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The Impact of Using Self-Regulated Strategy Development to Increase Expository Writing Outcomes in Students At-Risk for Emotional and Behavioral Disorders

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The Impact of Using Self-Regulated Strategy Development to Increase Expository Writing Outcomes in Students At-Risk for Emotional and Behavioral Disorders

by

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Dissertation

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

The University of Texas at Austin

May 2018

Dedication

This dissertation is dedicated to my family, for their continued support –

my husband Chris,

my children Jenna, Katherine, and Dalton

my parents John and Beverly,

and my sister Melissa.

Thank you.

Acknowledgements

I would like to thank and acknowledge several people as I complete my dissertation. First, I would like to thank my advisor, Dr. Diane P. Bryant, for her tireless effort to teach me about education research and for providing me priceless experience as a member of her research teams. Her thoughtful encouragement and consistent feedback kept me moving forward through all phases of the doctoral program. Thank you to my committee members Drs. Marcia Barnes, Stephen Ciullo, Terry Falcomata, and Jessica Toste, who have enhanced my doctoral experience with their knowledge. I truly appreciate the time the members of my dissertation committee have given to help me conduct this research.

I would also like to thank my family, who has been my rock. Thank you to my husband, Chris. From the first time I said I was thinking about enrolling in a Ph.D. program, you supported me without reservation. I want to thank my mother, Beverly, a lifelong teacher and advocate for kids, and my father, John. The encouraging words I received from you both and belief you both have in me kept me going, even when times were stressful. And, finally, I want to thank my sister, Melissa. You stepped up to the plate time and time again to accommodate my hectic schedule and the demands of my program. Thank you, and I love you all.

Finally, I would like to thank all the students I taught during my years as a classroom teacher. You helped me realize that ALL students deserve educators fully committed to helping kids reach their fullest potential. In moving forward with my career, I will always remember the students I am trying to reach.

The Impact of Using Self-Regulated Strategy Development to Increase Expository Writing Outcomes in Students At-Risk for Emotional and Behavioral Disorders

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The University of Texas at Austin, 2018

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This single-subject study compared the effects of a typical practice baseline phase to those of a treatment phase. Four participants at-risk for emotional/behavioral disorders (EBD) in Grades 7 and 8 participated in the one school site study. Each participant was identified by the English language arts classroom teacher as a poor writer and scored below average on the story composition subtest of the Test of Written Language, Fourth Edition (TOWL-4) screening measure. Baseline consisted of participants writing an expository essay, without the support of the researcher. In treatment, participants received expository writing instruction using the self-regulated strategy development (SRSD) model for writing, along with the TIDE strategy. This multicomponent framework consisted of six instructional stages: (1) Developing Background Knowledge, (2) Discuss It, (3) Model It, (4) Memorize It, (5) Support It, and (6) Independent Practice. Self-regulation strategies were also interwoven into the six stages.

Based on visual analysis of data and effect sizes computed, it was determined SRSD instruction using the TIDE strategy was effective for improving essay element performance

of middle school students at-risk for EBD who have difficulty with writing; a large effect of intervention was detected for all participants. Additionally, SRSD instruction using the TIDE strategy was found to be effective for a majority of the participants for improving essay quality performance. A large effect of intervention was detected for three out of four participants and a moderate effect was detected for one participant. Finally, SRSD instruction using the TIDE strategy was found to be effective for half of the participants in terms of increasing the number of words written produced in a written composition. A large effect was detected for two out of four participants, while a moderate effect was detected for one participant and a small effect was detected for the remaining participant. All participants in this study improved their raw scores and national percentile ranks on the TOWL-4. A social validity questionnaire indicated that participants valued SRSD instruction using the TIDE strategy.

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Chapter 1: Introduction

MIDDLE SCHOOL STUDENTS WITH EBD: DIFFICULTIES IN WRITING

Statement of the Problem

Writing is a process through which people communicate thoughts and ideas and is used for learning and self-expression. As students begin the process of learning to write in the early grades (K-3), learners start with the acquisition of foundational skills (Graham et al., 2012). For example, "writing" activities could include interpretive drawing, invented spelling, or interactive writing. However, as students advance into middle school (6-8), the focus of writing shifts from "learning-to-write" to "writing-to-learn" (Rijlaarsdam et al., 2011). During the writing-to-learn process, students write to explore ideas, discover possibilities, and clarify thoughts (Rijlaarsdam et al., 2011). When writing in middle school classrooms, students are required to write to demonstrate knowledge; therefore, writing-to-learn tasks may include summarizing, inferring, and journaling.

Writing-to-learn is common in core subject area classes in middle school and can be a challenging endeavor for all students. However, when paired with the needs of students with emotional/ behavioral disorders (EBD), writing-to-learn can be even more difficult, especially in the absence of appropriate instructional strategies. Prevalent areas of difficulty include a lack of knowledge of the writing process, weak and unorganized planning behaviors, and deficient strategies for self-regulation (Taft & Mason, 2011). Also, students who have difficulties in the area of writing may have difficulty organizing ideas, setting personal writing goals, and self-monitoring written performance (Harris & Graham,

1996).

Because writing is such a critical component to being able to communicate effectively, people who do not have adequate writing skills, including students with EBD, may be at a disadvantage and may face limited opportunities for education and employment (Graham, et al., 2012). In fact, weaker writers' grades are likely to suffer in classes where writing is the primary means of assessing progress, and their chances of attending college is reduced as the majority of universities use writing to evaluate application qualifications (Graham & Perin, 2007).

Significance of the Problem

Three significant problems exist for students with EBD in middle school that experience difficulty with writing. First, there is still much to be learned about successful writing instructional practices and interventions for older students with EBD. In fact, Mastropieri et al. (2009) found that only 15.9% of all peer-reviewed special education research articles described an academic or behavioral intervention for students with EBD with writing interventions being the least researched.

Also, the prevalence and co-occurrence (over 80%) of an undetected speech or language impairment (LI) and students identified with EBD should be noted since the nature and extent to which students identified with LI experience limitations in the generation of written text is quite high (Hollo, Wehby, & Oliver, 2014). Challenges faced by students with LI at the word and sentence level can result in short text with poor sentence structure and little evidence of ideas and organization on writing tasks (Dockrell, Lindsay, Connelly, & Mackie, 2007). For students with EBD who are also identified with LI, similar

writing results and writing challenges should be expected by classroom teachers and education researchers.

Finally, a profound issue for middle school students with EBD who struggle in writing is they are placed at a considerable disadvantage compared to their nondisabled peers. More specifically, the National Assessment of Educational Progress Writing Assessment of 2011 found students with disabilities in eighth grade, on average, scored well below the Proficiency level on writing skills. These are troubling statistics, emphasizing the majority of students with EBD are unprepared to meet the academic writing challenges of older students.

The middle grades, therefore, provide a window of opportunity for educators to provide quality instruction and treatment for students with EBD who struggle with writing. Quality instruction for this group of students is vital because not only do writing demands increase in complexity in the middle school, but students are required to make adequate yearly progress on standardized assessments. Therefore, despite limited research to date on middle school students with EBD who struggle with writing, instructional practices tested in research studies should be considered.

GENRE-BASED WRITING AND MIDDLE SCHOOL STUDENTS

As students advance in schooling, the Common Core State Standards (CCSS; Common Core State Standards, 2010) emphasizes the importance of middle-grade students understanding the differences (e.g., text structure, organization, language) between writing genres. This emphasis is because as students get older their need to write for a variety of

purposes increases in core classes. For instance, students may be asked to write a personal narrative in their language arts class, while also researching and drafting an informational report for a science project.

The distinction between writing genres can be tough for students with writing difficulties, including students with EBD. First, students with writing difficulties have restricted knowledge about genre-specific text structure causing it to be difficult for them to know how information within a written text is organized specifically to each genre (Troia & Graham, 2003). Also, students with writing difficulties often do not change the tone and word choice in their writing to better convey their meaning and suit their intended audience (Graham et al., 2012). This lack of awareness can have an impact on how their audience interprets the text.

Narrative vs. Expository Writing Genres

Two major types of writing genres presented to students in middle school are narrative and expository. Although some features of narrative and expository essays overlap, these two groups of texts serve distinctive purposes. They also have different structural patterns (Meyer & Rice, 1984). Narrative, or "story" texts, depict events, actions, emotions, or situations that people experience (Graesser, Golding, & Long, 1991), while expository, or "informational" texts, convey and communicate factual information.

Expository writing plays a particularly significant role in middle school and can present a challenge for many students. First, this difficulty may be attributed to demands on writers' prior knowledge (Best, Floyd, & McNamara, 2008) as well lack of early exposure to expository texts (Duke, 2000). Additionally, expository text contains more

unfamiliar vocabulary, fewer ideas related to the present, and less information directly related to personal experience. Finally, the structure of expository texts can be quite challenging (Coté, Goldman, & Saul, 1998) as there is a larger number of structures used to describe the organization of expository texts. Therefore, in the next section, expository writing in middle school will be discussed.

EXPOSITORY WRITING

Expository text—text written for the purpose of informing other—is a life skill necessary for success in middle school. Taking notes, writing research papers, and completing reports are all ways in which middle school students will be expected to convey information in writing through an expository approach. Also, during grades 6 to 8, a much more in-depth analysis of expository writing is necessary than is required by younger students. Within these grades, students begin not only to identify the topic and several main ideas presented in an expository text but are also supposed to recognize the organizational framework of expository writing (Mariconda, 2001). Within this framework, students are expected to organize their writing around one topic and develop their topic as if the reader has no prior knowledge of what is being discussed.

Expository Text Structures

As authors of expository text write to communicate an idea, they will use the

appropriate structure that goes along with the idea (Meyers, 1985a). Table 1.1 demonstrates five expository structural patterns identified by Meyer and Freedle (1984). The descriptive text structure will be used in the study described in Chapter 3.

Expository Text Structures	Text Structure Descriptions
1. Description	The author describes a topic
2. Sequence	The author uses numerical order to list items
3. Cause/Effect	The author delineates one or more causes and describes the ensuring effects
4. Problem/Solution	The author poses a problem or question and answers it
5. Compare/Contrast	The author compares and contrasts two or more similar events, topics, or objects

Table 1.1: Expository Text Structures

While students can often retain a basic understanding of the story structures underlying narrative text, they have even less practice recognizing and generating expository text structures. This difficulty with expository writing is particularly the case of students with learning problems who lack understanding of textual organization (Coté, Goldman, & Saul, 1998). For these students, the writing process appears muddled and driven by a knowledge-telling process in which they attempt to tell all they know about the topic in whatever order their ideas come to mind first (Bereiter & Scardamalia, 1983). The knowledge-telling strategy commonly exemplifies writers who have a hard time planning

their writing around a goal and who have difficulty relating an idea back to the major premise" (Scardamalia & Bereiter, 1984). Additionally, an understanding of expository text structures requires the writer to demonstrate a knowledge of linking words (e.g., "consequently," "therefore," and "for example") so the writer can successfully tie the relationship between the current idea and preceding ideas (Meyer, Brandt, & Bluth, 1980).

Descriptive Text Structures

The description text structure, also called the main idea text structure, informs the reader of how something looks, moves, or possibly works. Also, it may inform the reader of a definition or characteristic. The descriptive text structure is a good place to start when supporting students with expository writing difficulties because students often have the necessary background knowledge needed to discuss prompt topics asked of descriptive texts. Additionally, even though the text structure may be new to students, the concept of main idea is fairly universal. Necessary characteristics included in the descriptive text structure are an introduction stating the topic to be described, three main idea paragraphs including supporting evidence, and a concluding paragraph providing the reader with an overview of the main topic discussed.

INSTRUCTIONAL PRACTICES THAT FACILITATE WRITING

Given the various complexities found in writing, and the demand placed on students to be successful in genre-specific writing (such as expository writing), instructional approaches that support students in the writing process are essential. In the next section, specific instructional practices that can be used to help students better write expository text will be introduced.

Strategy-Based Instruction

Strategy-based instruction is a learner-centered approach to teaching that has two major components: (1) students are specifically taught how, when, and why strategies can be used to facilitate learning and learning tasks, and (2) strategies are integrated (either explicitly or implicitly) into everyday learning tasks (Dean, 2010). When using strategy-based instruction in writing, for instance, the teacher will describe, model, and give examples of a potentially useful strategy, lead discussion with the class about the strategy (e.g., the rationale behind the strategy use, planning an approach for using the strategy, evaluating the effectiveness of the strategy), and let students practice (both independently and as a group) using the strategy.

Many benefits result from using strategy-based instruction in teaching writing. First, strategy-based instruction can increase student knowledge about the characteristics of good writing (Dean, 2010). Next, strategy-based instruction can help students form positive attitudes about writing and writing capabilities (Graham, Harris & Troia, 2000). Also, strategy instruction prepares writers to write in all situations and in multiple genres (Dean, 2010). Furthermore, for students with EBD, who often lack the desire or motivation to try to succeed in academic tasks, strategy-based instruction allows this population of students to use and adapt strategies to their individual needs and purposes. Finally, strategy-based instruction can help students accomplish their writing goals more effectively.

Cognitive Strategy Instruction

Cognitive strategy instruction is an approach to teaching that emphasizes the development of thinking skills and processes as means to enhance learning. A related term is metacognition, the self-reflection necessary for students to learn effectively (Baker, Gersten, & Scanlon, 2002). Cognitive strategies often support students by providing a structure for learning when a task seems too difficult (Rosenshine & Meister, 1997) as the objective of cognitive strategy instruction is to enable students to become more strategic, self-reliant, and productive in their learning endeavors. When using a cognitive strategies instructional approach in the classroom, the teacher plays an important role by bridging the gap between student and content to be learned. Therefore, the teacher must have a solid understanding of the task to be completed by the student and knowledge of an approach to the task that can easily be communicated to the learner. In writing, tasks can include remembering and applying information to written work, constructing sentences and paragraphs, editing, and paraphrasing information.

Self-Regulation

A self-regulated approach to learning is where the students themselves are responsible for providing academic instruction. There are five common types of self-regulation approaches, including self-monitoring, self-evaluation, self-instruction, goal setting, and strategy instruction (Ryan, Pierce, & Mooney; 2008). While implementing a self-regulated approach to learning, teachers are initially responsible for teaching students how to carry out the instruction and ensuring that students can, in fact, complete the tasks. Eventually, the responsibility for carrying out the task transfers to the student. Mooney and

colleagues' (2005) review of self-regulated interventions found large effect size gains in writing (1.13) for older students with EBD. Therefore, one can expect middle school students with EBD to monitor their writing performance as well set goals for writing improvement.

Because many students with EBD do not manage their academic behavior, self-management techniques (e.g., self- monitoring, self-evaluation, self-instruction, goal-setting, and strategy instruction) need to be taught (Mooney et al., 2005). Self-regulated learning (SRL) is a self-management technique used with students with EBD and is defined in the literature as a cyclical process wherein the student plans for a task, monitors their performance, and then reflects on the outcome (Zimmerman, 2002). Figure 1.1 illustrates key components of the self-regulated learning cycle.

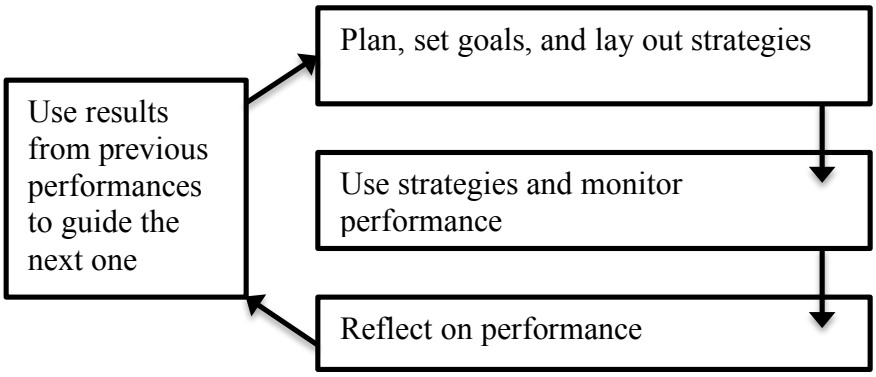


Figure 1.1: The Self-Regulated Learning Cycle

The first step of the cycle (plan, set goals, and lay out strategies) encourages students to establish a plan for learning before they start working on an academic task. During this phase, students analyze the learning task, sets goals, plans strategies, and sets outcome expectations. During the second phase, use strategies and monitor performance,

students carry out the plan that was outlined in the first phase. Ideally, students can proceed to this phase with confidence because they have already established a detailed plan of action. During this phase, students use self-observation to reflect on their actions taken and the effectiveness of the results. Also, they make a plan for what to do if/when obstacles arise and monitor their progress on meeting their immediate goals. In the last phase of SLR, students use self-reflection to understand why they earned a certain grade and how to improve their performance. All components of SRL are performed by the student; however, instructors play a vital role in guiding and coaching students through each step.

