline in performance over time.

Implications of Findings

Graham and Harris (2009) described a theoretical framework in which writing was developed through four major areas: (a) motivation (b) strategic behavior (c) skills and (d) knowledge within the SRSD instructional strategies method. This study examined the effects of the SRSD instructional strategies method in combination with video self-modeling (VSM) on the opinion essays written by students with LD. The results indicated that SRSD and VSM had a positive effect on the primary measure, essay elements, within students' opinion essays.

Self-Regulated Strategy Development (SRSD) is an evidence-based practice in writing and has previously been studied across several specific writing genres, such as narrative, opinion, expository, and story writing (Graham & Perin, 2007a). In addition, SRSD has been studied across various populations, including students with LD. The findings from the current study indicated that all of the students in this study increased their overall opinion essay elements. This supports the research results from previous studies examining SRSD, which demonstrated increases in the number of essay elements in written essays (Graham & Harris, 1989; Graham, Harris, & Mason, 2005; Mason & Shriner, 2008). Finally, two of the students within the study

increased the effect on holistic writing ratings, but these scores were not in the average range (Lienemann & Reid, 2008). The scores within the current study were below average on the FCAT 2.0 Writes Rubric (Florida Department of Assessment, 2011).

Furthermore, the results of this current study supported previous findings that SRSD instruction improved the quality of writing for students with LD in the elementary grades (Graham et. al., 2012). The findings from this study confirmed previous findings by Graham, Harris, and Mason (2005) in which SRSD instruction improved written performance of opinion essay writing by third grade students with LD.

Video-self modeling (VSM) and its effect on academic skills has been less studied than SRSD instruction. The results from this study supported Delano's findings (2007) in terms of the increase of opinion essay elements in student's writing. Delano (2007) focused on the SRSD intervention using the VSM feedforward method. The participants within the study (Delano, 2007) increased the number of words and number of essay elements within their essays. Two of the three participants increased the amount of time they worked on their written essays. The results of this current study demonstrate similar results as all of the students increased the number of essay elements, amount spent writing, and two of three participants increased their number of words used.

Delano (2007) found the students showed an immediate increase in their written performance after watching the VSM just once. The current study supports these findings as students showed an increase of number of essay elements (EE), as well as time spent writing,

immediately. The increase of EE immediately after receiving the intervention of SRSD was typical in other studies involving SRSD (Lienemann & Reid, 2008).

However, Delano's study had several differences as compared to the current study's methodology. There are two major ways in which Delano (2007) methods differed from the current study—the way the VSM was created and how it was utilized.

First, Delano (2007) had students create their own VSM videos using a script and materials. After the VSM was edited, it was used at the beginning of subsequent intervention sessions. Within the current study, VSM was utilized as part of a revision of stages 1 through 3 (develop background knowledge, discuss it, and model it) on the first day of SRSD intervention. The current study did not have the students utilize a script. The researcher read aloud the script and the student repeated the researcher's words. Camtasia was used to then edit the videos.

Additionally, the current study differs in the use of VSM. In Delano's study, secondary students with ASD viewed the VSM only and then completed tasks with provided the materials such as paper, pencil, TREE outline. However, the current research study deviated from Delano's methods as students not only viewed the VSM, but also were instructed by the researcher. This study purposefully ensured that the VSM was utilized with explicit SRSD instruction. Therefore, with younger students, it is recommended that VSM be utilized in combination with explicit interactive instruction by a knowledgeable teacher. Moreover, the results from this study supported Hitchcock and colleagues recommendation to explore VSM in combination with academic skills (2003). These research findings contributed to the research base of VSM to include the student populations of students with LD to learn academic skills.

Recommendations for Practice

Within the research study, specific challenges occurred which have implications for teachers' and researchers' future implementation of SRSD and VSM. Specific challenges related to modification of procedures, time, attrition, and technology will be discussed.

Considerations for Implementation

The researcher had a significant role in modifying the intervention as allowable by the developer's published procedures. Harris and colleagues (2008) discussed the importance of making lesson modifications and changes to both the instructional procedures and materials. The current study was conducted by the researcher, who had five years of teaching experience with students with LD. The standard protocol and published procedures of SRSD were followed, but specific instructional engagement techniques were also utilized (Harris et al., 2008). Had the researcher not possessed these skills, results may have varied. There were two adjustments that were made to the delivery of the intervention. First, motivation was considered and adjusted. Second, the graphic organizer and materials were modified as a result of student performance. A more detailed description for each area will be highlighted below.

Modifying of Procedures

As previously stated, writing can be an extremely challenging process for students with LD. In particular, students may have difficulty with motivation to complete a specific writing

task. To address this issue, a reinforcement schedule was implemented to increase student motivation to complete tasks. Students were given the choice of two different prompts, which were created from their responses to an interest inventory. In addition, students earned points for task completion and engagement as part of their class-wide behavior management plan. Students also received tangible reinforcements for attending sessions and completing their written essays.

The self-regulating procedures within the SRSD instructional method, which included plotting their progress and setting new goals, were extremely motivating factors for all three of the student participants. As the students observed their progress by graphing results, the students positively responded to the visual progress on their graphs. The number of verbal prompts was reduced with increased use of self-regulating procedures. Despite these motivating factors, Bree and Andre needed additional prompting to stay on task and complete writing prompts towards the end of the study. The researcher also included a times and list of tasks as adaptations during session intervention time.

Adaptation of Materials

Harris and colleagues (2008) discussed the adaptation of the standard protocol procedures for SRSD instruction in writing. The standard materials developed were used as a guide for teacher implementation. Teachers are encouraged to add or revise the order of instructional lessons and materials to meet the needs of their individual students. This provides the teacher with the freedom to revise or adapt their instruction to meet the needs of individual students.

As previously stated, when implementing SRSD, it was important to tailor the instruction to meet the individual writing needs of the individual students. Within this study, a few

adaptations were made within the guidelines set by the developers. First, the graphic organizer and strategy were adapted based on student needs. Tailoring and individualizing instruction within the framework of SRSD were crucial to ensure success of acquisition of the strategy. For example, during Bree's written drafts, she needed additional organizing formats on the worksheets. Further, the graphic organizer was adapted to ensure there was a spot to check off each part as Bree translated her notes into sentences. Had the researcher not adapted the materials appropriately, Bree may not have mastered the strategy to criterion.

Additionally, other students required adaptation of materials or lessons. Andre needed more emphasis on the transition words between reasons. The researcher emphasized these words and provided a list for Andre during the intervention phases. Finally, Marie needed support to continue to write during the probe sessions. She often would stare at her paper and would try to start conversations with the researcher. Once she was given a verbal prompt to continue, she would attend to the task required. Marie also needed further support and modeling to create sentences from her notes and use differing transition words.

Moreover, it is important to note that the focus of the SRSD strategy in writing was on the organization and planning of ideas. To facilitate writing growth, students were not penalized for spelling or handwriting. Rather, they were encouraged to write their ideas freely. It is important that as the students move towards mastery of the strategy, other strategies for revising and editing writing should be emphasized. Finally, SRSD instruction needs to have the standard stages and protocol to ensure that students understand the components of the strategy as well as how to implement it. However, it is important to adapt and revise the order of the lessons as well

as the materials to best meet the needs of the students within the classroom. This requires implementer's knowledge of writing, the SRSD instructional method, student needs, and time to plan and adapt, as needed.

As a result, it is recommended that new teachers work with a team or partner when first beginning to implement SRSD and VSM. If the standard protocol procedures are followed, students should be successful. If less experienced teachers have questions with scaffolding or adapting materials, a more experienced colleague may be able to give advice and support. However, if another teacher is unavailable to implement with the new teacher, the standard protocol materials should give enough explicit instruction for success.

Time

Time spent implementing the intervention needs to be carefully planned. As students understood and implemented the strategy, the time spent writing increased. Bree and Andre became frustrated as it took them longer to write their essays. This was of particular concern for Andre as he verbally stated that he did not want to continue to write. Additionally, if students had to write longer than twenty minutes, they would not have had the ability to finish the SRSD lesson within the allotted period for the day. On several occasions, the SRSD lesson was expanded into more than one day. Also, students who arrived tardy to school may not have finished the SRSD instructional lesson in time. Therefore, the lesson was often shortened and continued on the following day.

Because of the positive results the students demonstrated as well as effects on the probes similar to standardized state assessment, classroom implementation should be considered for

differing levels of students. Due to the research design, the strategy took a significant amount of time to implement. One would infer that the time spent to implement the intervention across all students is far longer than a teacher could afford for each individual student. Planning for implementation of SRSD and the VSM need to be considered. For example, teachers may consider creating a few VSM that the class could utilize rather than one per student.