THE SELF-REGULATED STRATEGY DEVELOPMENT MODEL

The Self-Regulated Strategy Development (SRSD) model is an evidence-based model designed to improve the writing performance of struggling writers (Graham, Harris, & Mason, 2005).

Stages of SRSD

During SRSD instruction, students learn specific strategies for planning, drafting, and revising the text. Explicit and strategy-based instruction is fundamental to this approach. SRSD instruction occurs across the following six instructional stages: (a) develop background knowledge, (b) discuss it, (c) model it, (d) memorize it, (e) support it, and (f) independent performance. Within these six stages, students are also taught self-regulation skills including self-monitoring, goal setting, self-instruction, and self-reinforcement. These skills help students manage the writing process and student behavior during instruction.

The first stage, *Develop Background Knowledge*, involves the teacher and student(s) developing any background knowledge that relates to the targeted genre of writing. This stage involves reading works from the genre, developing relevant vocabulary, and improving on knowledge about goal setting and self-monitoring while writing. The second stage, *Discuss It*, involves considering the relevance and benefit of writing as it relates to the targeted genre. Here, the teacher emphasizes the importance of learning, using, and memorizing writing strategies. During the third stage, *Model It*, the teacher models the use of the strategy, so students explicitly see the steps before using the strategy independently. Stage four, *Memorize It*, involves remembering the particular writing strategy mnemonics that will guide a student through the writing process as well as the meaning and importance of each step of the writing process. During stage five, *Support It*, teachers encourage student use of the strategies by monitoring student writing. Teachers and students also plan and execute opportunities to generalize the strategy to other settings and maintain its use over time. In the last stage, *Independent Performance*, students use the strategy independently without teacher prompting.

TIDE Strategy

The TIDE strategy (Topic sentence, Important evidence, Details to support evidence, and Ending) is a mnemonic device to organize students thinking around expository essays and can be used within the SRSD model. First introduced during the 'Discuss It' stage of instruction, each TIDE part and purpose is described and TIDE elements are highlighted in a model text. Additionally, TIDE parts discovered in model essays are placed into a TIDE graphic organizer (see Figure 1.2). Throughout SRSD

instruction, students are encouraged to memorize the TIDE parts and be able to identify TIDE parts in an essay independently. Eventually, during the 'Support It' stage of SRSD instruction, teachers encourage students to use TIDE to develop their own writing.

T	1. Polar Bears	
ID	1. Color change 2. Coat covers skin 3. Large paws	Color ranges from yellow to white Thick covering of long, stiff guard hairs Supports polar bear's weight across ice
E	Three types of support to help polar bears survive in cold climates	

Figure 1.2: TIDE Graphic Organizer

Theoretical Underpinning of SRSD

Four theoretical underpinnings provide the foundation for the Self-Regulated Strategy Development (SRSD) model. First, the SRSD model was founded on the cognitive-behavioral intervention model (Meichenbaum, 1977), which emphasizes the role of dialogue and discussion in instruction and is sensitive to the interconnections between thoughts, feelings, behavior, and resultant consequences. Largely, through psychoeducation, the cognitive-behavioral model allows students to develop skills to manage how their thoughts, feelings, and behaviors influence one another (Meichenbaum, 1977). By developing self-awareness and monitoring themselves, the SRSD model hopes students can shift their beliefs about themselves and their writing abilities.

Second, the works of Soviet theorists and researchers (including Vygotsky, Luria, and Sokolov) made an impact in the development of the SRSD model with their work on the social origins of self-control and the development of the mind. Vygotsky (and others) believed that through interactions with adults, children make the transition from behaviors

regulated by others to behaviors regulated by themselves, or self-regulated learning (Camperell, 1981). This idea that a child's actions are directed by the speech of others and gradually internalized and used for self-regulation purposes was very influential in contributing to the self-regulation and modeling components within the SRSD model (Santangelo, Harris, & Graham, 2008).

Third, research by Deshler and colleagues (1981) influenced the SRSD model with their confirmation of strategies for adolescents with learning disabilities. Findings from Deshler and Schumaker (1981) showed that students with severe learning disabilities need very stringent and systematic instructional procedures to acquire and apply learning strategies. Within the SRSD, a learning strategies approach is taken where students are taught a specific strategy in isolation before being asked to apply it themselves.

Lastly, the works of Brown, Campione, and Day (1981) on the development of self-control, metacognition, and strategies instruction was also foundational in the development of the SRSD model, where the students are not only asked to use procedures, tricks, and routines for making learning a more efficient activity but are also asked to discuss their own thought process along the way.

WRITING ASSESSMENT

Assessment not only informs instruction but also identifies what adjustment need to be made by the classroom teacher so that student progress can be made. Two effective strategies for measuring writing are standardized measures and curriculum-based measures.

Standardized Measurement

Special education has tended to rely extensively on standardized, norm referenced instruments as tools for identifying and evaluating the growth of students (Jenkins & Pany, 1978). For instance, when achievement tests run counter to teachers' perceptions of children's progress, the achievement score is usually accepted as the more valid assessment (Jenkins & Pany, 1978). Also, achievement tests seem to be representative of tasks children perform in school, which has played a role in their wide acceptance as well (Jenkins & Pany, 1978). As a result of standardized assessments being so widely used by special educators, they have become a common tool for assessing academic achievement in students with EBD.

Curriculum-Based Measurement

Deno (1985) introduced the concept of ongoing progress monitoring in core academic skills, known as curriculum-based measurement (CBM). There are many characteristics of CBMs that make them desirable for assessing student skill levels and monitoring student progress. CBMs are directly tied to the curricula of interest; they are of short duration, making frequent administration possible; they are inexpensive to produce; and they are sensitive to small improvements in student achievement (Jenkins, Deno, & Mirkin, 1979). In special education, CBMs can assess assessment criteria effectively for students with EBD because (a) CBMs are a non-biased, reliable, and valid assessment tool; (b) a CBM is a good indicator of basic skills; (c) CBMs are useful in making educational decisions and improving student outcomes; and (d) a CBM can be used to monitor behavioral interventions (Plasencia-Peinado & Alvarado, 2000).

PURPOSE OF THIS RESEARCH STUDY

While the self-regulated strategy development model has been studied extensively for students with EBD who struggle with writing, far fewer studies exist for expository writing outcomes (Ennis & Jolivette, 2014). To address this gap, this dissertation study investigates the effectiveness of applying the SRSD model with an expository writing strategy (TIDE) for middle school students at-risk for EBD.

The following research questions guided the dissertation study:

1. What are the effects of SRSD writing instruction using the TIDE strategy on proximal writing outcomes (i.e., essay quality, essay elements, number of words written) for an expository composition written by participants at-risk for EBD who have writing difficulties?
2. What are the effects of SRSD writing instruction using the TIDE strategy on distal writing outcomes (i.e., TOWL-4, story composition subtest) for participants at-risk for EBD who have writing difficulties?
3. What are the perspectives of the participants towards the self-regulated strategy development model when learning to write expository text?

Chapter 2: Review of Related Literature

Despite the learning needs in writing for students with EBD as described in Chapter 1, expository writing is essential for student success in core classes in middle school and is included in accountability reform efforts and graduation requirements for all students. As the emphasis in writing instruction in middle school shift from learning-to-write to writing-to-learn, students are asked to write expository text to demonstrate knowledge mastery. Expository writing expectations may include a compare/contrast essay in language arts class or research papers in science and social studies, to name a few. Although expository writing is certainly not the only genre being asked of students in content-area classes, expository writing is heavily emphasized in middle school because students are spending more time reading "textbook-based curriculum" in core classes. Many students with EBD experience profound difficulty with genre-specific writing, including expository writing, which can make success in core class challenging (Best, Floyd, & McNamara, 2008; Coté, Goldman, & Saul, 1998; Duke, 2000). This section describes contemporary genre-specific writing research, including expository writing research, for students with EBD in middle school (Grade 6 to 8). The extent to which writing interventions involving the self-regulated strategy development (SRSD) model can improve genre-specific writing is also discussed.

CHARACTERISTICS OF STUDENTS WITH EBD

As dictated by federal law, the Individuals with Disabilities Education Act (IDEA, 1990), students qualify for special education services under the "Emotional/Behavioral

Disturbance" (EBD) category if they demonstrate emotional or behavioral problems that negatively affect the student's ability to learn and achieve in school. The relationship between academic performance and problem behavior has been explored through research studies including students with EBD and shows this population demonstrates lower academic outcomes and graduation rates, higher absenteeism, and higher levels of unemployment and criminality when compared to typically developing students (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). Also, students with EBD are associated with (although, often undetected) language deficits (Benner, Nelson, & Epstein, 2002; Hollo, Wehby, & Oliver, 2014). For this population, an undetected language impairment can have serious consequences such as misperceived low intelligence, inattention, noncompliance, or defiance (Benner, Nelson, & Epstein, 2002; Hollo, Wehby, & Oliver, 2014). Finally, studies on academic performance and students with EBD have indicated that this population consistently perform 1 to 2 years below grade level in core academic classes such as reading, writing and mathematics (Trout, Nordness, Pierce, & Epstein, 2003).

A review of 65 studies on the academic achievement of students with EBD reported that 91% of the studies included found students with EBD to be "academically deficient," performing below grade level or years behind their nondisabled peers (Trout et al., 2003). More specifically, 89% of the reports on reading, 92% of the reports on mathematics, and 100% of the reports on written expression indicate that this population of students have academic deficits. Similarly, a meta-analysis by Reid and colleagues (2004) indicates that students with EBD have moderate to significant deficits in academics (ES = -0.64), with this population performing poorly across all academic areas. These results were true for

both older (12 years and older) and younger (less than 12 years) students, indicating that these academic deficits were not remediated over time.

Despite a long history of research demonstrating that students with EBD perform poorly in academics, researchers have been interested in building knowledge to understand better ways of improving the academic functioning of students with EBD. For instance, a descriptive review by Mooney, Epstein, Reid, and Nelson (2003) was conducted to examine interventions intended to improve the academic functioning of students with EBD. Fifty-five studies were included in the descriptive analysis, which spanned the years from 1975 to 2002. Analysis of the characteristics of these intervention studies revealed several significant limitations in the literature on academic interventions for students with EBD (Mooney et al., 2003). First, the number of participants with EBD in intervention research has been steadily declining since the early 1980s. In fact, only 358 participants with EBD were identified over the 28-year period included in this review. Additionally, the primary academic focus was on reading or mathematics, with very little research conducted in other subject areas such as writing.

Summary

The small number of students with EBD included in academic intervention studies, coupled with very a narrow academic focus makes it difficult to determine with confidence which instructional practices are effective for this population of students. A great need exists to study academic interventions for students with EBD, as evidenced by the levels of academic performance across content areas. It is clear that writing is a particularly critical area of need. Since writing is of particular interest to the current study, this area of

research is reviewed below.

THE WRITING PROCESS

The works of Hayes and Flower (1980) identify some important features of the writing process that have been noted through research. Their work centers around the idea that writing is goal oriented and to accomplish a stated writing goal writers employ three major writing processes—planning, sentence generating, and revising (Hayes & Flower, 1980). In planning, the writer generates ideas and organizes them into a writing plan. In sentence generating, the writer produces formal sentences intended to be part of a draft. In revising, the writer attempts to improve a draft. Typically, these processes are heavily interwoven (Hayes & Flower, 1980). The interweaving that occurs during the writing process has two causes: First, the writing task may be performed in parts, so that the writer plans, generates, and revises the first paragraph, then plans, generates, and revises the second paragraph, and so on. Second, the writing process may be applied recursively (Hayes & Flower, 1980). For example, while revising, the writer may discover the need for a transitional paragraph. To write the paragraph, the writer invokes the whole writing process, that is planning, generating, and revising, which is nested within the writing process.

Additionally, Hayes and Flower (1980) note the importance of strategic knowledge. Awareness of strategic knowledge is especially critical for writers as writing grows harder because less work can be done through the use of known formats. Therefore, an increase in known formats and problem-solving strategies is necessary for a writer to be successful. Strategic knowledge, according to Hayes and Flower (1980), is defined using a

combination of three things: a) knowing how to define a writing task for oneself with appropriately demanding writing goals; b) having a large body of high-level procedural knowledge on which to draw; and c) being able to monitor and direct one's writing process.

Young writers may face many challenges when engaging in the writing process of planning, sentence generating, and revising, especially as they advance in school and the awareness of strategic knowledge increases. The challenges faced by many writers can be especially difficult for specific groups of students who find learning difficult, including students with emotional/behavioral disorders (EBD). Prevalent areas of writing difficulty for students with EBD include a lack of knowledge of the writing process and deficient strategies for self-regulation. Additionally, students with EBD who have difficulties in the area of writing may have difficulty setting writing goals, self-monitoring, and revising written work (Harris & Graham, 1996).

Summary

Writing is a complex task that requires a student to engage in many aspects of the writing process, such as planning, sentence generating, and revising. Students with disabilities, however, can encounter even greater difficulties when engaged in the writing process that can adversely impact their performance on writing tasks required in school settings. Examples of difficulty include minimizing the use of strategic behaviors, a lack of knowledge of the writing process, and difficulty setting personal writing goals.

GENRE SPECIFIC WRITING

In the 1980s, a genre-based approach to writing was developed by Australian theorist, Michael Halliday. Taken from child language studies accepted within the

systematic functional model, the genre-based framework for writing shows how students learn language and, in particular, how they learn to develop texts (Halliday, 1975). The genre-based approach to writing became popular along with the notion that students could benefit from studying different types of written texts. It has been said that the most significant contribution of the genre-based approach to writing is the development of a linguistic description of the major genres that children are expected to learn as they learn to write (Hammond, 1987). One genre of writing emphasized to students in the older grades is expository writing.

Expository Writing

Class assignments in various course-related subject areas increasingly require students in middle school to compose materials of an expository nature (Hebert, Bohaty, Nelson, & Brown, 2016). Success with this style of writing, especially when compared to a narrative style of writing, can prove to be a challenge for students. Hidi and Hildyard (1983) examined fifth and seventh-grade students differing cognitive behaviors as they wrote narratives and opinion essays, with results indicating that students' discourse production is genre-specific. The children's schema for arguments was less well developed than their schema for narratives, and their semantic and structural presentation in narration seemed to develop more steadily than their essay writing counterparts. Although sparse, research supports the notion that strategies writers employ differs with genre. Therefore, substantial experience with a genre is necessary for knowledge of that genre to develop (Duke, 2000).

Also, expository writing requires knowledge of the text structures of expository

text, which is particularly challenging for students with writing difficulties. Thomas, Englert, and Gregg (1987) examined types of errors committed by students with learning disabilities and students without learning disabilities when they attempt to compose four different types of text structures for expository writing (problem/solution, compare/contrast, cause/effect, sequence, and description). Results suggest that students with learning disabilities had significant difficulty sustaining their expository efforts, with errors suggesting a reliance on the knowledge-telling strategy as a basis for expository discourse production.

Expository Text Structures

A larger number of structures are used to describe the organization of expository essays compared to narrative text (see Meyer, 1985a), therefore, understanding the distinction between the various expository text structures is important (Hebert, Bohaty, Nelson, & Brown, 2016). Englert and Hiebert (1984) examined third and sixth-grade students' awareness of descriptive, comparison/contrast, and two types of collection (enumeration and sequence) structures. Students were given either one or two topic sentences that signaled one of the text structures. Following the topic sentence were three sentences that students were to rate as how well they "belonged" with the original topic sentence. One of the sentences was compatible with the structure, whereas two sentences were not. Students were 87% and 85% correct in rating the target sentence as belonging with the sequence and enumeration structures, relatively. They performed significantly less well (81% and 79%) when rating the description and comparison/ contrast targets, providing some evidence that students may be less aware of these structures. Two results

from this study are noteworthy. First, by sixth grade, typically developing students seem not only to display structure awareness but also to differ in their levels of awareness of different structures. Second, awareness of text structure seems to be a complex phenomenon.

Summary

As students advance into middle school, writing becomes more genre-specific. One style of writing stressed in core content classrooms during these years is expository writing. Although success with expository writing is critical to meet the demands of classroom teachers, students often have difficulty writing expository essays. Two reasons for this difficulty may be (1) student's schema for expository writing is less developed and (2) students possess a weak knowledge-base of the expository text structures.

Instructional Practices that Facilitate Writing

Knowing the difficulty students can experience with writing, it is important for educators to be able to identify difficulties, implement interventions, and monitor student progress. Although writing research has been slow to progress, findings from reviews and meta-analyses of writing research for students with disabilities have been relatively consistent (e.g., Graham, 2006; Mason & Graham, 2008). In the next section, specific instructional practices supported by the literature are discussed.

Strategy-Based Instruction

Strategy-based instruction focuses on improving students' writing by teaching the processes involved in writing, and scaffolding student learning along the way. The progression of strategy-based instruction moves from teacher modeling, to guided practice,

and then independent practice. The strategy-based instructional approach has been well supported in literature. First, in a meta-analysis on writing instruction for adolescents, Graham (2006) found the overall effect size for strategy-based instruction to be in the very high range (ES = 1.15). Results were high across measures of quality, text structure elements, length, and revision. The findings held for (a) type of student—whether LD, at risk, average achieving, or high achieving; (b) across grades 1 through 12; (c) genres (e.g., persuasive writing, story writing); and (d) strategy taught. Of the types of strategy-based instruction analyzed, SRSD had higher effect sizes in group experimental studies than did other approaches. Also, Mason and Graham (2008) conducted a meta-analysis of writing research for students with LD in grades 4 through 12, including both group and single-subject studies in the analysis. Results of group studies are reported as effect sizes (ES), while the results of single-subject studies are reported as PND. Again, the studies that focused on strategy-based instruction outperformed other writing interventions. Strategy-based instruction had effect sizes in the effective range (PND = 83% to 100%, ES = 1.69), as did cognitive strategy instruction for writing (ES = 0.93), interactive dialogues (ES = 2.51), and self-regulated strategy development (PND = 92% to 100%, ES = 0.72 to 1.32).

Cognitive Strategy Instruction

Strategy development has received much attention by cognitive psychologists to detail how effective cognitive strategies can be developed to increase student performance on important academic tasks. Two major lines of research are especially notable, however, as having had broad impact in the area of writing.

First, Englert and colleagues published two influential studies using Cognitive Strategies Instruction in Writing (CSIW) with elementary students identified with learning disabilities (Englert, Raphael, & Anderson, 1992; Englert et al., 1991). "Think sheets" were used to prompt students to carry out specific activities during writing processes, including planning, organizing information, writing, editing, and revising. Some features common to strategies instruction models were also used to aid students in coming to own and internalize the strategies represented on the think sheets, including teacher modeling, self-instructions, gradually faded support, and helping students understand what they are learning, why it is important, and when it can be used. In the Englert studies, students with and without learning disabilities improved their knowledge of the writing process and their writing abilities. Most impressive, students with learning disabilities performed similarly to typically achieving peers on all five posttest variables after CSIW instruction.

Also, Wong and her colleagues conducted writing strategies research with secondary students, validating genre-specific strategies in a series of three studies involving students with learning disabilities (Wong, Butler, Ficzere, & Kuperis, 1997; Wong, Butler, Ficzere, & Kuperis, 1996; Wong, Wong, Darlington, & Jones, 1994). The team of researchers included several critical principles of cognitive strategies instruction in their studies, including the need to develop procedural and declarative knowledge of the writing process, understanding of the recursive nature of the writing process, the importance of planning and revising, and important knowledge about good writing. Results indicated that writing strategies instruction was effective for the secondary students in all

three studies, with instruction increasing both the quality and quantity of what students wrote across the three genres.

Self-Regulation

Self-regulation can be a challenge when writing because writing activities are usually self-scheduled, performed alone, and require creative effort to be sustained over long periods of time, however, explicitly teaching self-regulation strategies has shown promise in writing outcomes. Graham and Harris (1989b) examined the variability of self-instructional strategy training amongst 6th grade students with learning disabilities exhibiting composition deficiencies. Increasing efforts in explicit self-regulation procedures were examined in terms of writing performance measures at post-test, maintenance, and generalization. Results indicated that in addition to improved essay written performance, students became more confident in their ability to write and revise essays. Additionally, Schunk and Swartz (1993) investigated how goal setting and progress feedback affect self-efficacy and writing achievement. Students received writing strategy instruction and were given a process goal (i.e., learn the strategy), a product goal (i.e., writing paragraphs), or a general goal (i.e., working productively). Results indicate that self-efficacy was highly predictive of writing skill and strategy use.

Summary

Although there have been no meta-analyses of writing interventions for students with EBD to date, findings from meta-analyses and literature reviews of writing instruction for students with learning disabilities (LD) and for students with other primary disabilities beyond LD can provide insight into effective writing interventions for students with mild

disabilities (Graham, 2006; Graham & Harris, 1989b; Mason & Graham, 2008; Schunk & Swartz, 1993). Results indicated that strategy-based instruction, cognitive strategy instruction, and self-regulation provide promise for use with this population. One writing model that takes each of these instructional approaches into consideration is the self-regulated strategy development (SRSD) model. This model, developed by Graham and Harris (2009), has over 25 years of research supporting its effectiveness with struggling writers and meets criteria as an evidence-based practice (Gersten et al., 2005; Horner et al., 2005).

SELF-REGULATED STRATEGY DEVELOPMENT MODEL

There have been two previous syntheses that have reviewed the quality and effects of SRSD interventions for students with EBD (Ennis & Jolivette, 2014; Sreckovic, Common, Knowles, & Lane, 2014). Ennis and Jolivette (2014) summarize the existing literature using SRSD with students with and at-risk for EBD, including three group design studies and 11 single-subject studies. Results indicated that the body of literature on using SRSD with individuals at risk for or with EBD is indeed an evidence-based practice for use with this population. Specifically, there are more than five single-participant studies with more than 20 total participants; the research has been conducted by more than three different researchers in three different geographical locations (Mid-Atlantic, Northeast, Southeast, and West). Sreckovic, Common, Knowles and Lane (2014) evaluated the same 14 studies including SRSD for writing and students with or at-risk for D. Just as Ennis and Jolivette (2014), they applied the quality indicators for single case (Horner et al., 2005) and group (Gersten et al., 2005) design research. Results were similar to Ennis and Jolivette

(2014) as they too suggest that SRSD for writing met standards as an evidence-based practice for this population.

Losinski, Cuenca-Carlino, Zablocki. and Teagarden (2014) extended prior findings presented in the previous meta-analyses by Ennis and Jolivette (2014) and Sreckovic, Common, Knowles and Lane (2014). Losinski and colleagues examined all published studies regarding SRSD to improve the writing skills of students with EBD by analyzing the findings of both single case designs (SCDs) and group designs using a common effect size metric (Hedges *g*) and examined the differences in treatment effects due to differences in moderating variables. Results suggest that SRSD interventions had large effect sizes across three dependent variables (i.e., essay elements, word count, and quality).

Summary

Results of meta-analyses on writing instruction for students with LD and with other primary disabilities beyond LD point to strategy instruction as the most powerful method for improving students' skills. Several programs of research over the last 30 years use strategy instruction to improve the writing skills of struggling learners. One such instructional approach is SRSD, with combines strategy instruction with instruction with self-regulation. Results of syntheses examining published studies implementing SRSD instruction to improve the writing skills of students with EBD indicated that SRSD instruction is indeed an evidence-based practice for use with this population. In spite of these promising results, however, there is no review to date on SRSD instruction for older students with EBD who struggle in writing.

SRSD and Middle School Students with EBD

Although there is currently no synthesis or literature review regarding the effects of the SRSD model for students identified with EBD or at risk for EBD in middle school, there has been a growing body of research supporting the use of the SRSD model with secondary students (grades 6-8) identified with EBD who struggle in writing. Mastropieri et al. (2010) conducted a multiple-baseline design study evaluating the effectiveness of researcher delivered SRSD instruction in persuasive writing with eighth-grade students with severe EBD. Findings indicated that all students mastered the components of effective persuasive essay writing and increased from baseline to post-instruction and fluency phases in length and quality of essays.

The following year, Mason, Kubina Jr., Valasa, and Cramer (2010) evaluated the effectiveness of researcher delivered SRSD instruction in persuasive quick writing in a multi-probe multiple-baseline design with seventh and eighth-grade students with severe EBD. The students were taught to plan and write a 10-minute persuasive response using the SRSD instructional model. Positive effects were eminent for all students on the primary measure, quality of written expression.

Additionally, Cuenca-Sanchez, Mastropieri, Scruggs, and Kidd (2012) examined the effectiveness of teacher delivered SRSD writing instruction with a self-determination training component for middle school-aged students with EBD. Results show that experimental students significantly outperformed comparison condition students at posttest in all the persuasive essay-writing measures assessed and on self-determination knowledge.

The next year, Hauth, Mastropieri, Scruggs, and Regan (2013) assessed the effectiveness of researcher delivered SRSD instruction for persuasive writing and generalizing the writing instruction to the civic content areas. Findings suggest that all students improved substantially on all essay measures and that students learned the strategy, enjoyed using it, and understood the benefits of continued strategy use. Additionally, in 2013, Cuenca-Carlino and Mustian trained special education teachers to implement SRSD instruction for persuasive writing to middle school students. Results indicated student's essays increased for number of words written, transition words, number of essay parts, and overall quality.

Mastropieri et al. (2014) conducted a single-subject intervention study to improve persuasive writing skills. The first phase after baseline taught students to plan and write persuasive essays including counterarguments. In the second phase, students were taught to plan and write fluently in 10 minutes. Findings revealed that all students mastered the components of effective persuasive essay writing, included counterarguments, and improved from baseline to post-instruction and post-fluency phases in length and essay quality. Also, in 2014, Cramer and Mason evaluated the effectiveness of a teacher delivered writing and peer revision intervention for middle school students with EBD. Participants received SRSD for 10-minute quick writing and revision during planning. Positive effects for writing and promising effects for peer revision were indicated.

Lastly, in 2015, three studies were conducted looking at SRSD instruction for older students struggling with writing. Ennis, Jolivette, Terry, Fredrick, and Alberto (2015) used SRSD instruction with students with older students with EBD receiving schooling in a

residential setting. The purpose of the study was to determine the effects of SRSD for persuasive writing on the writing performance and academic engagement of secondary students. Results of a piecewise hierarchical linear model suggest statistically significant gains were made over the course of the in writing and academic engagement when compared to baseline. Mastropieri et al. (2015) used a waitlist comparison condition and randomly assigned eighth graders to either an immediate intervention condition (during which SRSD instruction for persuasive writing was taught) or a waitlist delayed intervention condition. Findings revealed students successfully learned and applied the strategy within a reduced time as evidenced by statistically higher quality essays that contained more essay elements, words, sentences, and transition words. Using a single-subject design, McKeown, Kimball, and Ledford (2015) examined the effectiveness of asynchronous audio feedback on the story revision behavior of sixth grade students with EBD who receive schooling in a residential facility. SRSD instruction was used to teach students the revising process. Following intervention, students were more likely to revise, resulting in increased story length and quality.

Summary

In sum, studies implementing the SRSD model as an intervention published within the last decades identified several promising instructional practices for use with EBD, including the use of SRSD for improved persuasive writing outcomes; the effectiveness of both researcher and teacher implemented SRSD writing instruction; and the implementation of SRSD writing instruction in a variety of school settings (public, private, and residential). The most common dependent variables used in these studies to measure

responsiveness to SRSD writing instruction with this population of students were essay elements, essay quality, and number of words written. Also noted within these studies is the fact there are currently no research studies analyzing SRSD instruction with expository writing outcomes with older students with EBD. Therefore, additional research investigating SRSD instruction with this particular writing genre is needed for this population. One issue that has been noted as a potential reason for the limited research in this area is the difficulty with assessing students' writing. The next section describes writing assessment in more detail.

ASSESSING WRITING

Because proficiency in writing requires the integration of multiple skills, the assessment of writing is a complex endeavor. In fact, some view writing assessment as the most difficult domain in achievement testing and evaluating writing samples as one of the most tedious aspects of an educator's job (Espin et al., 2004). Three methods are commonly used in education to score and evaluate direct writing samples (i.e., holistic, primary trait, analytic scoring). Additionally, a fourth method, curriculum-based measurement (CBM) has been developed with special education in mind. The following section will provide a brief description and analysis of direct assessment scoring procedures.

Holistic Scoring

Holistic scoring is based on the idea that the whole writing product is worth more than the sum of its parts. Therefore, holistic scoring emphasizes the general impression a reader receives after quickly reading a writing sample (Espin et al., 2004). Holistic scoring involves the relative ranking of a writing sample to other samples written by other

individuals. Holistic scoring, while relatively efficient, has been criticized for several reasons. First, holistic scoring does not consistently demonstrate interrater reliability or alternate-forms reliability. Espin et al. reported variation in interrater reliability coefficients that range from .13 to .94. Regarding alternate-forms reliability, researchers have seen low correlations among scores on different writing samples. Finally, in some instances, holistic scoring possesses adequate face validity or authenticity but has not demonstrated consistent results regarding criterion-related or predictive validity (Espin et al., 2004).

Primary Trait Scoring

Primary trait scoring is a "specialized form of holistic scoring" to determine, through sampling, how well students perform in writing. Primary trait scoring is based on identifying important components of a writing task and then rating those components within a writing sample (Espin et al., 2004). In primary trait scoring, different scoring guides are developed for different writing purposes, and the guides customarily provide four to five numerical ratings that communicate whether the writer performs the task ranging from *unsatisfactory* to *highly competent* (Espin et al., 2004). Primary trait scoring can be reliably implemented, and scoring appears to meet the standards of face validity and authenticity. However, it is lacking in the area of criterion-related validity, with moderate correlations of .47 to .58 (Espin et al., 2004).

Analytic Scoring

Analytic scoring involves rating the quality of a writing product on several predetermined characteristics, traits, or factors. In analytic scoring, prompts are created, evaluation criteria are established, writing samples are produced, raters are trained, and

scorers ascribed scaled ratings (high too low) for each of the elements (Espin et al., 2004). Advantages of analytic scoring include flexibility in defining each component, ease in training scorers, and the ability to provide teachers with assessment information to guide instruction. Analytic scoring demonstrates higher interrater reliability estimates (.50 to .97) but is time-consuming to score, and ratings of one trait could easily influence ratings of another trait (Espin et al., 2004).

Curriculum-Based Measurement

Curriculum-Based Measurement (CBM) is a systematic approach for monitoring student progress and making instructional decisions (Deno, 1985). It was designed to provide special education teachers with an efficient and valid means of assessing the effects of instruction. Therefore, a set of design characteristics was specified by Deno (1985) that guided all research and development activities. First, measures had to be reliable and valid so results were accepted as evidence regarding student achievement and the basis for making instructional decisions. Second, measures needed to be simple and efficient so teachers could use them frequently monitor student achievement. Third, measures must be easily understood so results could be clearly and correctly communicated to parents, teachers, and students. Finally, measures needed to be inexpensive because multiple forms were to be required for repeated measurement.

Initial CBM writing research has focused on the identification of indicators at the elementary school level. The research has compared the validity and reliability of various writing measures, including writing in response to a story starter, topic sentence, or picture stimulus and writing for 1, 2, 3, 4, or 5 min (Espin et al., 2004). Also, various scoring

procedures have been compared, including counting the total words written (TWW), words spelled correctly (WSC), correct word sequences (CWS), correct letter sequences (CLS), mature words, and large words. The results of this initial research support the validity and reliability of four different scoring approaches: TWW, WSC, CWS, and CLS (Espin et al., 2004). Following the initial research conducted at the elementary school level, a similar program of research was carried out at the secondary school level to examine the technical adequacy of potential indicators of general writing proficiency for older students. In this research, students wrote for 6 min in response to a story starter. Writing samples were scored for TWW, WSC, CWS, and words written legibly. Results revealed that the simple scores found to be valid at the elementary school level—TWW and WSC—were not valid at the secondary school level, suggesting that, as student writing becomes more complex, so do the scores necessary to represent that writing (Espin et al., 2004).

Summary

Writing assessment is a challenging task, given the many components involved in the writing process. Various methods for assessing writing are commonly used in education to score and evaluate direct writing samples (i.e., holistic, primary trait, and analytic scoring). Additionally, a fourth method, curriculum-based measurement (CBM) has been developed with special education in mind. This measurement, developed by Deno (1985) is a systematic approach to monitoring student progress and making instructional decisions.

CONCLUSION

Students with EBD demonstrate significant academic delays in reading, writing, and mathematics (Reid et a., 2004). Despite the great academic needs of students with

EBD, little research has focused on effective academic interventions for this population of students, with writing being the most under researched (Mooney et al., 2003). Although there has been no synthesis or meta-analyses to date on effective writing interventions for middle school students with EBD, research on improving writing of students with mild disabilities has pointed to strategy instruction (Mason & Graham, 2008). One strategy instructional approach in particular, the self-regulated strategy development (SRSD) model, has been implemented with students with EBD and has been determined an evidence-based practice for use with this population.