Attrition

Six students were originally selected for participation within the research study based on their TOWL-3 results. However, two of the students were consistently tardy to school. The teacher called their parents, but despite these efforts, the students were not included in the study due to continued tardiness. In addition, a third student was selected and completed the baseline condition of the study. He was the second student who was going to begin to receive the treatment after Bree. However, he transferred to another school shortly before he was to begin instruction.

Teachers may avoid this issue as they may teach SRSD to all of the students within the classroom during writing instruction. . Additionally, it is important that the teacher plans to use SRSD and continues to modify instruction as needed. In terms of research, researchers should be cautioned when choosing the time of day to implement a specific intervention. It is important to get student and parent support to commit to meeting the scheduling expectations of the research study

Technology

Technology was often an issue, as it was not always reliable. Further, it was important to have a secondary technology source, as needed. Within the context of the research study, a few technology issues did arise. To begin with, students recorded their video self-model clips on the iPAD. Once the clips were recorded, they were edited using Camtasia software. This took approximately three hours to edit and revise the videos. This has implications for teachers. Many teachers may be concerned or have some hesitations about using this software program. It is important that they are trained and feel competent to use the video production software.

All of the instructional sessions were recorded using the flipcam. However, on multiple occasions, the flipcam batteries failed. To resolve this issue, the researcher recorded the remaining sessions using Camtasia software on the laptop computer. It was important to consider what technologies to include within the research study to record the VSM, as well as what technologies to use to view the VSM within the classroom. Teachers and researchers should ensure they have secondary technologies available.

Finally, it was imperative to consider the materials needed to create the VSM. When creating the student's VSM, it was vital that a script was created to ensure that the student was discussing the crucial parts of the strategy. It also was used to guarantee fidelity of implementation of the strategy across students. Teachers need to ensure there is a quiet area to record the video. If possible, trained paraprofessionals may be able to record the VSM if teachers feel time may be an issue.

Parent Support

After the study was completed, each student was given a progress report regarding their performance within the study. Also, a CD recording of the individual student's VSM was sent to the parents. The students, then, have access to the strategy steps and their parents were able to reinforce and practice these writing skills over the summer. Consequently, the use of VSM may enhance parent support and participation of their student's learning within school. Teachers could ensure that parents have access to their student's VSM at home. As a result, parents would be able to reinforce skills that their child is learning in the classroom. Parents would understand the terminology and vocabulary associated with these strategies to implement them within the home.

School Implications

Video self-modeling (VSM) may not just be used in the classroom. Rather, it could be used as a tool to support student's self-efficacy in implementing the strategies as needed. In time, multiple stakeholders such as teachers and service providers may be able to have access to a specific student's VSM library. This could be utilized across various setting and students could refer to and generalize their strategies by reviewing the various VSMs. As time goes on, their library could expand and they could continue to generalize and build upon the strategies learned from year to year and across subject areas.

Video self-modeling in writing may be utilized and combined to teach multiple strategies for the writing process. As students become more confident, comfortable, and fluent with one strategy, additional strategies could be added to support. For example, a strategy for planning an opinion essay could be introduced. Once the student has mastered this, another strategy for revising could be presented and made a part of the student's writing routine. These strategies could also be combined with other assistive technologies to meet the needs of the individual student. For example, if a student has difficulty with the mechanical process of writing, it may be added with speech to text technology or other technology products.

Future Research

The use of video self-modeling within writing instruction needs to continue to be researched for students with disabilities. Video technology may assist in the development of knowledge, skills, motivation, and strategy instruction in writing. Future research needs to be conducted utilizing self-regulated strategy development (SRSD) and the use of Video Self Modeling (VSM). Future directions will be discussed below.

SRSD in writing is an evidence-based practice (Graham & Perin, 2007a). It is effective to increase the overall writing quality for a variety of students, including those with LD. However, it is important that teachers and researchers understand that to provide cognitive strategy instruction and to make writing more explicit is a complex process. To begin, teachers need to ensure that they utilize the research-based materials (Harris et.al, 2008) to ensure that they are

implementing the strategy correctly and with fidelity. As they gain more experience in teaching the strategy, they will be more confident in their ability to tailor and scaffold instruction.

Video self-modeling is a promising technology to enhance SRSD instruction in writing. Further research exploring ways to deliver SRSD with varying technologies to support and scaffold students needs to be examined . Teachers may examine the effects of video self-modeling with a small group or entire class. Because creating VSMs are time consuming, teachers may create a few with some students instead of one video per student. Teachers may consider creating different videos based on student needs, as well as providing differing levels of support. Additionally, the use of other accommodations and assistive technologies need to be explored in other areas of the writing process, such as mechanics. Additionally, technology research needs to be examined within the writing process for methods to provide continuing supports and varying levels of instruction to meet the needs of all students.

More evidence and studies need to be conducted to give practitioners and researchers more evidence within areas in which VSM can be applied. Finally, research needs to be conducted within the general education classroom setting to explore results with other student populations and across varying settings. Although writing strategy instruction may help students with LD plan and organize their writing performance, other writing skills will need to be developed and/or used in conjunction with planning strategies. Students will still need instruction in mastering spelling, capitalization, and handwriting (Graham & Harris, 2005). It is important to consider both SRSD and VSM as an instructional package, which may be part of a complete writing program.

Final Recommendations

Overall, all students showed improvement in terms of increasing their opinion essay elements as well as duration of writing. Recommendations will be briefly summarized in relation to the classroom teacher, schools, districts, and teacher preparation.

To begin, it is recommended that districts, schools, and teachers implement specific writing strategies using SRSD and VSM technology to increase overall writing performance. These strategies may be an addition to a foundational writing program, such as Writer's Workshop. This may increase students' performance in written expression. Importantly, with the implementation of the Common Core Standards, students will increasingly be required to write at proficient levels across multiple content areas in response to progressively demanding tasks. The combination of a specific strategy approach, such as SRSD, will give students the foundation required to become proficient and better writers. Additionally, multiple strategies, which address different genres and areas within the writing process, need to be explicitly taught using VSM as a support.

Video self-modeling is a promising technology for writing as well as for use across the content areas. With the ability to have technology at one's fingertips with smartphone and computer technology across multiple environments, schools need to begin as well as continue to utilize increased technology for students' to become educated citizens in our workforce. The use of VSM including video technology not only can be used in a one-to-one situation, but also with entire classes. This specific technology can be used to individualize instruction for students who require extra support across the academic areas. Specific strategy video banks can be used

throughout student's educational careers as they progress through school. The possibilities of video modeling and video self-modeling technologies are nearly endless and the use of them needs to continue to be explored in the classroom setting.

Nevertheless, it is highly recommended that students with LD are provided with appropriate accommodations for writing. This not only includes utilizing technology during the acquisition phases of learning to write but within writing across the content areas. With the increasing use of computer adaptive testing with the Common Core Standards, students with LD need to be able to be assessed fairly and accurately. The use of technology may provide students with a "level playing field" to express their knowledge. It is time our stakeholders and policymakers work together to achieve the goal of universally designed assessments, which include appropriate accommodations, for all students.

Finally, school districts, colleges and universities within teacher preparation need to effectively prepare and support the continued learning for teachers with the knowledge, skills, and competencies to teach writing to all students, including those with LD. The pedagogical knowledge needs to be evidence-based and technology tools need to be aligned to create 21st century learners. The future of our country, economy, and workforce depend on our ability to teach literacy skills effectively. The research and practice communities need to continue to work together to support learning for all students to be ready for their futures.

APPENDIX A: IRB APPROVAL LETTER

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Katie M. Miller**

Date: **February 14, 2013**

Dear Researcher:

On 02/14/2013 the IRB approved the following modifications in human participant research until 01/15/2014 inclusive:

Type of Review:	IRB Addendum and Modification Request Form
Modification Type:	Changed study title to: "Examining the effects of the self regulated strategy development with video self modeling in writing by students with learning disabilities"
Project Title:	Examining the effects of the self regulated strategy development with video self modeling in writing by students with learning disabilities
Investigator:	Katie M Miller
IRB Number:	SBE-12-09013
Funding Agency:	
Grant Title:	
Research ID:	N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at https://iris.research.ucf.edu .

If continuing review approval is not granted before the expiration date of 01/15/2014, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Patria Davis on 02/14/2013 03:03:55 PM EST

IRB Coordinator

APPENDIX B: INTEREST INVENTORY

Interest and Activities Inventory

Researcher will ask about the following topics orally:

Name:	Grade	Date

Family Members:		
Types and Name of pets:		
Favorites		
Food	Friend	Sport
Game	Color	Music
Book	Movie	TV show
Subject	Animal	Season
Activities		
In School	Outside of School	Things I like to do
Things that make me laugh	Places I like to visit	People I like to Visit

What do you want to be when you get older?