Although the importance of the SRSD model for this population has been acknowledged, there is less research supporting its effectiveness in the older grades, specifically when writing expository text. There are currently no published studies conducting SRSD instruction for learners with EBD learning to write expository text. The dissertation study presented in Chapter 3 attempts to improve upon this limitation, while remaining transparent with regards to limitations.

The dissertation study will apply treatment components used in prior SRSD studies with middle school students and adapt them to a study using an expository writing strategy. This research hopes to contribute to the existing literature base and will potentially serve as an exploratory study for future research on using the SRSD model with an expository writing strategy to improve writing outcomes with older students at-risk for EBD.

Chapter 3: Method

Middle school students (e.g., grades 6 to 8) are expected to transition their writing knowledge from learning-to-write to writing-to-learn, where students are asked to use expository writing to demonstrate knowledge gained during classroom instruction. Increase in expository writing tasks can be challenging for all students but, particularly so, for students with EBD who struggle with writing. The purpose of this study was to examine the extent to which the self-regulated strategy development (SRSD) model using the TIDE strategy can improve writing outcomes for middle school students at-risk for EBD who have difficulties in writing.

A multiple-probe-across-participant design was used to evaluate the effects of treatment with four participants at one school. This chapter describes the research methodology, data collection procedures, and analyses that were used to determine the effect of SRSD writing instruction using the TIDE strategy on writing outcomes. The research questions that guided this study include:

1. What are the effects of SRSD writing instruction using the TIDE strategy on proximal writing outcomes (i.e., essay quality, essay elements, number of words written) for an expository composition written by participants at-risk for EBD who have writing difficulties?
2. What are the effects of SRSD writing instruction using the TIDE strategy on distal writing outcomes (i.e., TOWL-4, story composition subtest) for participants at-risk for EBD who have writing difficulties?

3. What are the perspectives of the participants towards the self-regulated strategy development model when learning to write expository text?

DESCRIPTION OF SAMPLE

Selection Process and Selection Criteria

A multi-step selection process was used to ensure that participants in the study sample met selection criteria for investigating the research questions presented in the study. The following procedures were implemented for selecting participants:

(a) District leaders in north Texas were approached either by email or by submitting a research application for the district. Goals of the study, the research questions, and the participation criteria were discussed, and formal approval was sought.

(b) When district approval was obtained, the researcher approached school officials via email to identify a possible interest in participating in the research study. If necessary, district leaders were included in the email and approval letters from the district were attached. Via email, the researcher explained the goal of the study, the research questions, and the participation criteria. Interested school officials were asked to email the researcher if they had students who met the criteria for the study and would benefit from a one-on-one intervention in expository writing.

(c) The criteria for participant selection was as follows: The participant must be identified as at-risk for EBD by the campus special education coordinator. He or she must be identified by the English language arts teacher as a struggling writer (i.e., failing scores of 70% or below on writing tasks) and identified as a sixth

through eighth grader or ages 11-15. In addition, the participant must score at or below the 25th percentile on the story composition subtest of the standardized pre-test assessment, Test of Written Language, Fourth Edition (TOWL-4), and be at a Grade 2 reading level as determined by the English language arts classroom teacher. Lastly, the participant must have an attendance record of 90% or greater during the previous academic year.

(d) A parental consent form (see Appendix A) was sent home, and participants were asked to sign assent forms (see Appendix B) in school.

Participants

Table 3.1 provides demographic data for the four participants in this single-subject study. During the study, each participant worked with the researcher three times a day for 30-minutes during a time convenient for the school (i.e., English language arts or elective class periods).

Name	Grade	Age	TOWL-4 Descriptive Term	Ethnicity	Classification	Free/ Reduced Lunch
Cameron	7	14	Below Average	Hispanic	Speech At-Risk EBD	Yes
Daniel	8	14	Poor	Hispanic	Speech At-Risk EBD	Yes
Mary	8	15	Below Average	Hispanic	OHI Speech At-Risk EBD	Yes
Kyle	7	13	Below Average	Pacific Islander	OHI At-Risk EBD	Yes

Note. TOWL-4 = Test of Written Language, Fourth Edition; EBD = Emotional/Behavioral Disorder; OHI = Other Health Impairment

Table 3.1 Student Demographic Data

SETTING

This study took place at one public middle school located in a suburb outside a metropolitan city in north Texas. The school, located in a large independent school district, is 1 out of 8 middle schools in the district. The school includes grades 7 and 8 and the total student enrollment on campus is 637 students. The student population on the campus is 44.7% Hispanic, 42.7% Caucasian, 9.8% African American, and 1.8% Asian American. Of these students, 46% are eligible to receive free or reduced meals and 30.5% of the total school enrollment is classified as having a disability. The school has services for students with EBD, including an on-campus crisis intervention counselor, special education case managers, and in-class teacher support. The study was held during a time convenient for the campus (i.e., elective period or typical writing instruction period).

RESEARCH DESIGN

The effects of SRSD writing instruction using the TIDE strategy (independent variable) on proximal (i.e., essay quality, essay elements, number of words written) and distal (i.e., TOWL-4, story composition) writing outcomes (dependent variables) was evaluated using single-subject methodology. The design selected for the SRSD dissertation research study was multiple-probe-across-participants design (Horner & Baer, 1978). This design is similar to a multiple-baseline-across-participants design, where each participant is continuously engaged in a baseline condition in each consecutive session until participants change phases and begin receiving treatment. Similarly, in a multiple-probe design, all participants start baseline on the same day. However, the design differs in that data points (probes) are not taken daily during baseline. This difference is to safeguard against participants becoming lethargic or disinterested during baseline (Horner & Baer, 1978). The design was selected because the study involved an academic treatment for students with EBD or students at risk for EBD who had experienced difficulty with writing and a continuous baseline may cause frustration or disinterest.

Baseline was used to demonstrate typical expository writing outcomes of each participant prior to the intervention condition. During the baseline condition, at least three probes were administered to each participant. When baseline data were stable or declining for the essay elements outcome measure across three or more probes for one participant, the intervention condition began. While participant 1 received intervention, remaining participants continued in the baseline condition and received weekly probes during each baseline session. Once participant 1 demonstrated a positive trend of at least three

improved scores on the essay elements outcome measure with no overlapping data probes between baseline and treatment, an experimental effect was considered established (Kennedy, 2005). If baseline data was stable or declining for a participant still in baseline, this participant, now referred to as participant 2, began treatment. This pattern continued until the intervention was implemented with all four participants.

During the intervention, five data probes (see Appendix D) were taken. The first three data probes were taken when specific instructional objectives had been taught. The first probe was taken after the TIDE strategy had been presented and discussed. The second probe was taken after the researcher and the participant looked at an example essay and found all parts of TIDE. The third probe was taken after the participant and researcher had written their first expository essay together during the Support It stage. The remaining two probes were administered on a weekly basis as the researcher continued to meet individually with the participant three times a week until the participant had reached Stage 6, Independent Performance.

During maintenance, all instructional support was withdrawn. The first data probe occurred approximately one week after the intervention ended, with the second probe occurring two weeks after intervention.

Experimental Control

For single-subject studies, experimental control is demonstrated when the design documents three demonstrations of experimental effect (i.e., when changes in the dependent variable covary with the introduction and manipulation of an independent

variable) at three different points in time with a single participant or across different participants (Horner et al., 2005).

This study established experimental control by demonstrating a covariation between change in expository written performance for essay elements, essay quality, and number of words written and introduction of the intervention (SRSD) using the TIDE strategy within three different series at three different points in time.

Threats to Internal and External Validity

Internal validity is an important concept in single-subject research as it refers to the degree to which the researcher has adequately controlled the independent, dependent, and extraneous variables so that the changes in the dependent variable are directly attributed to the presence or absence or intensity of the independent variable. To control for threats to internal validity, multiple replications of effect within a single-subject study are essential. Within a study, three or more demonstrations of experimental effect at three different points in time should be completed to strengthen internal validity of the study (Horner et al. 2005). Therefore, this study included three or more demonstrations of experimental effect at different points in time.

External validity is another important concept in single-subject research as it refers to the extent to which the results can be generalized to other settings, other people, and over time. Because a single researcher conducted this study, replication from a different research team is needed to strengthen external validity.

MEASURES

The following measures were used in the study for screening participants and to

measure writing performance.

Standardized Test

The Test of Written Language, Fourth Edition (TOWL-4) is a norm-referenced, comprehensive diagnostic test of written expression. Internal consistency was measured through the use of Cronbach's coefficient alpha (examining both Forms A and B) and through administration of alternative forms. Coefficient alpha scores (across ages) for the subtests were acceptable, ranging from .74 to .92. There are seven subtests on the TOWL-4: Vocabulary, Spelling, Punctuation, Logical Sentences, Sentence Combining, Contextual Conventions, and Story Composition.

The TOWL-4 was used for screening potential participants (i.e., participants were required to attain a score at or below the 25th percentile to qualify for the study). The TOWL-4 was also administered to each participant post-intervention to determine writing growth. The story composition subtest was used for this dissertation study.

Writing Probes

Twenty descriptive expository writing probes (see Appendix D) were developed by the researcher. All probes included the prompt topic, a place to write self-talk strategies and goals; and space for a written essay to be completed by the participant. Prompt topics were selected from grade appropriate prompts developed by the Department of Education at University of Oregon and the Department of Education at The University of Florida to ensure consistency and validity across writing probes. Writing probes, and the prompt topic within the writing probe, was also reviewed by the English language arts department chair and the special education coordinator to ensure each probe was age appropriate, met the

participants reading level, met the needs of English learners participating in the study, and took into consideration the participants background knowledge. These probes, which were administered during baseline, intervention, and maintenance, required participants to write an expository essay on an identified topic, formulate relevant details centered around the main topic, expand on those details through written support, and write an ending. An example writing probe is "Most students like to help their teacher in the classroom. Explain how you can help your teacher." Participants were given up to 30-minutes to complete each writing probe.

When all the writing probes had been developed, they were randomly assigned an order for each participant using a random number generator and were administered to the participant by the researcher in that order. Participants did not have the option of selecting their topic. Remaining writing probes were used during the instructional phase of the study in order to prevent novelty effects of particular probes from influencing the quality and length of participant responses. As participants completed the writing probes, a scoring rubric (see Appendix E) was used to assess the essays and evaluate the dependent variables: essay quality, essay elements, and number of words written for expository writing as described below. Twenty-five percent of all writing probes were scored for interrater reliability.

Essay Elements

Essay elements (i.e., TIDE parts) was measured to assess the correct number of TIDE parts written in the participants' expository essays. To score essay elements on a writing sample, the number of expository essay elements (TIDE) parts included in a

participant writing sample was tabulated. Participants' received one point for including a topic sentence, one point for each important detail, one point for each explanation of an important detail, and one point for an ending sentence. The maximum number of points a participant could receive was eight points as additional essay element parts was not included in the tabulation (Mason, Kubina & Taft, 2011).

Essay Quality

Essay quality was measured to assess a participant's response to an expository probe. A holistic scale was used to score essay quality. The rubric consisted of the following anchor points, which was adapted from a prior SRSD study (Kiuhara et al., 2012):

> ***Score of 3***. Shows clear understanding of the expository topic stated in the prompt, supports topic thoroughly and consistently with specific logical reasons or examples, maintains focused and good organization
>
> ***Score of 2***. Shows some knowledge of the expository topic stated in the prompt but may not remain focused. Supporting details may be repetitious. Scattered organization with lots of lapse in sequence
>
> ***Score of 1***. Limited understanding of the expository topic stated in the prompt with limited evidence of organizational structure or sequencing
>
> ***Score of 0***. Off topic or no response

Number of Words Written

Number of words written is the total number of words in a participant's expository essay. A word was defined as any letter or group of letters separated by a space. To score a written composition for number of words written on a writing sample, the total number of words written during a writing probe was counted by two research assistants (i.e., retired

teachers) and then verified in word count in Microsoft Word. If discrepancies were found between the computer count and the manual count, results were discussed amongst the retired teachers and the researcher. Misspelled words were included in the tally, although numbers written in numeral form (e.g., 13, 23) were not counted. This method of scoring number of words written was used in previous SRSD studies (Kiuhara et al., 2012). Figure 3.1. shows an example of a scoring page using the number of words written method.

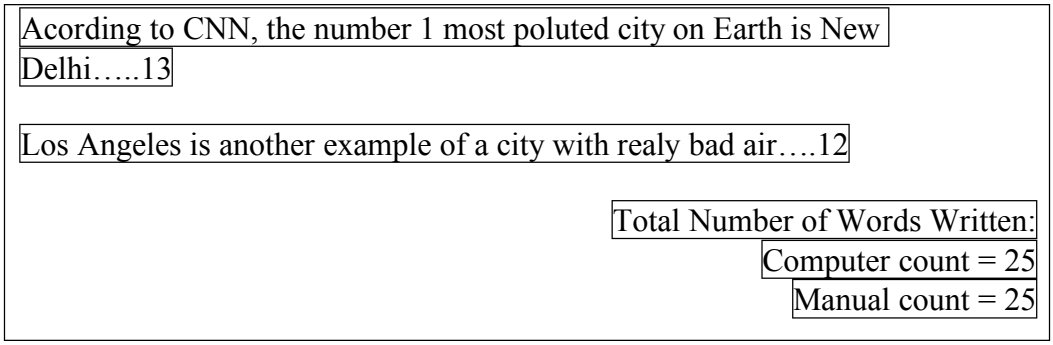


Figure 3.1 Example of Number of Words Written Scored

PROCEDURE

General procedures included: (a) pretesting of all participants, (b) implementation of baseline and treatment by the researcher, (c) maintenance, (d) post-testing of all participants, and (e) collection of social validity. This study took place at one school for approximately sixteen weeks (4 - 6 weeks per participant). The average amount of sessions per participant was 22 total sessions (range = 20 to 24 sessions). The baseline length was at least three sessions per participant, and the average duration of treatment was 15 sessions.

Pretesting Students

After approval from the IRB had been granted and consent (see Appendix A) and

assent (see Appendix B) forms were received, participants were administered Form A of the story composition subtest of the TOWL-4 (Hammill & Larsen, 2009) in a small group. Testing was held at a location selected by the campus administrator, which was a small conference room in the front office, and participants had 20-minutes to complete the subtest of the standardized assessment. All directions stated in the TOWL-4 manual were followed. Once treatment had ended, the story composition subtest of the TOWL-4 was given again under the same procedures to all participants during maintenance.

Baseline Condition

Baseline was created to demonstrate typical expository writing outcomes of participants. Therefore, while in baseline, participants wrote an expository essay and did not receive support from the researcher. Data was collected for writing measures that evaluated the dependent variables: essay quality, essay elements, and number of words written.

The researcher conducted a minimum of three baseline probes (Horner et al., 2005). Writing probes were different for each baseline session to avoid practice effect and probes were taken concurrently (i.e., within the same week) for all participants. Additionally, writing probes were randomly selected for all participants.

Following a stable baseline for the dependent variable, essay elements, instructional lessons started and staggered across participants. Baseline occurred in a classroom selected by the campus administrator and participants were given 30-minutes to complete their essays.

Intervention Condition

The SRSD model using the TIDE strategy was the independent variable for the intervention (see Appendix C). This multicomponent framework consists of six instructional stages designed to directly and explicitly address difficulties students experience with the writing process (Harris, Graham, & Mason, 2003). The six stages are: (1) Develop Background Knowledge, (2) Discuss It, (3) Model It, (4) Memorize It, (5) Support It, and (6) Independent Practice. Self-regulation strategies are also interwoven into the six stages to help students to become independent and proficient writers (Harris et al., 2008).

During Stage 1 of SRSD instruction, Develop Background Knowledge, the researcher discussed "writing to explain" with the participant by asking the following questions: *Is there something you know a lot about and you might want to explain it to someone? Can you think of a way to explain it to your friends?* The researcher taught the participant the mnemonic strategy, TIDE, to write expository essays. This mnemonic is a genre specific (expository essay) strategy, which includes topic sentence, three or more important details, explanation of each detail, and ending sentence (Mason, Reid, & Hagaman, 2012). During this stage of instruction, the participant practiced memorizing what each letter in TIDE represents. To master memorizing the TIDE strategy, the researcher informally quizzed the participant with flashcards.

Stage 2 of SRSD instruction, Discuss It, involved the researcher discussing with the participant the TIDE qualities that make a good expository essay. The discussion emphasized that good expository writing starts and ends with a strong opening and closing

sentence as well as provides the reader with context for understanding the scope of the topic. The researcher showed the participant examples and non-examples of expository writing and, together, identified the parts of TIDE. The participant color coded each piece of TIDE as it was being identified. Next, the researcher and the participant defined the term "linking word" and discussed how linking words are used when writing an essay. Lastly, the researcher and the participant discussed the importance of self-regulation and positive self-talk by identifying what the participant might say to him or herself in order to think of good expository ideas and necessary expository elements. During this discussion, the participant was prompted to verbally talk about their writing in positive ways, identifying what they like about their writing and state what they would change or do differently the next time they write.

During Stage 3, Model It, the researcher modeled how to use TIDE to write an essay that includes all the important elements of an expository essay. The researcher used self-statements and self-talk. An example of what the researcher said to the participant is "*Today we are going to practice how to write an expository essay. To do this, I am now going to 'think aloud' to show you how I would think in my mind as I write an essay.*" Also, during this instructional stage, a TIDE graphic organizer was introduced to assist with planning before writing. The researcher modeled making notes using the TIDE graphic organizer so that the participant knew how to do all of the steps. Once "Model It" was complete, the essay was examined for all essay elements. Lastly, the researcher handed the participant a self-statement sheet and ask the participant to identify statements they will say to themselves to think of expository ideas and essay parts.

During Stage 4, Memorize It, the researcher reinforced the TIDE strategy by quizzing the participant using TIDE flashcards. The Memorize It stage was continued until the participant could write down or verbalize each part included in the TIDE strategy from memory.

During Stage 5, Support It, the researcher guided the participant to write his or her own essay, moving the participant towards the independent practice stage. During Support It, the researcher and the participant wrote an expository essay together, however, the researcher allowed the participant to take more of the lead in the writing process by having the participant to be the one to write the expository essay. The researcher supported the participant by asking questions such as: *How do we start? What do we do next? What self-talk statements can we use while writing?* After the essay had been completed, the participant was given an X-Y TIDE graph to monitor the use of the strategy.

Once the participant had written an expository essay with the support of the researcher, Stage 6 of instruction, Independent Performance, was initiated. During this stage of instruction, all supportive materials (i.e., TIDE mnemonic chart, TIDE graphic organizer, and linking words chart) was removed while the participant was asked to write an expository essay independently. After writing a complete essay, the participant was given a graph to monitor the use of the strategy and length of their essay.

SRSD instruction using the TIDE strategy was conducted in exactly the same manner for each participant. Participant 2 started intervention once participant 1 showed stability or an upward trend in treatment across three or more data probes for the essay elements measure.

Maintenance Condition

In the maintenance condition, the setting and the context remained the same as in the baseline phase and the same measures were employed for data collection purposes. During the maintenance phase, maintenance probes were conducted one and two weeks after the completion of the intervention phase. The maintenance condition was provided to assess the extent to which the increased outcomes were maintained after the intervention condition concluded.

Post Testing

Following maintenance, the story composition subtest of the TOWL-4 standardized assessment was administered to all participants in the study to assess writing growth. Similar to pretesting, participants were administered the TOWL-4 story composition subtest (Form A) in a small group. Social validity data was collected during this time.

MATERIALS

Research Materials

A variety of materials and equipment was used to implement this dissertation study. The below list represents the research materials that were used during the study.

(a) Consent form for parent permission to conduct research (see Appendix A);

(b) Assent form for student approval to participate in research (see Appendix B);

(c) Fidelity of treatment checklists to ensure each instructional step was presented (see Appendix N);

(d) Apple MacBook Air laptop with video capability for treatment fidelity;

(e) Social validity questionnaire to assess student perspective towards SRSD

instruction using the TIDE strategy (see Appendix O).

Instructional Materials

The below list represents the instructional materials used during the study.

(a) TIDE mnemonic chart (see Appendix G);

(b) TIDE graphic organizer (see Appendix H);

(c) Linking word chart (see Appendix J);

(d) TIDE flashcards;

(e) X-Y TIDE graph (see Appendix L);

(f) Model essays (see Appendix F);

(g) Practice prompts (see Appendix M);

(h) Self-statement sheet (see Appendix K);

(i) TIDE color chart (see Appendix I);

(j) Crayons;

(k) Student folders

TREATMENT INTEGRITY

Treatment Fidelity

Treatment fidelity was maintained during and after SRSD instruction using a fidelity checklist (see Appendix N), constructed according to the framework and organization of the treatment lesson plan, to ensure that each instructional step was presented to the participants by the researcher. As a step was completed, the researcher placed a check mark next to that particular step. All steps were checked in each lesson for each student. To further guarantee treatment fidelity, each instructional session was video

recorded using a MacBook Air laptop computer. During each phase of the study, the laptop was placed on an adjacent desk near the participant and researcher. In order for the participant to get used to being recorded, a practice run took place prior to the baseline condition. The researcher turned on and off video capability via the laptop computer. A green light appeared when the camera was on. Video data was uploaded into a secure cat 1 box (UT Box), with all data being stored on password protected computers and in password protected files.

Procedural Reliability

Reliability on the fidelity-rating instrument (see Appendix N) was established between the researcher and an independent observer (i.e., a retired classroom teacher). During a practice session held prior to the study, both the researcher and the independent observer observed three practice lesson and agreed on 100% of items on the fidelity form to establish reliability. Reliability between the two raters was calculated using the following procedure: dividing the total number of agreements by the number of agreements plus disagreements, and then multiplying by 100. This resulted in a reliability percentage of 100, which established interobserver agreement (reliability).

Twenty-five percent of the total treatment sessions was observed for fidelity by the independent observer who was unfamiliar with the design and purpose of the study. A total of 28 SRSD treatment sessions were conducted. Of these sessions, seven were observed for procedural reliability using the treatment fidelity form (see Appendix N). The researcher received a procedural reliability score of 91.20%. Additionally, after each observed lesson, the researcher and the independent observer discussed the lesson, and

any outstanding questions were immediately addressed.

Interrater Reliability

Twenty-five percent of the writing probes were scored for interrater reliability by the researcher and two retired teachers. Interrater reliability was established based on the scoring of a fictional student essay at the practice session between the researcher and two retired teachers by dividing the number of agreements by the number of agreements plus disagreements, multiplied by 100. Interrater reliability was 85% on the day of training, thus establishing reliability between the three raters.

Over the duration of the study, interrater agreement was above 90% on the writing probes. In instances where interrater agreement on a writing probe was not 100%, feedback and clarification were provided to the grader(s) by the researcher and the issue was resolved through a conversation guided by the scoring rubric.

Social Validity

Social validity was measured to determine whether the research procedures and findings are practical within the educational context and practice. Horner et al. (2005) discussed four quality indicators for social validity within single-subject research. These quality indicators are: (a) the dependent variables have high social importance, (b) the independent variable can be applied with fidelity by typical intervention agents in a typical intervention context, (c) typical intervention agents report that the procedures are acceptable, feasible, and effective, and (d) the intervention produced an effect that met the defined, clinical need.

To measure social validity in this study, each participant completed a social validity

questionnaire (see Appendix O) at the end of the maintenance period. The questionnaire was adapted from a previous study on SRSD (Kiuhara et al., 2012) and had a Likert-type scale rating from 1 to 6 (*1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Somewhat Agree; 5 = Agree; 6 = Strongly Agree;* and *No Opportunity to Observe*). The participant questionnaire consisted of seven questions assessing the extent to which instruction (a) improved expository writing, (b) improved confidence about writing abilities, (c) improved planning skills, (d) improved writing skills using the TIDE strategy, (e) was worth the time and effort put in by participants, (f) would continue to be used for writing assignments in the future, and (g) was worth recommending to others who want to improve expository writing skills.

DATA COLLECTION AND DATA HANDLING

Writing Probes

Probe Administration

The following conditions were established during writing probes to obtain the participant's best writing: (a) administration of the writing probe never occurred the same day as instruction, (b) the participant only respond to one essay prompt in a day, and (c) the participant was given up to 30 minutes to write and complete an essay. Writing probes, which were administered during baseline (at least three times), intervention (at least five times), and maintenance (at least two times), were completed in a classroom decided upon by campus administrators. Participant responses on writing probes were scored for essay elements, essay quality, and number of words written.

Probe Data Handling

Following each writing probe session, the researcher immediately uploaded the original expository essay written by the participant to UT Box. Two retired teachers used as blind readers were notified via email that probe data was ready for scoring. Using a scoring rubric developed by the researcher, the retired teachers scored the expository essays for essay elements, essay quality, and number of words written.

Once essays had been scored by the independent scorers, scoring sheets were uploaded to UT Box. That same day, the scored data sheets were checked by the researcher for accuracy of results between the two independent scorers and information was typed into a data tracking sheet in Microsoft Excel. In order to allow for careful monitoring of phase changes, the data was then graphed by the researcher.

Graphing

Line graphs using Microsoft Excel were created for each individual participant. This was accomplished by entering the data for baseline (at least 3 probes), intervention (at least 5 probes), and maintenance (at least 2) probes for each participant. Next, lines were inserted to create sections that visually separated the baseline, treatment, and maintenance phases. This allowed for a visual inspection of participant performance in order to observe an experimental effect for participants after treatment begins and to demonstrate experimental control through replication across different participants (Horner et al., 2005).

Standardized Test

TOWL-4 Administration

The TOWL-4 story composition subtest was administered to participants in small groups in a location selected by the campus administrator, which was a small conference room inside the front office. Participants had up to 20-minutes to complete the test. This subtest includes two forms (i.e., Form A and Form B) and uses a spontaneously written story to assess important aspects of language. The week before baseline data collection, Form A of the TOWL-4 story composition subtest was administered to all potential participants in the study. The same procedure was conducted the week after the conclusion of the study, with Form A being administered again to display growth and avoid form effects**.** Specific administration instructions presented in the TOWL-4 examiner's manual for the story composition subtest was followed.

TOWL-4 Data Handling

The researcher scored the story composition subtest for each participant immediately following the pre and post assessments of the TOWL-4. Results for raw scores, descriptive terms, and national percentile ranks were documented on the TOWL-4 scoring form. Additionally, the TOWL-4 student response forms and record/ story scoring form for each participant was scanned and placed in UT Box.

TOWL-4 Data Table

A data table, including pre and post TOWL-4 assessment data for each individual participant, was created using Microsoft Word. TOWL-4 pre and post assessment data included in the table was: raw scores, descriptive terms, and national percentile rank data.

In addition, a second data table was created using Microsoft Word, including pre-test and post-test mean and standard deviation data, in order to assess standard scores. Findings from the TOWL-4 were used to (a) identify students who write poorly and qualified for participation in this study and (b) document participant writing growth.

DATA ANALYSIS

Writing Probes

Visual Inspection

Data was collected for three proximal writing measures (i.e., essay elements, essay quality, number of words written) and information from the data was graphed and analyzed on a continuous basis until the experiment was complete. As data was plotted on the graphs, patterns in the study were reviewed to decide what the next step in the experiment would be (Kennedy, 2005). Two dimensions were looked at when analyzing data through visual inspection to demonstrate the existence of a functional relation, within-phase patterns and between-phase patterns. Within-phase patterns include level of data, trend of the data, and variability of data. Between-phase patterns include immediacy of effect (or rapidity of change) and overlap.

Effect Size

A procedure called "nonoverlap of all pairs" (NAP) was used to provide statistical analysis of intervention results for participants. This analysis provides a complete nonoverlap index that measures the percentage of all pairwise comparisons across phases A and B, which show improvement across phases (Parker, Vannest, & Davis 2011). NAP is compatible with visual analysis, relates closely to R^2 and produces narrow confidence

intervals indicating high score precision (Parker, Vannest, & Davis 2011). NAP can be calculated using the following formula, where m denotes the number of baseline observations and n denotes the number of treatment phases observations.

$$\text{NAP} = \frac{1}{mn} \sum_{i=1}^{m} \sum_{j=1}^{n} \left[I\left(y_j^B > y_i^A\right) + 0.5I\left(y_j^B = y_i^A\right) \right]$$

A web-based tool was used to calculate NAP effect sizes found in this study (Vannest, Parker, & Gonen, 2011). NAP effect sizes are considered large if above .93, moderate if ranging from .66 to .92, and small if below .65 (Vannest, Parker, & Gonen, 2011).

Standardized Test

Immediately before and after the study, the story composition subtest of the TOWL-4 was given to each participant. The researcher used the scoring key for the story composition subtest included in the TOWL-4 examiners manual to score the assessment. The researcher scored the story comprehension subtest according to grade standards (as stated in the scoring key) for composition. Example items embedded in the scoring key include: story beginning, story sequence, and writing style. For each participant, the following information was shared for the story composition subset of the TOWL-4:

(1) Raw scores on pretest and posttest;

(2) Descriptive Term (DT)—terms that correspond to scaled scores and indexes. Terms range from Very Superior to Very Poor.

(3) National Percentile Rank (NPR) for each student, which describes the position of each participant's score within the larger set of student scores by student's in that grade's national norming group.

Finally, pre-test and post-test means and standard deviations were reported and a standard score was calculated using a two-tailed paired samples *t*-test.

Chapter 4: Results

The purpose of this study was to examine the effects of SRSD writing instruction using the TIDE strategy compared to a typical practice baseline condition for participants at-risk for EBD in middle school (Grade 7-8). Throughout the study, the researcher used a multiple-probe, single-subject design to examine the extent to which SRSD instruction using the TIDE strategy improved writing outcomes as measured by researcher-designed writing probes and a standardized measure of story composition. Four middle school students at-risk for EBD from one school participated in the study, which took place in classrooms for approximately 3 months. All baseline and treatment sessions were conducted with each participant individually and lasted roughly 30 minutes. Three proximal (i.e., essay quality, essay elements, and number of words written) writing probe measures and one distal standardized measure (i.e., TOWL-4, story composition subtest) was used in the study to measure writing performance. The three proximal measures selected for this study were chosen because they are the three most common dependent variables used in prior studies to measure responsiveness to SRSD writing instruction with this population of students (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014; McKeown, Kimball, & Ledford, 2015). The TOWL-4 standardized measure was selected for screening potential participants as well as to determine writing growth. A social-validity questionnaire was given to all participants after completing the study to obtain information regarding participant perception of effectiveness of SRSD instruction, including the TIDE strategy, for

improving expository writing. In this chapter, results are organized according to each research question.

1. What are the effects of SRSD writing instruction using the TIDE strategy on proximal writing outcomes (i.e., essay quality, essay elements, number of words written) for an expository composition written by participants at-risk for EBD who have writing difficulties?
2. What are the effects of SRSD writing instruction using the TIDE strategy on distal writing outcomes (i.e., TOWL-4, story composition subtest) for participants at-risk for EBD who have writing difficulties?
3. What are the perspectives of the participants towards the self-regulated strategy development model when learning to write expository text?