APPENDIX C: HOLISTIC RUBRICS—FCAT 2.0 WRITES

For Pre Test/Post Test Holistic Measure

FCAT Rubric: 4th Grade
6 Points. The writing is focused on the topic, has a logical organizational pattern (including a beginning, middle, conclusion, and transitional devices), and has ample development of the supporting ideas. The paper demonstrates a sense of completeness or wholeness. The writing demonstrates a mature command of language including precision in word choice. Subject/verb agreement and verb and noun forms are generally correct. With few exceptions, the sentences are complete, except when fragments are used purposefully. Various sentence structures are used.
5 Points. The writing is focused on the topic with adequate development of the supporting ideas. There is an organizational pattern, although a few lapses may occur. The paper demonstrates a sense of completeness or wholeness. Word choice is adequate but may lack precision. Most sentences are complete, although a few fragments may occur. There may be occasional errors in subject/verb agreement and in standard forms of verbs and nouns, but not enough to impede communication. The conventions of punctuation, capitalization, and spelling are generally followed. Various sentence structures are used.
4 Points. The writing is generally focused on the topic, although it may contain some extraneous or loosely related information. An organizational pattern is evident, although lapses may occur. The paper demonstrates a sense of completeness or wholeness. In some areas of the response, the supporting ideas may contain specifics and details, while in other areas, the supporting ideas may not be developed. Word choice is generallyadequate. Knowledge of the conventions of punctuation and capitalization is demonstrated, and commonly used words are usually spelled correctly. There has been an attempt to use a variety of sentence structures, although most are simple constructions.
3 Points. The writing is generally focused on the topic, although it may contain some extraneous or loosely related information. Although an organizational pattern has been attempted and some transitional devices have been used, lapses may occur. The paper may lack a sense of completeness or wholeness. Some of the supporting ideas may not be developed with specifics and details. Word choice is adequate but limited, predictable, and occasionally vague. Knowledge of the conventions of punctuation and capitalization is demonstrated, and commonly used words are usually spelled correctly. There has been an attempt to use a variety of sentence structures, although most are simple constructions.
2 Points. The writing may be slightly related to the topic or may offer little relevant information and few supporting ideas or examples. The writing that is relevant to the topic exhibits little evidence of an organizational pattern or use of transitional devices. Development of the supporting ideas may be inadequate or illogical. Word choice may be limited or immature. Frequent errors may occur in basic punctuation and capitalization, and commonly used words may frequently be misspelled. The sentence structure may be limited to simple constructions.
1 Point. The writing may only minimally address the topic because there is little, if any, development of supporting ideas, and unrelated information may be included. The writing that is relevant to the topic does not exhibit an organizational pattern; few, if any, transitional devices are used to signal movement in the text. Supporting ideas may be sparse, and they are usually provided through lists, clichés, and limited or immature word choice. Frequent errors in spelling, capitalization, punctuation, and sentence structure may impede communication. The sentence structure may be limited to simple constructions.

Adapted Florida Department of Education (2003)

For Pre Test/Post Test Holistic Measure

Unscorable. The paper is unscorable because the response is not related to what the prompt requested the student to do, the response is simply a rewording of the prompt, the response is a copy of a published work, the student refused to write, the response is written in a foreign language, the response is illegible, the response is incomprehensible (words are arranged in such a way that no meaning is conveyed), the response contains an insufficient amount of writing to determine if the student was attempting to address the prompt, or the writing folder is blank
Total—PRE TEST_____ POST TEST_____ Date: Student:

Adapted Florida Department of Education (2003)

FCAT WRITING ASSESSMENT - FLORIDA'S FOURTH GRADE RUBRIC

	FOCUS	ORGANIZATION	SUPPORT	CONVENTIONS
6	The writing is focused on the topic.	The paper has a logical organizational pattern (including a beginning, middle, conclusion, and transitional devices). The paper demonstrates a sense of completeness or wholeness.	The paper has ample development of the supporting ideas. The writing demonstrates a mature command of language, including precision in word choice.	Subject/verb agreement and verb and noun forms are generally correct. With few exceptions, the sentences are complete, except when fragments are used purposefully. Various sentence structures are used.
5	The writing is focused on the topic.	There is an organizational pattern, although a few lapses may occur. The paper demonstrates a sense of completeness or wholeness.	The paper has adequate development of the supporting ideas. Word choice is adequate but may lack precision.	Most sentences are complete, although a few fragments may occur. There may be occasional errors in subject/verb agreement and in standard forms of verbs and nouns, but not enough to impede communication. The conventions of punctuation, capitalization, and spelling are generally followed. Various sentence structures are used.
4	The writing is generally focused on the topic, although it may contain some extraneous or loosely related information.	An organizational pattern is evident, although lapses may occur. The paper demonstrates a sense of completeness or wholeness.	In some areas of the response, the supporting ideas may contain specifics and details, while in other areas, the supporting ideas may not be developed. Word choice is generally adequate.	Knowledge of the conventions of punctuation and capitalization is demonstrated, and commonly used words are usually spelled correctly. There has been an attempt to use a variety of sentence structures, although most are simple constructions.
3	The writing is generally focused on the topic, although it may contain some extraneous or loosely related information.	Although an organizational pattern has been attempted and some transitional devices have been used, lapses may occur. The paper may lack a sense of completeness or wholeness.	Some supporting ideas may not be developed with specifics and details. Word choice is adequate but limited, predictable, and occasionally vague.	Knowledge of the conventions of punctuation and capitalization is demonstrated, and commonly used words are usually spelled correctly. There has been an attempt to use a variety of sentence structures, although most are simple constructions.
2	The writing may be slightly related to the topic or may offer little relevant information.	The writing that is relevant to the topic exhibits little evidence of an organizational pattern or use of transitional devices.	There are few supporting ideas or examples. Development of supporting ideas may be inadequate or illogical. Word choice may be limited or immature.	Frequent errors may occur in basic punctuation and capitalization, and commonly used words may frequently be misspelled. The sentence structure may be limited to simple constructions.
1	The writing may only minimally address the topic, and unrelated information may be included.	The writing that is relevant to the topic does not exhibit an organizational pattern; few, if any, transitional devices are used to signal movement in the text.	There is little, if any, development of supporting ideas. Supporting ideas may be sparse, and they are usually provided through lists, clichés, and limited or immature word choice.	Frequent errors in spelling, capitalization, punctuation, and sentence structure may impede communication. The sentence structure may be limited to simple constructions.

APPENDIX D: PRE-POST PROTOCOL

Test Administration Procedures: Pre-Post Test for Holistic Quality

Procedures	Observed	Not Observed
Teacher Says:		
Today you will be taking a Writing Test. Remove all materials form your desk except a No. 2 pencil.		
Now we will review the materials you will use during the writing test. Look at the planning sheet. Print your name on the line in the upper right hand corner. You may use the front and back of this planning sheet to jot down ideas, plan, and organize what you will write. It is important to use the planning sheet to plan what you will write, but make sure that you allow enough time to write a complete response in your writing folder. Only the writing in your folder will be scored.		
Now turn your planning sheet and look at the writing prompt in front of you. The prompt explains what you are going to write about. The writing should be neat and easy to read. You may either print or write in cursive. If you erase or cross through words, be sure to do so as neatly as possible. If you use your eraser, do so gently so you don't tear or rip your writing folder.		
If the prompt asks you to explain something, your writing should be about something that is based on fact or believable information. If the writing prompt asks you to tell a story, your writing may be about a real experience or a make-believe experience. Remember you are to write only about the prompt (topic).		
Teacher reads prompt.		
Teacher says:		
Your writing should show that you can organize and express your thoughts clearly and that you have responded completely to the prompt (topic).		
You may give your writing a title if you choose.		
You many NOT use a dictionary. If you aren't sure how to spell a word, spell it the best way you can.		
If you finish the test before time is called, go back and check (proofread) your work and make corrections to improve your writing. Then sit quietly until I tell you that this test has ended.		
You have 60 minutes to read, plan, and respond to your prompt. I'll let you know when you have 10 minutes left so that you can review and edit your writing if necessary.		
You may begin working.		
Total		
IOA		

Adapted from FCAT 2.0 Writing Test Administration Manual (2012-2013). Taken from www.FLAssessments.com/writing

APPENDIX E: WRITING PROMPT EXAMPLES

Prompt	Reading Level
We all have games that we enjoy playing. Before you write, think about one game that you enjoy playing Now explain why you enjoy playing that game	2.2
We can all think of a person that we like. Before you write, think about what person you like. Now explain why you like that person.	2.3
Most of us have a favorite place. Before you write, think about one place that is your favorite. Now explain why that place is your favorite.	3.6
We all have a favorite time of year. Before you write, think about your favorite time of year. Now explain why that time of year is your favorite.	3.6
Many people have pets or would like to have one. Before you begin writing think about a pet you have or would like to have. Now write to explain why you like that pet.	3.0
We all have friends. Before you begin writing think about one of your close friends. Now write to explain why that friend is a good friend.	1.8

Prompt	Reading Level
Everyone has an idea of what job they would like to have when they grow up. Before you begin writing think about what job you would like to have when you grow up. Now write to explain why you'd like to do that job when you grow up.	1.8
Most students like the summer. Before you begin writing, think about what you would like to do this summer. Now write to explain what you would like to do this summer.	3.6
Most students have a job in the classroom. Before you begin writing, think about a classroom job you'd like to have. Now write to explain why you'd like to have that job.	3.3
Most students like to watch cartoons. Before you begin writing, think about a cartoon that you like. Now write to explain why you like that cartoon.	3.6
Most students like to play games. Before you begin writing, think about a game you like. Now write to explain why you like to play that game.	2.3
Some students like their teacher. Before you begin writing, think about your teacher. Now write to explain why you like your teacher.	3.8

Prompt	Reading Level
Some students like to play outside. Before you begin writing, think about one thing that you like to do outside. Now write to explain why you like to do this outside.	3.6
Most people like to go to Disney World. Before you begin writing, think about what you like to do at Disney World. Now write to explain why you like to this at Disney World.	3.7
Most people like to go to the playground. Before you begin writing, think about what you like to do at the playground. Now write to explain why you like to this at the playground.	3.7

APPENDIX F: ADMINISTRATION PROBES

Baseline Checklist

R=Researcher	Observed= 1	Not observed=0
Researcher says: "Good Morning! Before we get started, you will be answering writing prompt today."		
R: "Which prompt would you like to respond to?"		
(Researcher reads two prompts to each student or student group).		
R:"Great! Make sure you plan and organize what you would like to write about before writing. When you are finished, go back and check your work. Let me know when you are finished."		
Total:		
Comments:		

T=Teacher

Daily Probes

R=Researcher	Observed= 1	Not observed=0
R: " Good Morning! Before we start instruction today, I would like you to watch the video on the writing strategy. When we are finished you will respond to a writing prompt."		
Student watches video.		
R: "Before we get started, you will be answering writing prompt today."		
R: "Which prompt would you like to respond to?"		
(Researcher reads two prompts to each student or student group).		
R:"Great! Make sure you plan and organize what you would like to write about before writing. When you are finished, go back and check your work. Let me know when you are finished."		
Total:		
Comments:		

T=Teacher

Maintenance Probes

R=Researcher	Observed= 1	Not observed=0
R: "Before we get started, you will be answering writing prompt today."		
R: "Which prompt would you like to respond to?"		
(Researcher reads two prompts to each student or student group).		
R:"Great! Make sure you plan and organize what you would like to write about before writing. When you are finished, go back and check your work. Let me know when you are finished."		
Total:		
Comments:		

T=Teacher

APPENDIX G: VIDEO SELF-MODELING SCRIPT

VSM Script:

Teacher sits down with student and asks them about their day and establishes repoire. Teacher asks them about their knowledge and use of Ipads. Teacher tells student they are going to be making a video on the IPAD. Teacher shows student video example. Next, teacher models the first step of the strategy. Teacher discusses opinion essays. Teacher completes the steps in responding to the opinion writing prompt. Teacher and student answer the prompt based on student responses into the graphic organizer. Teacher models using the graphic organizer to write sentences. Next, each part of the following is produced by having the teacher model, then the student models. The video clips will then be created to make a seamless video. Student will scribe to teacher their essay with the teacher prompting and assisting the student using POW + TREE.

Creating VSM:

Put a check box to ensure these components are featured.

Student says			Observed	Not Observed	Comments
Stage 1 : Develops Background Knowledge					
Defines strategy (e.g., A writing strategy is a trick that good writers use when they write.) (Student shows graphic organizer)					
Stage 2: Discuss It					
Student discusses parts of mnemonic (E.g. P stands for—Pick my Idea, O stands for organize my notes , and W stands for write and say more.)					
Stage 2: Discuss It					
Student discusses when to use strategy (E.g., When I start writing, it's important to read the writing prompt and decide what kind of essay you are to write.)					

Student says			Observed	Not Observed	Comments
Student reads prompt Today I will be writing an opinion essay. Opinion essays want you to tell what you believe.					
Stage 3: Model it					
With self-instructions, self-statements- Student shows POW organizer which has been completed with assistance of teacher. (E.g., Next I will organize my writing. I will use TREE to organize my writing. First I will pick my topic. I picked ____ because I know a lot about this topic.)					
Stage 3: Model it					
Student shows TREE organizer which has been completed with assistance of teacher.					
(E.g., Here are my notes I made for TREE: My topic was ___, My reasons were____. My examples were_____. And last my ending was_____. You don't have to write sentences here)					
The next step is to write and say more. I will write and say more using TREE.					
Stage 3: Model It					
E.g., Student shows TREE organizer and notes					
Student shows POW organizer which has been completed with assistance of teacher.					
Student reads essay.					
Discusses components and rationale (E.g., First I will pick my topic. I picked ____ because I know a lot about this					

Student says			Observed	Not Observed	Comments
topic.) From here, I used the notes to help me write and say more. This is what my paragraph looked like.					
(Student shows paragraph)					
Here is the topic sentence. Here is my first reason and my first example. Here is my second reason and my second example; here is my third reason and my last example. Last, I wrapped it up. See how it goes with the topic sentences ?					
Stage 2: Discuss It					
Student discusses self-statements and self-regulation.					
It's important to go back and check you writing. If you get stuck, just remember to use your organizer to help you!					
Think about ideas on the topic! Picture it in your mind. Just remember, you can do it. My goal is to have 5 TREE parts. I will try my best !					
Total:					
IOA:					

APPENDIX H: ESSAY ELEMENTS RUBRIC

Essay Elements Scoring Sheet	Rater 1	Rater 2	Point by Point IOA
Belief/topic sentence: 1 point maximum: Student must write a belief and make reference to the topic.			
Reason: 1 point for each new supporting reason—no maximum limit • Reason must support position stated in belief. • A reason can be stated in its own sentence. • One sentence can include multiple reasons. • Do not count the same reason more than once. • Count items that fall under one category as one reason; but if the list contains items that could fall into different categories, then count the number of categories as reasons. • If a reason supports opposing position, give 1 point for counterargument (see below).			
Explanation: 1 point for each new explanation—no maximum limit • Explanation must clarify why or how the reason supports the student's argument • If the same explanation is used more than once, only count one time. • The explanation may be tagged at the end of the reason sentence. • The explanation may be its own sentence. • A student can give two explanations for one reason.			
Ending Statement: 1 point maximum • Ending statement clearly indicates that the response has ended and restates belief on the topic.			
Total			
Words Written:			IOA:

Comments: Adapted from Elizabeth Benedeck-Wood (Mason, Kubina, & Taft, 2009; Straub, 2012).

APPENDIX I: SRSD LESSONS

IOA: Directions:

Place an "X" under observed or not observed based on videos. It does not necessarily need to appear in order, just that they are observed.

Lesson 1

Lesson Overview: POW + TREE are introduced. First part of lesson is to develop the students' background knowledge of opinion essays and discuss strategies.

Objectives: Students will orally state what makes a good opinion essay. Students will be able to create an opinion essay with support of teacher for video-self model.

Procedure	**Observed**	**Not Observed**	**Comments**
Researcher (R) sets context for learning (introduces lesson)			
1. Develop background knowledge: Reviewed POW + TREE (e.g., what it stands for or when to use it)			
Discuss POW—Pick my Idea, Organize my Notes, Write and Say More.			
2. **Discuss It:** Describe and define opinion essays.			
Introduce TREE: Show graphic.			
Introduce organizer			
3. Make Video Self Model: **Model It:** Read prompt and model self-statements for getting ideas. R completes think aloud. (Refer to script)			
R elicits ideas from student. R puts ideas into graphic organizer.			
R models taking notes and creating sentences.			
TOTAL			
Total percentage			

Lesson 2

Lesson Overview: POW + TREE are reviewed. Students will look for parts of TREE in previously written essays. Next, they will graph the number of parts onto their goal sheets. Researcher will discuss the importance of including all parts and making the parts better.

Objectives: Students will write POW + TREE mnemonic and state what each represents. They will identify parts in an essay read in class and locate essay parts in a previously written essay. Daily student reviews VSM and answers writing prompt. Students will understand meaning of transfer.