RESEARCH QUESTION 1

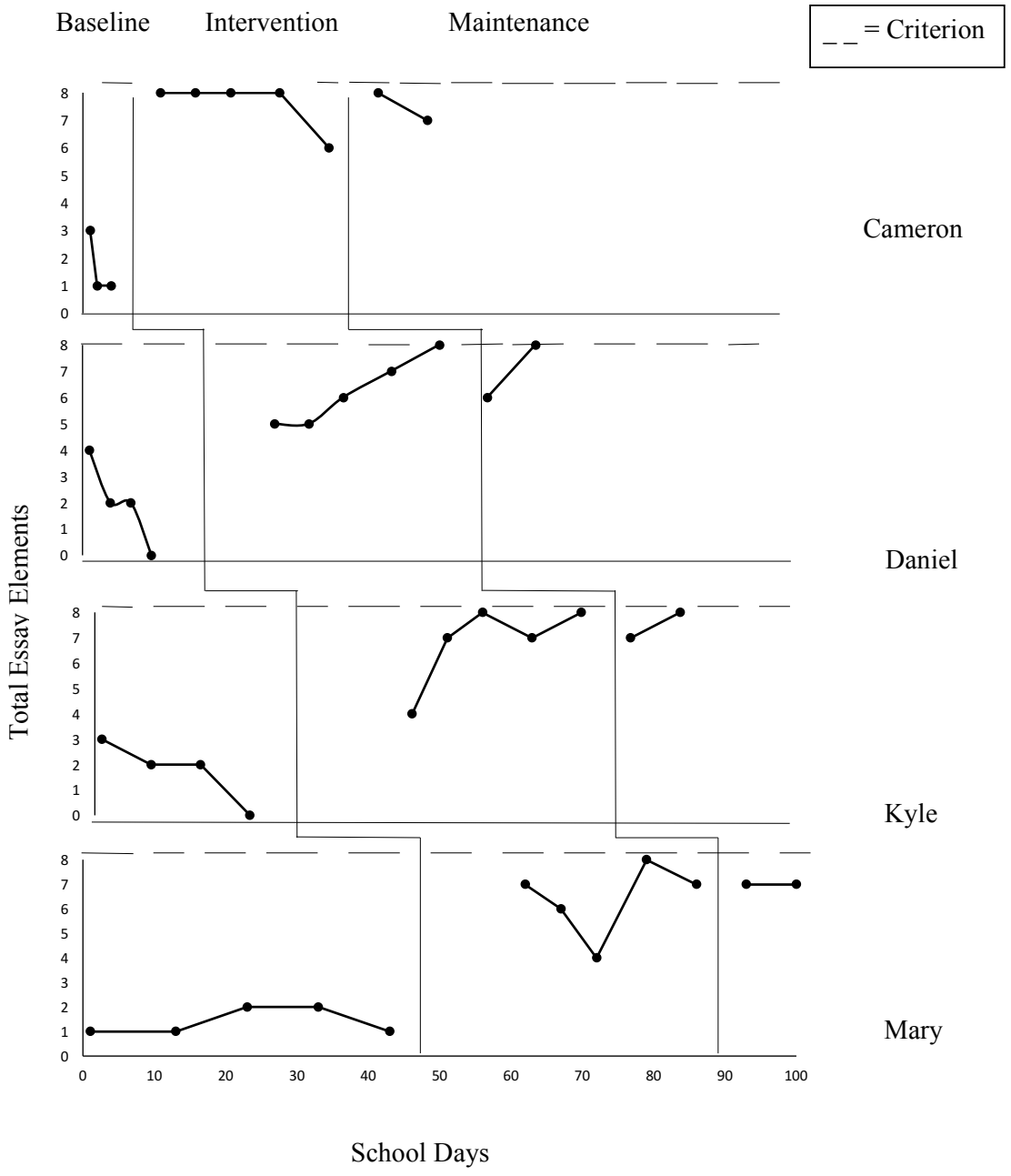
The focus of research question one was on the examination of the effects of SRSD writing instruction using the TIDE strategy on proximal (i.e., essay element, essay quality, and number of words written) writing outcome measures on an expository essay written by the participants. During each session in baseline and at specific instructional points throughout treatment, participants took a writing probe to demonstrate a response to treatment (experimental effect) by comparing the scoring trends when participants switched phases. After an experimental effect was demonstrated for a single participant (Kennedy, 2005), as evidenced by a positive performance trend on the essay elements dependent measure, the treatment lessons began for a subsequent participant. By

replicating the intervention with the remaining participants and identifying an experimental effect, the data indicated that experimental control was established. Experimental control occurs when an effect, or a positive response to treatment, occurs across three or more participants in a given study (Horner et al., 2005). Two dimensions, within-phase patterns and between-phase patterns, were examined through visual inspection of the data to determine the existence of a functional relation. Within-phase patterns include level of data (i.e., refers to the average of the data within a condition and is typically calculated as the mean), trend of the data (i.e., refers to the best-fit straight line that can be placed over the data within a phase), and variability of data (i.e., the degree to which data points are displayed relative to the best-fit straight line and indicated by standard deviation and range of data) (Kennedy, 2005). Between-phase patterns include immediacy of effect (or rapidity of change) and overlap (or degree to which data in adjacent phases share similar quantitative value) (Kennedy, 2005). In addition to the visual inspection, Nonoverlap of All Pairs (NAP) (Parker, Vannest, & Davis 2011) was calculated to provide statistical analysis of intervention results for each participant.

Essay Elements

To assess participants' performance on the essay elements outcome measure, a visual analysis of the writing probe data was conducted and effect sizes were computed. Essay element writing probe data was scored by tabulating the number of expository essay elements (TIDE parts) were included in a participant writing sample. The maximum number of points a participant could receive was eight points, as additional essay element parts was not included in the tabulation (Mason, Kubina & Taft, 2011). Figure 4.1 shows

writing probe scores across baseline, intervention, and maintenance phases for all four participants.



Note. y-axis = one point for each of the eight basic essay elements

Figure 4.1 Essay Elements Results

Visual Analyses Results

For visual inspection of the essay elements data, five features (i.e., level, trend, variability, immediacy of effect, overlap) were conducted and the results were analyzed to determine whether a causal relation existed between SRSD instruction using the TIDE strategy (Independent Variable) and essay elements (Dependent Variable). Table 4.1 shows level data and trend data (i.e., the R squared value of the trend line ; $r^2 = SSRegression / SSTotal$ = (explained variation)/(total variation) for the participants and Table 4.2 depicts variability, immediacy of effect (i.e., the change in level between the last three data points in one phase and the first three data points of the next phase; immediacy of effect = [mean of last three data points in baseline/ mean of first three data points in intervention] X 100), and overlap of data between the baseline and intervention phase for participants.

Participants	Level (Mean)			Trend	
	Baseline	Intervention	Maintenance	Baseline	Intervention
Cameron	1.67	7.60	7.50	-0.57	-0.56
Daniel	2.00	6.20	7.00	-0.90	0.97
Kyle	1.75	6.80	7.50	-0.85	0.52
Mary	1.40	6.40	7.00	0.09	0.07

Table 4.1 Essay Elements Level and Trend Data for Participants

Participants	Variability Standard Deviation (Range)		Immediacy of Effect	Overlap
	Baseline	Intervention		
Cameron	1.15 (1 to 3)	0.89 (6 to 8)	21%	No
Daniel	1.63 (0 to 4)	1.30 (5 to 8)	25%	No
Kyle	1.26 (0 to 3)	1.64 (4 to 8)	21%	No
Mary	0.55 (1-2)	1.52 (4 to 8)	29%	No

Table 4.2 Essay Elements Variability, Immediacy of Effect, and Overlap Data for Participants

Cameron

Cameron's mean level score from the baseline to intervention phase increased from a mean of 1.67 to a mean of 7.60, respectively, for the essay elements outcome measure (see Table 4.1). During baseline, Cameron had consistently low scores (M = 1.67; range = 1-3). After the intervention was implemented, Cameron's essay element scores immediately increased (M = 7.60; range = 6-8) and stayed high for the remainder of the intervention phase. Level data show that Cameron not only improved his essay element knowledge across the study but maintained this knowledge 1 and 2 weeks after the intervention during the maintenance phase (M = 7.50; range = 7-8). Trend data during baseline was downward (-0.57) but the last two data points before intervention were flat (see Table 4.1). During the intervention stage, the trend data in essay element scores was flat with a downward performance trend for the last data point (see Table 4.1). Cameron's variability data was stable during baseline (SD = 1.15; range = 1-3) and continued to be stable within intervention phase scores (SD = 0.89; range = 6-8). Additionally, immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline

and intervention data (see Figure 4.1).

Daniel

During baseline, Daniel initially scored a four out of eight on the essay element outcome measure (see Figure 4.1), with data points decreasing during this phase ($M = 2.00$; range = 0-4). Daniel's scores promptly increased after the intervention was implemented and continued at relatively high and increasing levels for the rest of the intervention phase ($M = 6.20$; range = 5-8). Daniel's level data showed a mean of 2.00 for the baseline phase and a mean of 6.20 for the intervention phase, which demonstrates that Daniel improved his essay elements knowledge across the phases. Daniel also maintained this knowledge during the maintenance phase after the intervention was removed ($M = 7.00$; range = 6-8). Trend data during baseline was downward (-0.90) as well as upward during intervention (0.97). Regarding variability, the standard deviation was 1.63 (range = 0-4) during baseline and 1.30 (range = 5-8) during intervention (see Table 4.2). In addition, immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.1).

Kyle

According to Kyle's level data, his mean level score was 1.75 and 6.80 for the baseline and intervention phases, respectively. Kyle's scores were initially low and continued to decrease during the baseline phase ($M = 1.75$; range = 0-3). In addition, Kyle's scores promptly increased after the intervention was implemented and continued at relatively high and increasing levels for the rest of the intervention phase ($M = 6.80$; range = 4-8). Kyle's data showed that he improved his essay element knowledge across the study.

Kyle also maintained his essay element knowledge 1 and 2 weeks after the intervention was completed; the level of maintenance data was even higher than the level of intervention (M = 7.50; range = 7-8). In addition, Kyle's data demonstrated a downward trend during the baseline phase (-0.85) and an upward trend during the intervention phase (0.52). Kyle's variability data documented a standard deviation of 1.26 (range = 0-3) during baseline. For intervention data, the variability demonstrated a standard deviation of 1.64 (range = 4-8). Immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.1).

Mary

Mary's mean level data was 1.40 and 6.40 during the baseline and intervention phases, respectively (see Table 4.1). Mary's essay element scores were low initially and stayed low throughout the baseline phase (M = 1.40; range = 1-2). In addition, after the intervention was introduced, Mary's scores increased and stayed high for the rest of the intervention phase (M = 6.40; range = 4-8). The mean level data for maintenance was 7.00, which shows Mary maintained her essay element knowledge 1 and 2 weeks after the intervention was completed. The level data showed Mary improved her essay elements knowledge across the study and maintained the intervention gains after the removal of the intervention. A flat trend was demonstrated during both the baseline phase (0.09) and the intervention phase (0.07). Regarding variability, the standard deviation was 0.55 (range = 1-2) during baseline and 1.52 (range = 4-8) during intervention. Immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.1).

Summary

In summary, all of the participants demonstrated limited essay element knowledge during the baseline phase, but improved their essay element knowledge during the intervention phase. Regarding data trends, all participants except Mary (flat directional pattern) demonstrated a downward trend pattern during baseline while all of the participants except Cameron (flat directional pattern) showed an upward trend pattern during the intervention phase. Based on the trend data, it was evident that the participants essay element score had no or decreased changes during baseline while the score improved during the intervention phase. All participants' data showed a standard deviation between 0.55 and 1.63 (with a range of 0 to 4) during the baseline phase and a standard deviation, between 0.89 and 1.64 (with a range of 4 to 8) during the intervention phase. All participants demonstrated rapid immediacy of effect when comparing baseline data points and intervention data points. Finally, there was no overlapped data point between baseline and intervention for all participants. Based on a visual analysis of the data, it was shown that there was a causal relation between SRSD instruction using the TIDE strategy and the essay element performance of all participants.

Effect Size Results

Table 4.3 shows the results of NAP computed for all participants for the essay elements outcome measure.

Student	NAP	Baseline Average	Intervention Average
Cameron	1	1.67	7.60
Daniel	1	2.00	6.20
Kyle	1	1.75	6.80
Mary	1	1.40	6.40

Table 4.3 Essay Elements Results for NAP and Phases

Cameron

From the baseline to the intervention phase, Cameron's data demonstrated a NAP effect size of 1 on essay element total scores. There was 0% overlap within the intervention phase and the baseline phase. The effect of the SRSD intervention using the TIDE strategy on essay element scores can be interpreted as having a large effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011).

Daniel

Daniel's intervention performance remained strong, and he had no overlapping data (NAP = 1). NAP of 1 indicates that this treatment was effective in regards to improving performance on expository writing, as compared to baseline (Vannest, Parker, & Gonen, 2011).

Kyle

Kyle's NAP score for the study was computed as 1, which is interpreted as having a large effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011). There was 0% overlap within the intervention phase and the baseline phase.

Mary

From the baseline to the intervention phase, Mary's data demonstrated a 100% improvement; there was no overlapped data point between baseline and intervention phases

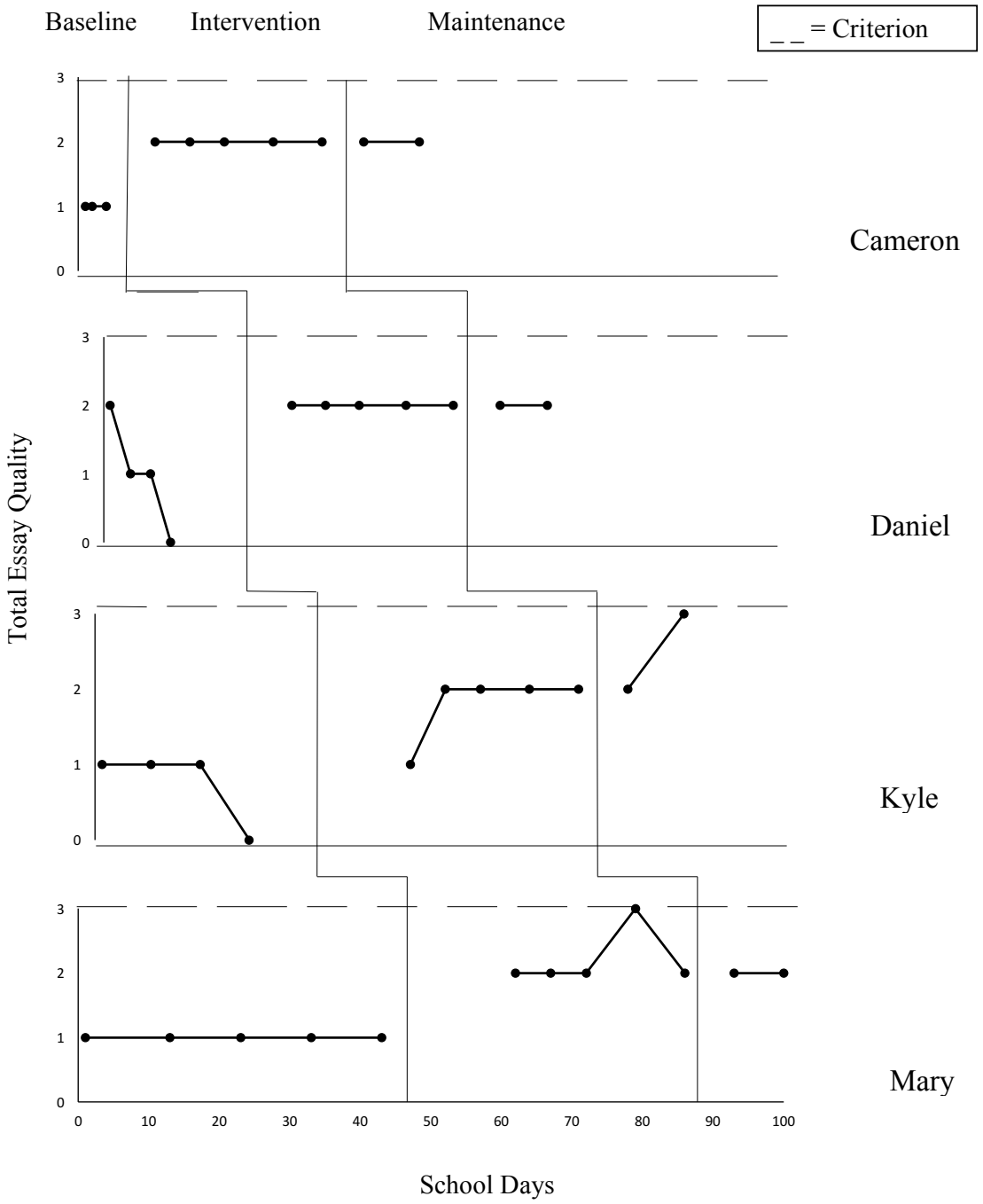
(NAP = 1). The NAP value (1) can be interpreted as a large effect (Vannest, Parker, & Gonen, 2011).

Summary

To summarize, the NAP effect sizes computed indicated there was a large effect of SRSD instruction using the TIDE strategy on the essay elements performance of all participants. According to their NAP scores, all students showed no overlapped data points between baseline and intervention phase. Based on computed effect sizes, it was evident that there was a causal relation between SRSD instruction using the TIDE strategy and the essay elements outcome of all participants. In addition, the effect of the intervention was large.

Essay Quality

To assess participants' performance on the essay quality outcome measure, a visual analysis of the writing probe data was conducted and effect sizes were computed. A holistic scale was used to score writing probe outcomes for the essay quality measure. The rubric consisted of four anchor points (i.e., a score of a 0, 1, 2, or 3), which was adapted from a prior SRSD study (Kiuhara et al., 2012). A score of three was the maximum score a participant could receive, while a score of zero was the minimum. Figure 4.2 shows writing probe scores across baseline, intervention, and maintenance phases for all four participants.