Procedure	Observed	Not Observed	Comments
Researcher (R) sets context for learning (introduces lesson)			
Develop background knowledge: Reviewed POW + TREE (e.g., what it stands for or when to use it)			
Discuss It: Discuss strategy and how to use it. Discuss purpose and goals of strategy			
Assess student's knowledge on mnemonics. Review opinion and essay.			
Use cue cards to review strategy.			
Model It: Develop Strategy and Self-Regulation			
Find Essay Elements in two opinion essays.			
Model putting parts in essays into graphic organizer. Model making notes.			
Model It: Look at Current Behavior			
Have student find parts in own essay.			
3. Graph Current Level of Performance and Establish Goal			
Introduce graph. Discuss goals			
Memorize it			
Have student verbally state each letter of mnemonic and what it stands for. Can student write down "POW + TREE? **And what each letter stands for**" Yes or nO If yes, go to tomorrow's lesson If no, stop and review cue cards			
TOTAL			
Total percentage			

Lesson 3:

Lesson Overview: Researcher models the way to use POW + TREE for opinion essays. Researcher models use of self-statement during the process. The student writes personal self-statements. Researcher provides additional practice with essay for any student who needs practice locating essay parts. **Objectives:** Students will orally recite POW + TREE mnemonic and state what each letter represents. Students will participate with researcher modeling lesson and locating essay parts in previously written essay. Students will write self-statements for POW + TREE strategy.

Procedure	Observed	Not Observed	Comments
Researcher (R) sets context for learning (introduces lesson) Review POW + TREE. Work on memorization strategies			
Model It: Teacher models strategy and completes process.			
Completes think aloud on answering prompt. Thinking of ideas, using graphic organizer, and writing essay.			
Graph Current Level of Performance and Establish Goal			
Introduce graph. Discuss goals			
Develop Self-Statements			
Use self-statement sheets to think of things to say before, during, and after writing.			
Memorize It: Have student verbally state each letter of mnemonic and what it stands for. Can student write down "POW + TREE? **And what each letter stands for**" Yes or No If yes, go to tomorrow's lesson If no, stop and review cue cards			
TOTAL			
Total percentage			

Lesson 4

Lesson Overview: Student and researcher will collaboratively write an opinion essay using POW + TREE.

Objectives: Students will orally recite POW + TREE mnemonic and state what each letter represents. Students will collaboratively write an opinion essay with the researcher and orally identify parts of the essay that is written.

Procedure	Observed	Not Observed	Comments
Researcher (R) sets context for learning (introduces lesson) Review POW + TREE. Work on memorization strategies			
Support It: Collaborative Writing Teacher models strategy and completes process.			
Display POW + TREE mnemonic chart and transition words list. Each student will get blank graphic organizer and self-statements. Students will receive a practice prompt. Let student lead as much as possible.			
Memorize It: Review steps of POW + TREE			
Student completes organizer with researcher.			
Student finishes essay independently.			
Self-regulation: Graph Current Level of Performance and Establish Goal			
Discuss goals			
Wrap Up: Review POW + TREE. Discuss weaning off of the graphic organizer.			
TOTAL			
Total percentage			

Lesson 5:

Lesson Overview: Students will continue to practice POW + TREE strategies for writing opinion essay. The focus of this lesson is to wean students off of graphic organizer. **Student Objectives** Students will develop an organizer, or note taking procedure, for an opinion essay that includes at least five parts.

Procedures	**Observed**	**Not Observed**	**Comments**
Teacher sets context for learning (introduces lesson)			
Develop background knowledge: Reviewed POW + TREE (e.g., what it stands for or when to use it)			
Reviewed graphic organizer			
Collaborative Writing: **Support It**			
Discussed notes—weaning off of graphic organizer.			
Prompt was given.			
Independent Performance: Student independently completes essay (optional)			
Graphs goal			
Closing: Review TREE parts			
TOTAL			
Total percentage			

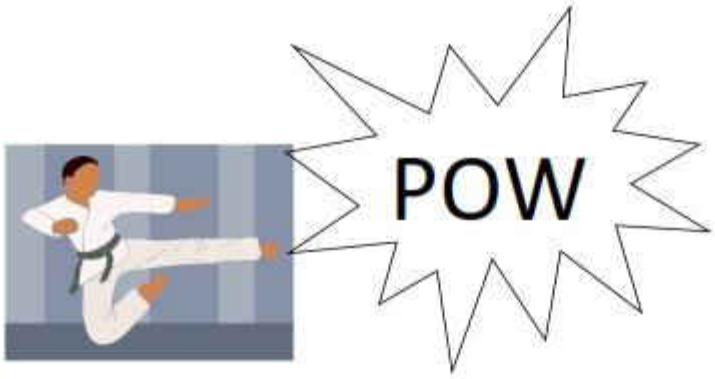
Repeat this lesson until student demonstrates criterion (essays written with at least five opinion essay parts).

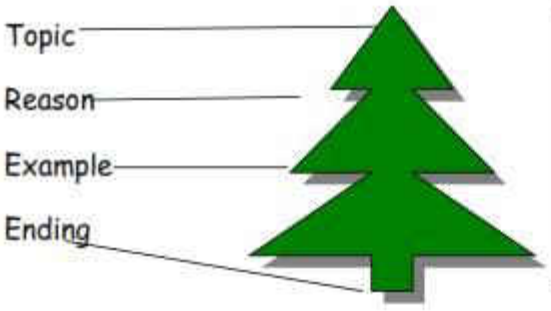
APPENDIX J: LESSON MATERIALS

Pick my Idea

Organize my notes

Write and say More





T= Topic: **Tell** what you believe!

R= Reason: **Why** do I believe this?

E= Example: Give an **example**

E=Ending: **Wrap it up** right!

T= Topic: **Tell** what you believe!

R= Reason: **Why** do I believe this?

E= Example: Give an **example**

E=Ending: **Wrap it up** right!

Topic Sentence: Tell What I believe	
Reasons	Examples
Ending: Wrap it up right!	

Adapted from Harris, Graham, Mason, & Friedlander (2008)

Adapted from Harris, Graham, Mason, & Friedlander, 2008

My Self Statements

Write down statements that you will say to yourself as you think about a topic, while you are writing, and to use when you check your work.

To think of good ideas:

While I work:

To check my work:

Setting Goals

5				
4				
3				
2				
1				

Graph 1 Check for each opinion element essay part:

T=Topic: What are you writing about?

R=Reason: Why do you support what you are writing about?

E=Example: Tell us more

E=Ending: Wrap it Up!

Adapted from Harris, Graham, Mason, & Friedlander, 2008

APPENDIX K: STUDENT QUESTIONNAIRE

Social Validity: Survey

1. I like writing.

Yes! Very much!	It's good	It's okay	Not really	No way!

2. The strategy helped me write better.

Yes! Very much!	It's good	It's okay	Not really	No way!

3. I enjoyed making the video for writing.

Yes! Very much!	It's good	It's okay	Not really	No way!

4. The video helped me memorize the strategy.

Yes! Very much!	It's good	It's okay	Not really	No way!

5. The strategy helped me write more words

Yes! Very much!	It's good	It's okay	Not really	No way!

6. The strategy helped me write for a longer time.

Yes! Very much!	It's good	It's okay	Not really	No way!

7. I use this strategy in my classroom.

Yes! Very much!	It's good	It's okay	Not really	No way!

8. I think the other kids should learn this strategy

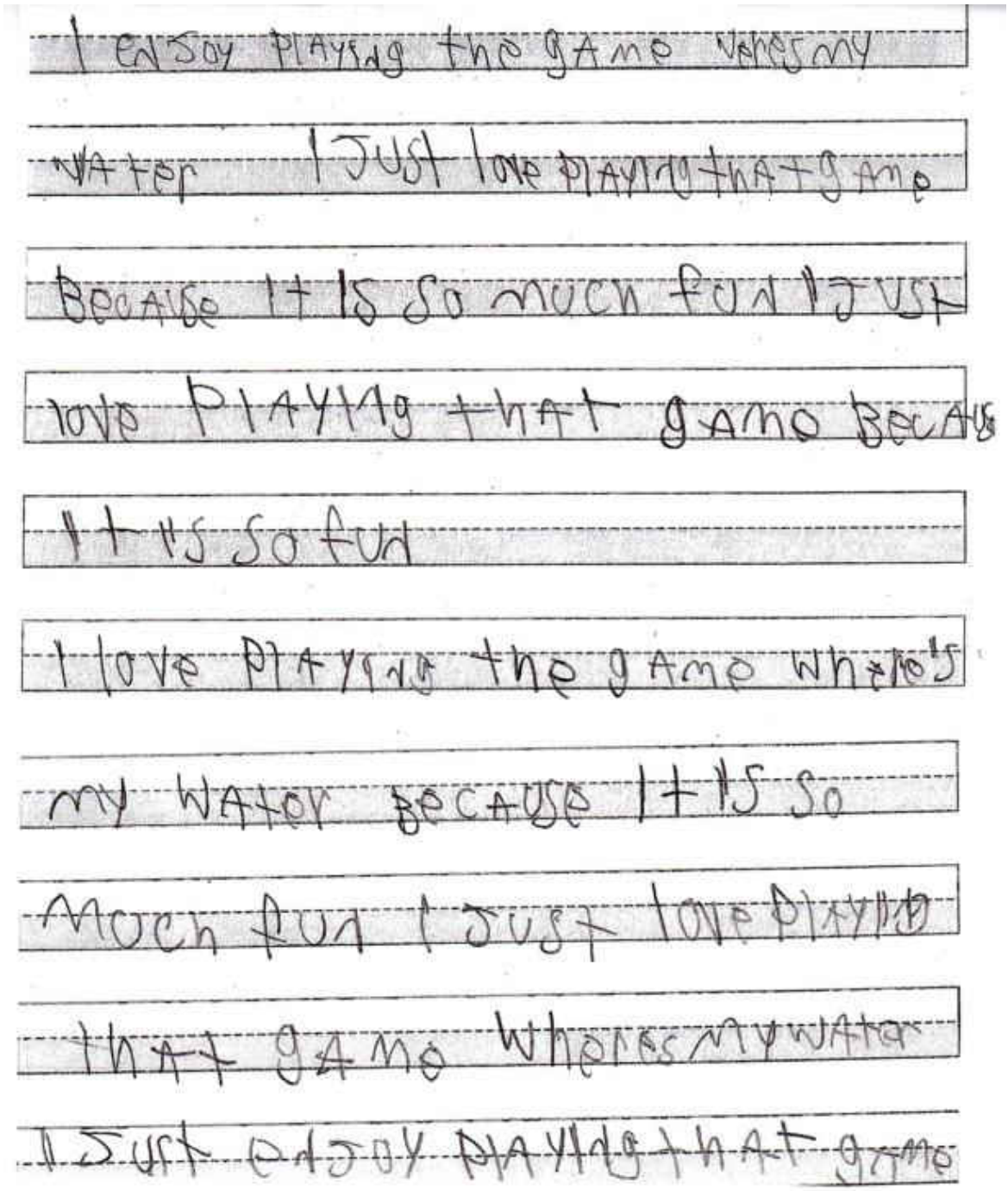
Yes! Very much!	It's good	It's okay	Not really	No way!

APPENDIX L: STUDENT WORK SAMPLE: BREE

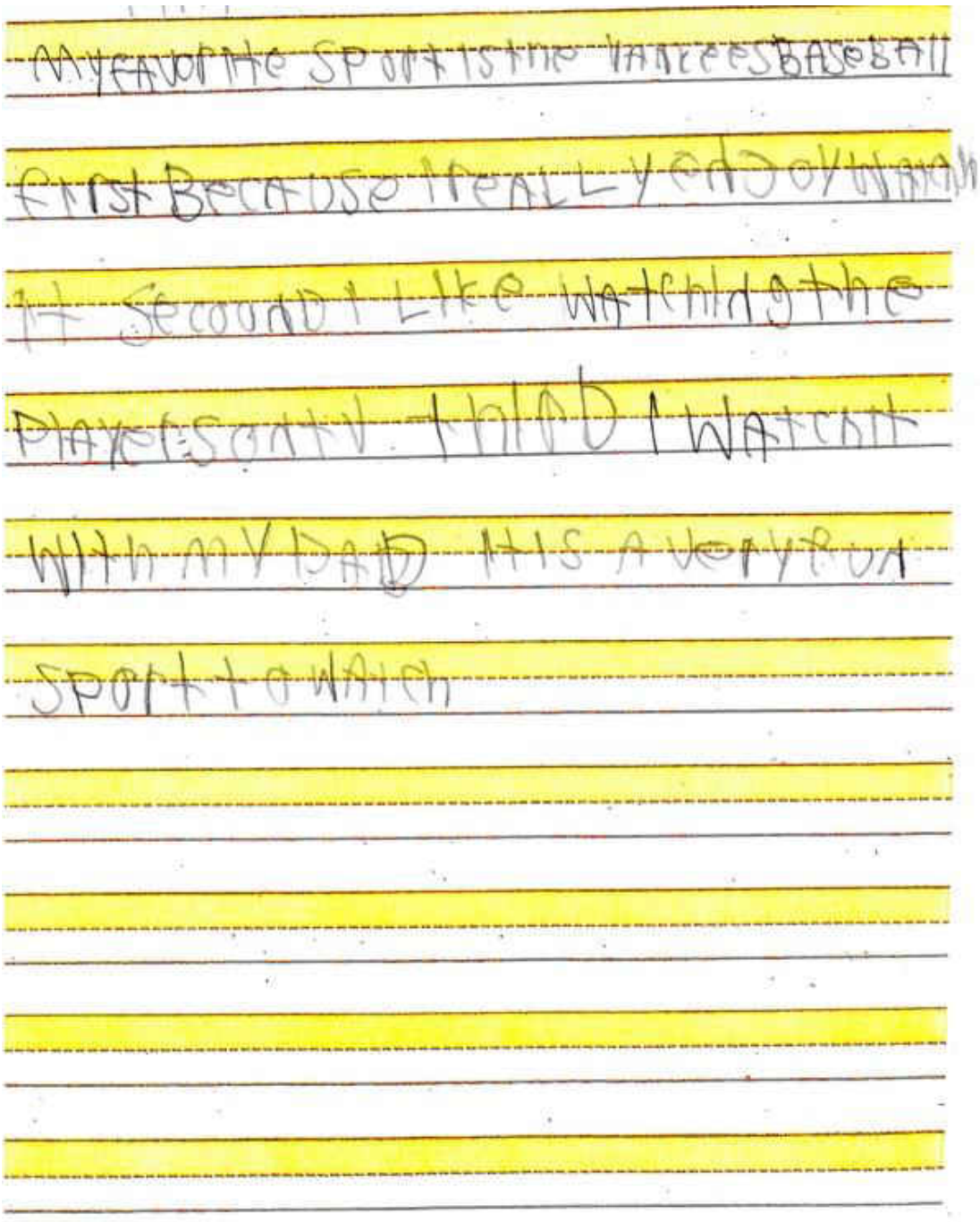
Bree: Prompts

Student	Bree
Baseline Prompt: Before	Everyone has a favorite game. Think about your favorite game. Now write to explain why that game is your favorite."
Independent Performance Prompt: After	Many people have a favorite sport or activity. Think about your favorite sport or activity. Now write to explain why this sport or activity is your favorite.

Bree: Before


I enjoy playing the game wheres my
water I just love playing that game
because it is so much fun I just
love playing that game because
it is so fun
I love playing the game wheres
my water because it is so
much fun I just love playing
that game wheres my water
I just enjoy playing that game

Bree: After


My favorite sport is the Yankees baseball
first because I really enjoy watching
it. Second I like watching the
players. Third I watch
with my dad. It is a very fun
sport to watch.