Note. y-axis = one point for each of the four anchor points on the essay quality rubric

Figure 4.2 Essay Quality Results

Visual Analyses Results

For visual inspection of the essay quality data, five features (i.e., level, trend, variability, immediacy of effect, and overlap) were conducted and the results were analyzed to determine whether a causal relation existed between SRSD instruction using the TIDE strategy (Independent Variable) and essay quality (Dependent Variable). Table 4.4 shows level data and trend data (i.e., the R squared value of the trend line ; r^2 = *SSRegression* / *SSTotal* = (explained variation)/(total variation) for the participants and Table 4.5 depicts variability, immediacy of effect (i.e., the change in level between the last three data points in one phase and the first three data points of the next phase; immediacy of effect = [mean of last three data points in baseline/ mean of first three data points in intervention] X 100), and overlap of data between the baseline and intervention phase for participants.

Participants	Level (Mean)			Trend	
	Baseline	Intervention	Maintenance	Baseline	Intervention
Cameron	1.00	2.00	2.00	0.00	0.00
Daniel	1.00	2.00	2.00	-0.90	0.00
Kyle	0.75	1.80	2.50	-0.60	0.43
Mary	1.00	2.20	2.00	0.00	0.12

Table 4.4 Essay Quality Level and Trend Data for Participants

Participants	Variability Standard Deviation (Range)		Immediacy of Effect	Overlap
	Baseline	Intervention		
Cameron	0.00 (1)	0.00 (2)	50%	No
Daniel	0.82 (0 to 2)	0.00 (2)	34%	Yes
Kyle	0.50 (0 to 1)	0.45 (1 to 2)	40%	Yes
Mary	0.00 (1)	0.45 (2 to 3)	50%	No

Table 4.5 Essay Quality Variability, Immediacy of Effect, and Overlap Data for Participants

Cameron

Cameron's mean level score from the baseline to intervention phase increased from a mean of 1.00 to a mean of 2.00, respectively, for the essay quality outcome measure (see Table 4.4). During baseline, Cameron had consistently low scores (M = 1.00; range = 1). After the intervention was implemented, Cameron's essay quality scores immediately increased (M = 2.00; range = 2) and stayed consistent for the remainder of the intervention phase. Level data show that Cameron not only improved in essay quality across the study but maintained this knowledge 1 and 2 weeks after the intervention during the maintenance phase (M = 2.00; range = 2.00). Trend data during baseline and intervention was flat (see Figure 4.2). Cameron's variability data was stable during baseline (SD = 0.00; range = 1) and continued to be stable within intervention phase scores (SD = 0.00; range = 2). Additionally, immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.2).

Daniel

Daniel initially scored a two on the essay quality outcome measure during baseline

with results continuing to decrease during this phase (M = 1.00; range = 0-2) (see Figure 4.1). Daniel's scores promptly increased after the intervention was implemented and continued at stable levels for the rest of the intervention phase (M = 2.00; range = 2). Daniel's level data showed a mean of 1.00 for the baseline phase and a mean of 2.00 for the intervention phase, which demonstrates that Daniel improved in essay quality across the phases. Daniel also maintained this knowledge during the maintenance phase after the intervention was removed (M = 2.00; range = 2). Trend data during baseline was downward (-0.90) and flat during intervention (0.00). Regarding variability, the standard deviation was 0.82 (range = 0-2) during baseline and 0.00 (range = 2) during intervention (see Table 4.5). In addition, immediacy of effect was rapid from baseline to intervention. However, data points did overlap between baseline and intervention as Daniel's highest baseline data point was 2.00, which he also scored on his first writing probe during intervention (see Figure 4.2).

Kyle

According to Kyle's level data, his mean level score for essay quality was 0.75 and 1.80 for the baseline and intervention phases, respectively. Kyle's scores were consistently low during the baseline phase (M = 0.75; range = 0-1). In addition, Kyle's scores increased after the intervention was implemented during the intervention phase (M = 1.80; range = 1-2). Kyle's data showed that he improved in essay quality across the study. Kyle also maintained his essay quality scores 1 and 2 weeks after the intervention was completed; the level of maintenance data was even higher than the level of intervention (M = 2.50; range = 2-3). In addition, Kyle's data demonstrated a downward trend during the baseline

phase (-0.60) and an upward trend during the intervention phase (0.43). Kyle's variability data documented a standard deviation of 0.50 (range = 0-1) during baseline. For intervention data, the variability demonstrated a standard deviation of 0.45 (range = 1-2). Immediacy of effect was not as rapid from baseline to intervention and data points did overlap between baseline and intervention. Kyle's highest baseline data point was 1.0, which he also scored on his first writing probe during the intervention phase (see Figure 4.2).

Mary

Mary's mean level data was 1.00 and 2.20 during the baseline and intervention phases, respectively (see Table 4.4). Mary's essay quality scores were low initially and stayed low throughout the baseline phase (M = 1.00; range = 1). After the intervention was introduced, Mary's scores increased and stayed consistent for the remainder of the intervention phase (M = 2.20; range = 2-3). The mean level data for maintenance was 2.00, which shows Mary maintained her essay quality knowledge 1 and 2 weeks after the intervention was completed. The level data showed Mary improved in essay quality across the study and maintained the intervention gains after the removal of the intervention. A flat trend was demonstrated during both the baseline phase (0.00) and the intervention phase (0.12). Regarding variability, the standard deviation was 0.00 (range = 1) during baseline and 0.45 (range = 2-3) during intervention. Immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.2).

Summary

To summarize, all of the participants except for Daniel demonstrated low scores in essay quality during the baseline phase, but improved in essay quality during the intervention phase. Regarding data trends, all participants except Mary and Cameron (who had flat directional patterns) demonstrated a downward trend pattern during baseline while all of the participants except Cameron and Daniel (who had flat directional pattern) showed an upward trend pattern during the intervention phase. Based on the trend data, it was evident that the participants essay quality score had no or decreased changes during baseline while the score improved during the intervention phase. All participants' data showed a standard deviation between 0.00 and 0.82 (with a range of 0 to 2) during the baseline phase and a standard deviation between 0.00 and 0.45 (with a range of 1 to 3) during the intervention phase. All participants (except for Kyle) demonstrated rapid immediacy of effect when comparing baseline data points and intervention data points. Finally, there was no overlapped data point between baseline and intervention for two out of four participants. Based on a visual analysis of the data, it was shown that there was a causal relation between SRSD instruction using the TIDE strategy and the essay quality performance for most participants.

Effect Size Results

Table 4.6 shows the results of NAP computed for all participants for the essay quality outcome measure.

Student	NAP	Baseline Average	Intervention Average
Cameron	1	1.00	2.00
Daniel	0.88	1.00	2.00
Kyle	0.93	0.75	1.80
Mary	1	1.00	2.20

Table 4.6 Essay Quality Results for NAP and Phases

Cameron

Cameron's performance in intervention never dropped to his performance during baseline, and he had no overlapping data (NAP = 1). NAP of 1 indicates that this treatment was effective in regards to improving performance on essay quality, as compared to baseline (Vannest, Parker, & Gonen, 2011).

Daniel

From the baseline to the intervention phase, Daniel's data demonstrated a NAP effect size of 0.88 on essay quality total scores. There was overlap within the intervention phase and the baseline phase. The effect of the SRSD intervention using the TIDE strategy on essay quality scores can be interpreted as having a moderate effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011).

Kyle

Kyle's NAP score for the study was computed as 0.93, which is interpreted as having a large effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011). NAP of 0.93 indicates that this treatment was effective in regards to improving performance on essay quality (Vannest, Parker, & Gonen, 2011).

Mary

From the baseline to the intervention phase, Mary's data demonstrated a 100%

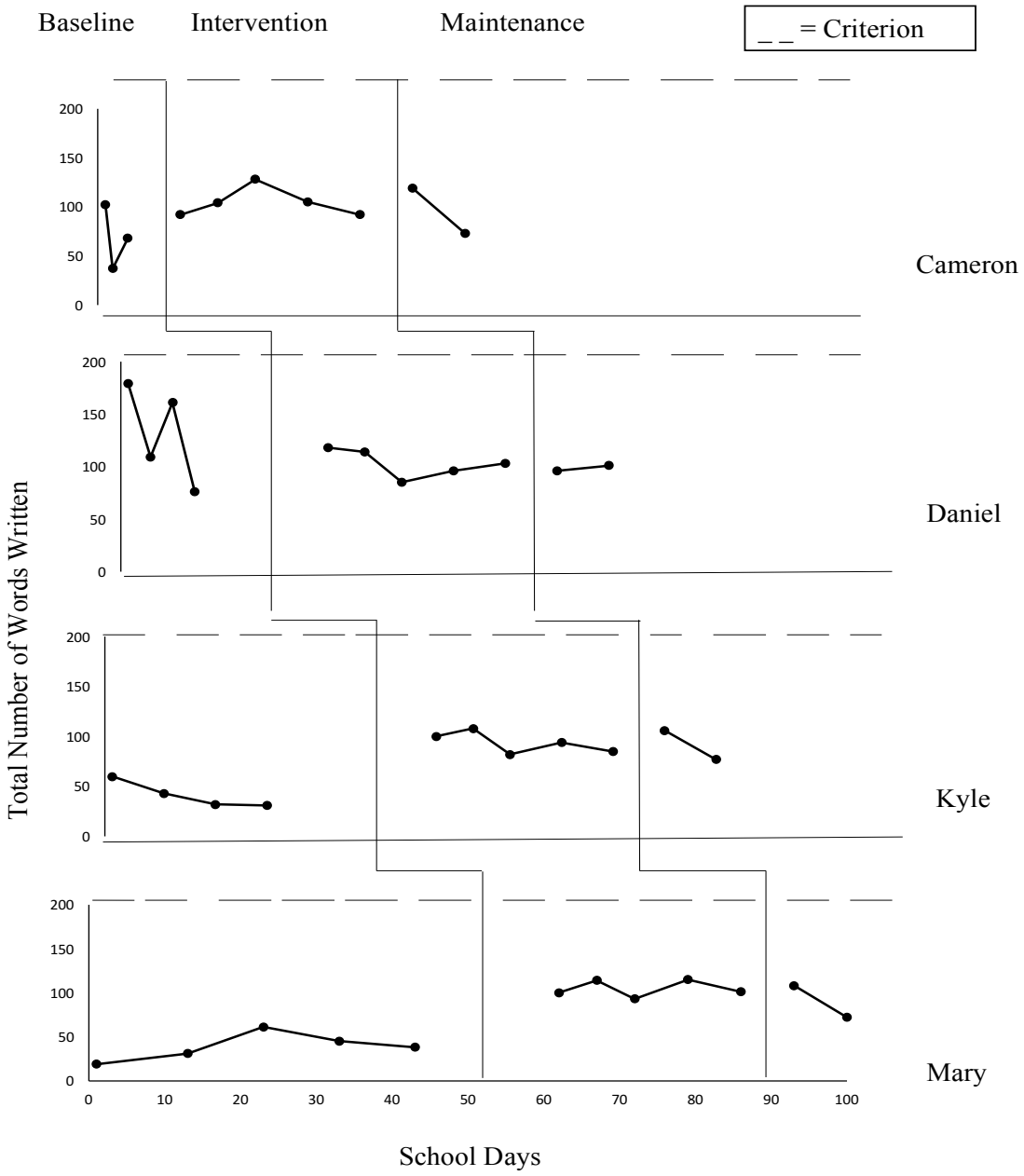
improvement; there was no overlapped data point between baseline and intervention phases (NAP = 1). The NAP value (1) can be interpreted as a large effect (Vannest, Parker, & Gonen, 2011).

Summary

To summarize, the NAP effect sizes computed indicated there was a large effect of SRSD instruction using the TIDE strategy on the essay quality performance of three out of four participants. One participant, Daniel, SRSD instruction using the TIDE strategy was found to be moderately effective for essay quality performance. According to their NAP scores, two students showed no overlapped data points between baseline and intervention phase, while two students did have overlapping data. Based on effect sizes computed, it was evident that there was a causal relation between SRSD instruction using the TIDE strategy and the essay quality outcome for most participants.

Number of Words Written

To assess participants' performance on the number of words written outcome measure, a visual analysis of the writing probe data was conducted and effect sizes were computed. Figure 4.3 shows writing probe scores across baseline, intervention, and maintenance phases for all four participants.



Note. y-axis = one point for each word written on the expository writing probe

Figure 4.3 Number of Words Written Results

Visual Analyses Results

For visual inspection of the number of words written, five features (i.e., level, trend, variability, immediacy of effect, and overlap) were conducted and the results were analyzed to determine whether a causal relation existed between SRSD instruction using the TIDE strategy (Independent Variable) and number of words written (Dependent Variable). Table 4.7 shows level and trend data (i.e., the R squared value of the trend line ; $r^2 = SSRegression / SSTotal$ = (explained variation)/(total variation) for the participants and Table 4.8 depicts variability, immediacy of effect (i.e., the change in level between the last three data points in one phase and the first three data points of the next phase; immediacy of effect = [mean of last three data points in baseline/ mean of first three data points in intervention] X 100), and overlap of data between the baseline and intervention phase for participants.

Participants	Level (Mean)			Trend	
	Baseline	Intervention	Maintenance	Baseline	Intervention
Cameron	69.00	104.20	96.00	-0.12	0.01
Daniel	131.25	103.20	98.50	-0.49	-0.25
Kyle	41.50	93.80	91.50	-0.88	-0.39
Mary	38.80	104.60	90.00	0.29	0.00

Table 4.7 Number of Words Written Level and Trend Data for Participants

Participants	Variability Standard Deviation (Range)		Immediacy of Effect	Overlap
	Baseline	Intervention		
Cameron	32.51 (37 to 102)	14.70 (92 to 128)	64%	Yes
Daniel	47.30 (76 to 179)	13.41 (85 to 118)	-109%	Yes
Kyle	13.48 (31 to 60)	10.69 (82 to 108)	37%	No
Mary	15.69 (19 to 61)	9.56 (93 to 115)	47%	No

Table 4.8 Number of Words Written Variability, Immediacy of Effect, and Overlap Data for Participants

Cameron

Cameron's mean level score from the baseline to intervention phase increased from a mean of 69.00 to a mean of 104.20, respectively, for the number of words written outcome measure (see Table 4.7). During baseline, Cameron's scores ranged from 37 to 102 (M = 69.00). After the intervention was implemented, Cameron's number of words written scores were maintained or increased (M = 104.20; range = 92-128). Level data show that Cameron maintained these outcomes 1 and 2 weeks after the intervention during the maintenance phase (M = 96.00; range = 73-119). Trend data during baseline and intervention was flat (See Table 4.7). Cameron's variability data was slightly unstable during baseline (SD = 32.51; range = 37-102) much more stable within intervention phase scores (SD = 14.70; range = 92-128). Additionally, immediacy of effect was not as rapid as other participants from baseline to intervention and there was overlap between baseline and intervention data (see Figure 4.3).

Daniel

Daniel's number of words written scores were initially high during baseline (see

Figure 4.3) and decreased (and remained constant) during the intervention phase (*M* = 103.20; range = 85-118). Daniel's level data showed a mean of 131.25 for the baseline phase and a mean of 103.20 for the intervention phase. These scores demonstrate even though Daniel did write more words during baseline than other participants, his number or words written scores came to rest in the same level as other participants during the intervention phase (see Figure 4.3). Daniel also maintained similar number of words written scores to the intervention phase during the maintenance phase (*M* = 98.50; range = 96-101). Trend data during baseline was downward (-0.49) and flat during intervention (see Table 4.7). Regarding variability, results were unstable during baseline (SD = 47.30; range = 76-179) and stable during intervention (SD = 13.41; range = 85-118). In addition, immediacy of effect was not as rapid as other participants from baseline to intervention and data points did overlap between baseline and intervention phases (see Figure 4.3).

Kyle

According to Kyle's level data, his mean level score for number of words written was 41.50 and 93.80 for the baseline and intervention phases, respectively. Kyle's scores were consistently low during the baseline phase (*M* = 41.50; range = 31-60) and increased after the intervention was implemented during the intervention phase (*M* = 93.80; range = 82-108). Kyle's data showed that he improved in number of words written across the study. Kyle also maintained his number of words written scores 1 and 2 weeks after the intervention (*M* = 91.50; range = 77-106). Kyle's data demonstrated a downward trend during the baseline phase (-0.88) and a flat trend during the intervention phase (see Figure 4.3). Kyle's variability data documented a standard deviation of 13.48 (range = 31-60)

during baseline and a standard deviation of 10.69 (range = 82-108) during intervention. Immediacy of effect was rapid from baseline to intervention and no data points overlapped between baseline and intervention (see Figure 4.3).