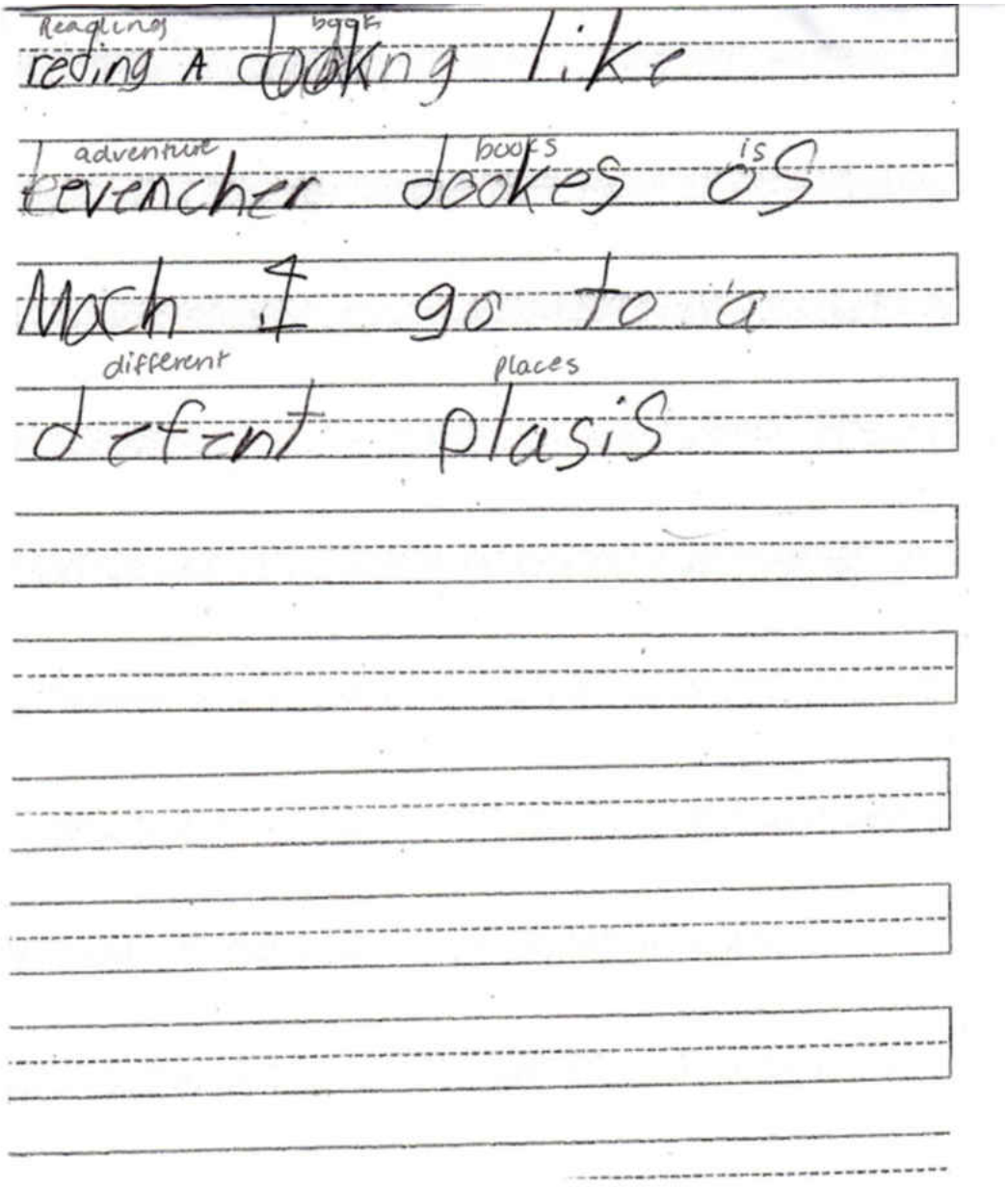
n

APPENDIX M: STUDENT WORK SAMPLE: ANDRE

Andre Prompts

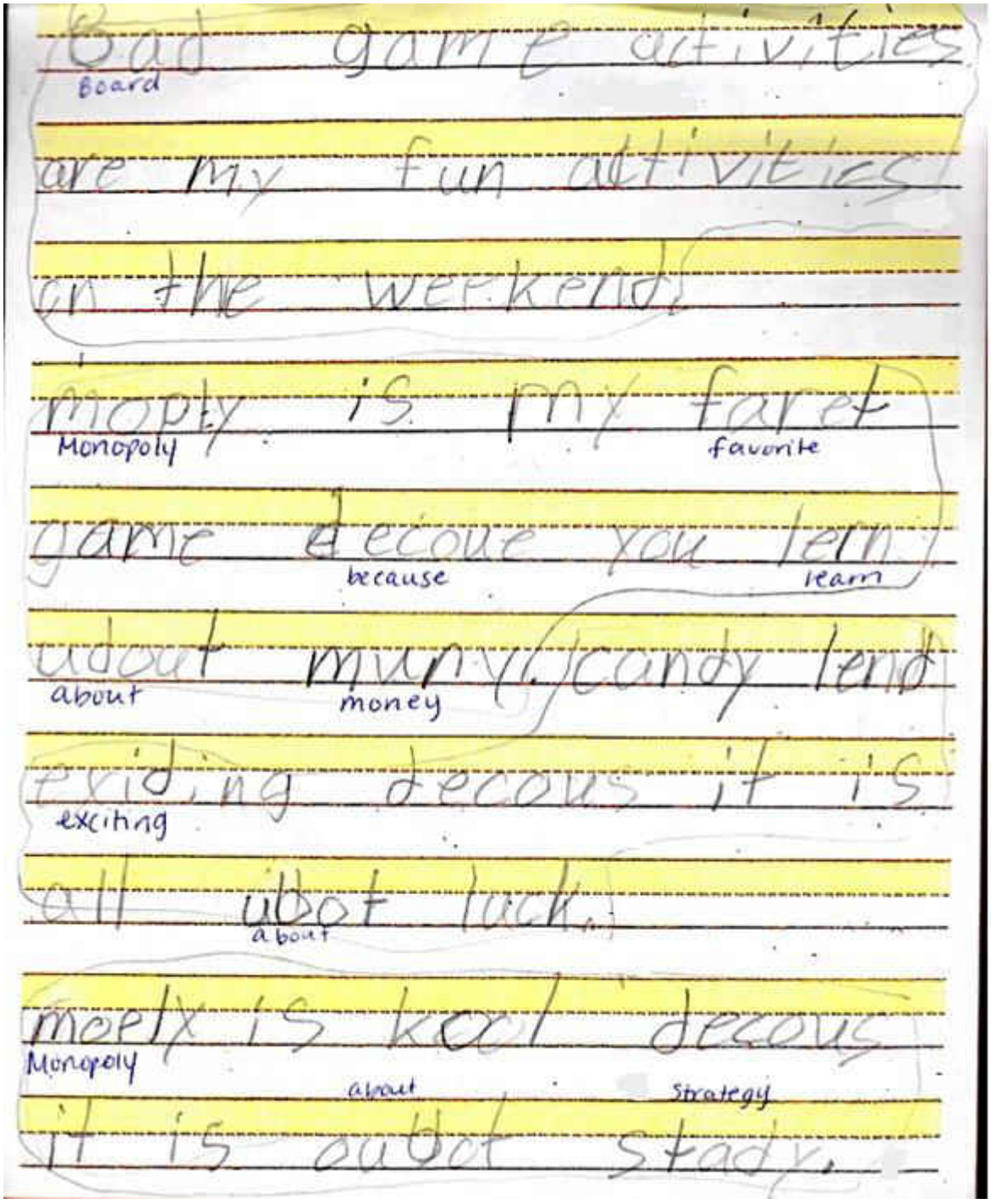
Student	Andre
Baseline Prompt: Before	Most people have a favorite book. Think about your favorite book. Think about your favorite book. Now write to explain why that book is your favorite.
Independent Performance Prompt: After	Everyone has a favorite game. Think about your favorite game. Now write to explain why that game is your favorite."

Andre: Before



I

Andre: After Intervention

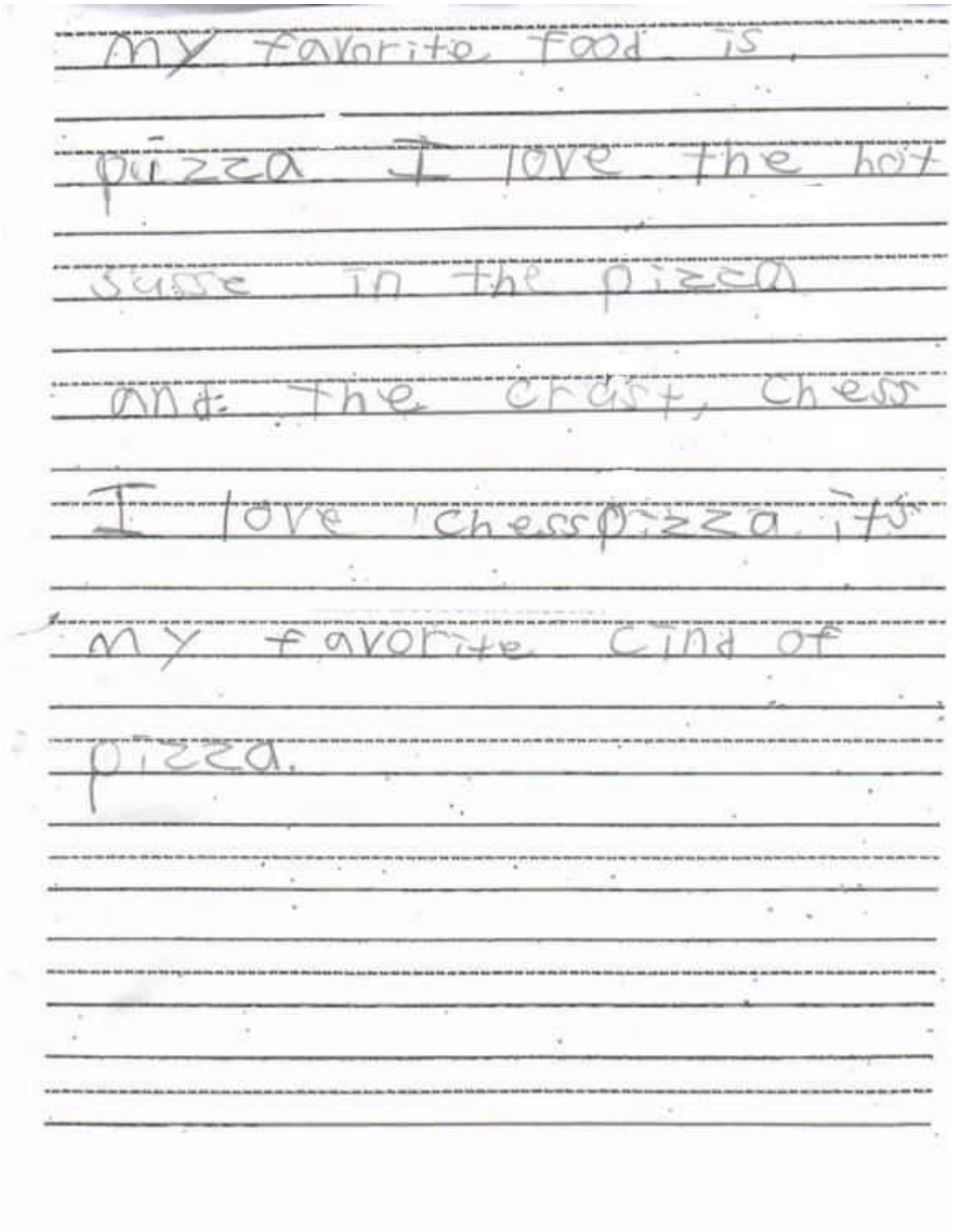


APPENDIX N: STUDENT WORK SAMPLE:MARIE

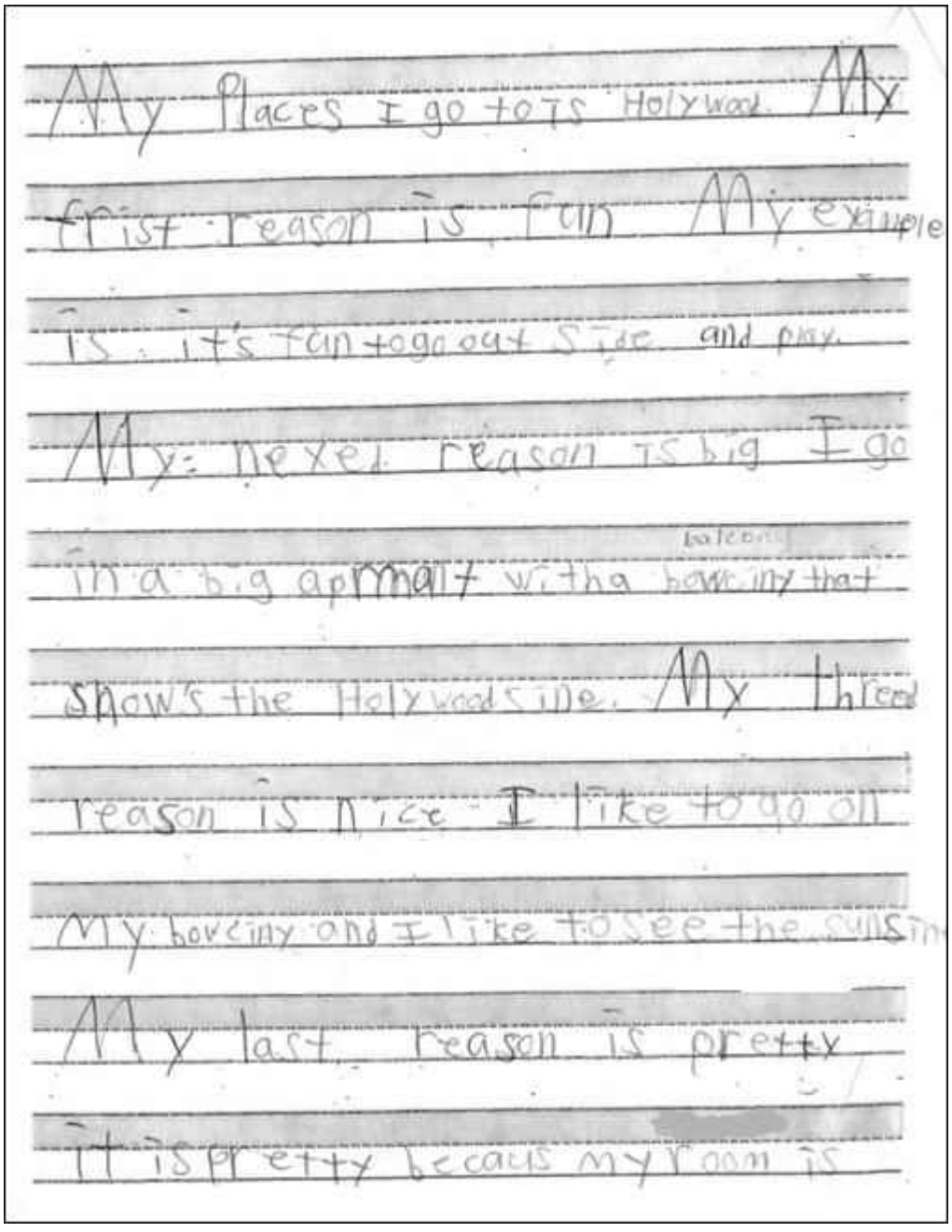
Marie Prompts

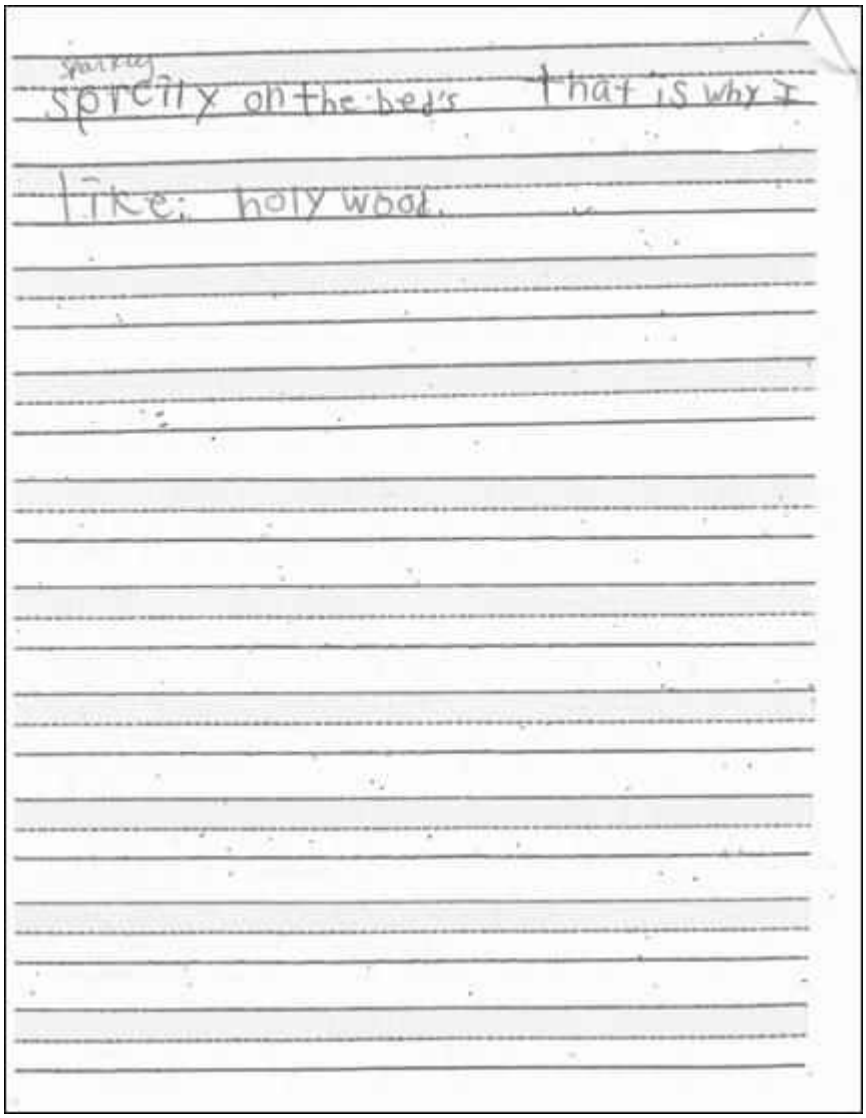
Student	Marie
Baseline Prompt: Before	Most people have a favorite book. Think about your favorite book. Think about your favorite book. Now write to explain why that book is your favorite.
Independent Performance Prompt: After	Everyone has a favorite game. Think about your favorite game. Now write to explain why that game is your favorite."

Marie: Before Intervention



Marie: After


My Places I go to TS Holywood. My
frist reason is fun My exiuple
is. it's fun to go out Side and play.
My: nexet reason is big I go
in a big apmalt with a horcinY that
shows the Holywood side. My thired
reason is nice I like to go on
My horcinY and I like to see the sunS
My last reason is pretty
It is pretty becaus my room is


sparkly
sprcity on the bed's That is why I
like: holy wood.

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