Mary

Mary's mean level data was 38.80 and 104.60 during the baseline and intervention phases, respectively (see Table 4.7). Mary's number of words written scores were low initially and stayed low throughout the baseline phase (M = 38.80; range = 19-61). After the intervention was introduced, Mary's scores increased and remained consistent for the rest of the intervention phase (M = 104.60; range = 93-115). The mean level data for maintenance was 90.00, which shows Mary maintained number of words written 1 and 2 weeks after the intervention was completed. The level data showed Mary improved in number of words written across the study and maintained the intervention gains after the removal of the intervention. A flat trend was demonstrated during both the baseline phase (0.29) and the intervention phase (0.00). Regarding variability, the standard deviation was 15.69 (range = 19-61) during baseline and 9.56 (range = 93 to 115) during intervention. Immediacy of effect was rapid from baseline to intervention and there was no overlap between baseline and intervention data (see Figure 4.3).

Summary

To summarize, all of the participants except for Daniel demonstrated limited number of words written during the baseline phase and increased or maintained (i.e., Cameron) number of words written during the intervention phase. Regarding data trends, all participants demonstrated a downward or flat trend pattern during baseline and a flat

directional pattern during the intervention phase. Based on the trend data, it was evident that for the majority of participants, number of words written score had no or decreased changes during baseline while the score increased or maintained during the intervention phase. Daniel was the exception as his trend data showed no or decreased growth in number of words written. Daniel's results reveal that, for Daniel, word count and essay quality may be correlated but imperfectly linked. Once Daniel started SRSD treatment during the intervention phase and began to express his ideas in fewer words, Daniel's essay quality scores increased and his word count scores leveled out to the same as the remaining participants. All participants' data showed a standard deviation between 13.48 and 47.30 (with a range of 19 to 179) during the baseline phase and a standard deviation between 9.56 and 14.70 (with a range of 82 to 128) during the intervention phase. Half of the participants demonstrated rapid immediacy of effect when comparing baseline data points and intervention data points, while the other half demonstrated a slow immediacy of effect. Finally, there was no overlapped data point between baseline and intervention for two out of four participants. Based on a visual analysis of the data, it was shown that there was a causal relation between SRSD instruction using the TIDE strategy and the number of words written performance of two out of four participants.

Effect Size Results

Table 4.9 shows the results of NAP computed for all participants for the number of words written outcome measure.

Student	NAP	Baseline Average	Intervention Average
Cameron	0.87	69.00	104.20
Daniel	0.35	131.25	103.20
Kyle	1	41.50	93.80
Mary	1	38.80	104.60

Table 4.9 Number of Words Written Results for NAP and Phases

Cameron

From the baseline to the intervention phase, Cameron's data demonstrated a NAP effect size of 0.87 on number of words written scores. There was overlap within the intervention phase and the baseline phase. The effect of the SRSD intervention using the TIDE strategy on number of words written scores can be interpreted as having a moderate effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011).

Daniel

Daniel's NAP score for the study was computed as 0.35, which is interpreted as having a small effect during treatment, compared to baseline (Vannest, Parker, & Gonen, 2011). NAP of 0.35 indicates that this treatment had little to no effect on improving performance on number of words written for Daniel (Vannest, Parker, & Gonen, 2011).

Kyle

Kyle's performance in intervention never dropped back down to his performance during baseline, and he had no overlapping data (NAP = 1). NAP of 1 indicates that this treatment was effective in regards to improving performance on number of words written, as compared to baseline (Vannest, Parker, & Gonen, 2011).

Mary

From the baseline to the intervention phase, Mary's data demonstrated a 100% improvement; there was no overlapped data point between baseline and intervention phases (NAP = 1). The NAP value (1) can be interpreted as a large effect (Vannest, Parker, & Gonen, 2011).

Summary

To summarize, the NAP effect sizes computed indicated there was a large effect of SRSD instruction using the TIDE strategy on the number of words written performance of two out of four participants. One participant, Cameron, SRSD instruction using the TIDE strategy was found to be moderately effective for number of words written performance. The remaining participant, Daniel, SRSD instruction was found to have a small effect for number of words written performance. According to their NAP scores, two students showed no overlapped data points between baseline and intervention phase, while two students did have overlapping data. Based on effect sizes computed, it was evident that there was a causal relation between SRSD instruction using the TIDE strategy and the number of words written outcome for half the participants.

RESEARCH QUESTION 2

The focus of research question two was on the examination of the effects of SRSD writing instruction using the TIDE strategy on a distal (i.e., TOWL-4, story composition) writing outcome measure. To test the potential impact of the treatment on writing growth, a standardized measure was selected. The Test of Written Language Story Composition subtest, Level 4, was given to all participants as a pretest (Form A) and posttest (Form A)

to measure the potential impact of the treatment on writing outcomes and test the participants' writing knowledge prior to the intervention and after the strategy had been presented.

In Chapter 3 a description regarding each score type and its purpose was provided. These score types collected from the TOWL-4 were:

(1) Raw scores—the number correct out of 20 possible questions

(2) Descriptive Term (DT)—terms that correspond to scaled scores and indexes. Terms range from Very Superior to Very Poor.

(3) National Percentile Ranks (NPR)—a value on a scale of 100 that indicates the percentage of the distribution that is equal to or below the value. Thus, a percentile rank of 75 for student who is 15 years old indicates that 75% of the standard sample score at or below the raw score that converts to the 75th percentile.

The results of the standardized test are described in Table 4.10. For each participant, the raw score out of 20 and percentage score are provided. Additionally, results of a paired-samples t-test are described in Table 4.11. Pre-test and post-test means and standard deviations are provided. The implications of these results will be discussed in Chapter 5.

Cameron

Cameron demonstrated growth from his pre-baseline test to post treatment performance based on findings from the TOWL-4 standardized assessment. On the pretest, Cameron scored a 5 out of 20 on the story composition subtest, which was a score of 16% or Below Average. On his posttest immediately following treatment, Cameron scored a 7

out of 20, for a total score of 37% or Average. This increase in performance from 5 to 7 shows improved writing outcomes following the treatment.

Daniel

Daniel more than doubled his raw score from pretest to posttest. Daniel scored a 3 out of 20 on pretest, for a score of 5% or Poor. On posttest, Daniel improved by scoring an 11 out of 20, for a final score of 84% or Above Average. The increase indicates improved writing performance.

Kyle

Kyle also improved writing performance following treatment. Kyle scored a 5 out of 20 on pretest, which is a score of 16% or Below Average. On his posttest, Kyle scored a 14 out of 20, for a final score of 98% or Superior. As with Daniel and Cameron, Kyle's results on the standardized assessment suggest transfer of the SRSD strategy to a broader assessment of written language.

Mary

Mary also improved following treatment. However, Mary's gains on the posttest were smaller compared to those of the other three participants. Mary scored a 4 out of 20 on pretest, which is a score of 9% or Below Average. On her posttest, Mary scored a 5 out of 20, for a final score of 16% or Below Average. Mary's results on the writing probes (described above) reveal that she was able to respond to SRSD instruction by demonstrating an experimental effect. However, Mary's ability to transfer her acquired knowledge to a broader assessment of performance was minimal.

Student	Raw (pre)	Raw (post)	DT (pre)	DT (post)	PR (pre)	PR (post)
Cameron	5	7	Below Average	Average	16%	37%
Daniel	3	11	Poor	Above Average	5%	84%
Kyle	5	14	Below Average	Superior	16%	98%
Mary	4	5	Below Average	Below Average	9%	16%

Note. DT = Descriptive Term; PR = Percentile Rank

Table 4.10 TOWL-4 Descriptive Results

A two-tailed paired-samples t-test was conducted to compare pre-test and post-test writing scores on the story composition subtest of the TOWL-4 standardized assessment. Results indicate there was not a significant difference between pre-test ($M = 4.25$, $SD = 0.96$) and post-test ($M = 9.25$, $SD = 4.03$) scores: $t(3) = 2.45$, $p = 0.09$. These results suggest the SRSD intervention using the TIDE strategy does not have an effect on improvement on the story composition subtest of the TOWL-4.

Participant	Pre Test	Post Test
Cameron	5	7
Daniel	3	11
Kyle	5	14
Mary	4	5
Total	M = 4.25 SD (0.96)	M = 9.25 SD (4.03)

Table 4.11 TOWL-4 Standard Score Results

Summary

In summary, results on the pre-post standardized assessment indicate that all students improved on posttest in terms of raw scores and national percentile ranks. Also, as a group, the participants' percentile rank increased from 11.50% to 58.75%. However, standard score results indicate non-significance.

RESEARCH QUESTION 3

To ascertain participant information regarding perceived effectiveness of the SRSD treatment, a social validity questionnaire was administered to all participants on their final day of participation. The questionnaire contained seven Likert-scale items asking participants to provide a rating based on their perception of usefulness and likability. The following scale was included on the questionnaire (see Appendix O): 1, *strongly disagree*; 2, *disagree*; 3, *somewhat disagree*; 4, *somewhat agree*; 5, *agree*; 6, *strongly agree* and 7, *no opportunity to observe*.

Social validity questions were as follows:

1. Self-regulated strategy development (SRSD) instruction improved my expository writing.
2. Self-regulated strategy development (SRSD) instruction improved my confidence about my writing abilities.
3. Self-regulated strategy development (SRSD) instruction improved my planning skills during writing.

4. Self-regulated strategy development (SRSD) instruction improved my writing skills using TIDE.
5. Self-regulated strategy development (SRSD) instruction was worth my time and effort.
6. I will continue to use the strategies I learned during self-regulated strategy development (SRSD) instruction.
7. Self-regulated strategy development (SRSD) instruction is worth recommending to other students who want to improve their expository writing.

The third research questions that guided this dissertation was: What are the perspectives of the participants towards self-regulated strategy development model when learning to write expository text (social validity)? Combining the participant responses for each item on the social validity survey and then analyzing the results answered this research question. Across all items on the survey, the majority of the answers indicated that SRSD was perceived as being effective for learning to write expository text and was worth recommending to other students.

The first question asked students if SRSD instruction helped them improve their expository writing skills. Three students indicated that they agreed that SRSD was helpful and one student disagreed. The second question asked if SRSD instruction improved students confidence in their writing abilities. Three students said they agreed and one student disagreed. Question 3 asked if SRSD instruction improved planning skills during writing. Two students agreed, one student somewhat agreed, and one student disagreed.

Student response to Question 4 ("SRSD improved my writing skills using TIDE.") was three students agreed and one student disagreed. The fifth question asked, "SRSD instruction was worth my time and effort." Two students agreed, one student somewhat agreed, and one student disagreed. Question 6 stated, "I will continue to use strategies I learned during SRSD instruction." Three students agreed and one student disagreed. Finally, for Question 7, the researcher sought to discover if participants thought SRSD instruction was worth recommending to other students who want to improve their expository writing skills. One student agreed, two students somewhat agreed, and one student disagreed.

Summary

In summary, participants believed that the SRSD model was useful for learning to write expository text and said they would recommend it to other students. Implications regarding the social validity results for SRSD writing instruction of middle school students at-risk for EBD is discussed in Chapter 5.

OVERVIEW OF FINDINGS

To sum up the findings for research questions one, based on visual analysis of data and effect sizes, it was determined that SRSD instruction using the TIDE strategy was effective on the improvement of essay element performance of middle school students at-risk for EBD who have difficulty with writing; a large effect of intervention was detected for all participants. Additionally, SRSD instruction using the TIDE strategy was found effective for a majority of the participants on the improvement of essay quality performance. A large effect of intervention was detected for three out of four participants

and a moderate effect was detected for one participant. Finally, SRSD instruction using the TIDE strategy was found effective for half of the participants on the increase of number of words written performance, as a large effect was detected for two out of four participants. Regarding research question two, results on the pre-post standardized assessment indicate that all students improved on posttest in terms of raw scores and national percentile ranks. However, standard score results indicate non-significance. For research question three, a majority of the participants enjoyed SRSD instruction using the TIDE strategy. Participants believed that the SRSD model was useful for learning to write expository text and said they would recommend it to other students.

Chapter 5: Discussion

The purpose of this study was to examine the effects of self-regulated strategy development (SRSD) writing instruction using the TIDE strategy on proximal writing outcomes (i.e., essay quality, essay elements, number of words written) and distal writing outcomes (i.e., TOWL-4) on expository compositions participants wrote. These participants were identified as at-risk for EBD. Although there is currently no synthesis or literature review regarding the effects of the SRSD model for students identified with EBD or at-risk for EBD in the middle school, there has been a growing body of single-subject research supporting the use of the SRSD model with middle school students (grades 6-8) identified with EBD who struggle in writing (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014; McKeown, Kimball, & Ledford, 2015). In sum, studies implementing the SRSD model as an intervention published within the last decades identified several promising instructional practices for use with students identified as EBD, including the use of SRSD for improved persuasive writing outcomes; the effectiveness of both researcher and teacher implemented SRSD writing instruction; and the implementation of SRSD writing instruction in a variety of school settings (public, private, and residential). Essay elements, essay quality, and number of words written were the most common dependent variables used in these studies to measure responsiveness to SRSD writing instruction with this population of students. Also, these studies noted the lack of interventions using SRSD instruction to explore expository writing outcomes with older students with EBD.

To address this gap, the researcher involved in this dissertation study explored the effects of SRSD writing instruction using the TIDE strategy to a typical practice baseline condition for participants at-risk for EBD in middle school. A multiple-probe, single-subject design study with four participants at-risk for EBD in seventh and eighth grade was conducted to determine the utility of this treatment for improving expository writing knowledge and writing outcomes.

The first part of this chapter is a discussion of the results for research question one and research question two. The results for proximal writing measures (i.e., essay quality, essay elements, and number of words written) are discussed with the results of the distal measure, the TOWL-4, to follow. The next section explores research question three, which will be discussed within the context of how the social validity findings compare to previous SRSD studies and the possible influence of student responses on future investigations. The chapter concludes with a discussion of limitations, recommendations for future research, and implications for practice.

RESEARCH QUESTION 1

The campus special education coordinator identified the four participants in this study as being at-risk for EBD. Additionally, the language arts classroom teacher identified the participants as having difficulty in writing. In Chapter 4, two key findings related to writing outcomes were acknowledged and are discussed: (a) The treatment was associated with improved understanding of expository writing for all students in this study; and (2) overall, the results are promising because they indicate that SRSD instruction using the

TIDE strategy may have promise for students in Grades 7 and 8 who are identified at-risk for EBD and have writing difficulties.

Writing Probe Gains

The researcher involved in this study attempted to test the effectiveness of a SRSD treatment using the TIDE strategy on proximal (i.e., essay elements, essay quality, number of words written) writing measures. To examine the effects, visual analyses of the graphs and computation of effect sizes were conducted.

Essay Elements

Essay elements (i.e., TIDE parts) was measured to assess the correct number of TIDE parts written in the participants' expository essays. To score essay elements on a writing sample, the number of expository essay elements (TIDE parts) included in a participant writing sample was tabulated. As discussed in Chapter 4, visual analyses results indicated an experimental effect for all participants. Also, all four participants attained a NAP score of 1, which means the treatment phase observed exceeds the baseline phase observed, thus, the treatment was found to be promising for enhancing the usage of essay elements (i.e., TIDE parts) necessary for expository writing.

The TIDE strategy, a fundamental component of this intervention, is a mnemonic device used to organize participants thinking around expository text. The purpose of embedding the TIDE strategy into the intervention was for the inclusion of strategy-based instruction into the intervention. Strategy-based instruction (i.e., where strategies are integrated into learning tasks) has been associated with high effect sizes in intervention studies for students with disabilities and has been well supported in the literature (Graham,

2006; Mason & Graham, 2008). Many benefits can result from using strategy-based instruction in teaching writing. First, strategy-based instruction can increase student knowledge about the characteristics of good writing (Dean, 2010). Also, strategy-based instruction prepares writers to write in all situations and in multiple genres (Dean, 2010). Finally, strategy-based instruction can help students accomplish their writing goals more effectively. One, or all, of these benefits may have played a role in the promising results found throughout this intervention study on the essay elements outcome measure.

These findings of increased participant use of essay elements are consistent with previous single-subject design research on middle school students with EBD or at-risk for EBD and SRSD instruction examining essay element outcomes (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014). However, all prior studies required participants to compose a persuasive essay and were analyzed for the inclusion of persuasive parts for essay elements. Therefore, the findings from this current study demonstrate that SRSD instruction for the purpose of increasing the inclusion of essay elements generalizes across writing genre (i.e., expository) and shows promise that SRSD instruction using the TIDE strategy increases student knowledge of expository essay parts.

Essay Quality

Essay quality was measured to assess participant response to an expository writing probe. A holistic scale was used to score essay quality. Visual analyses and computation of effect sizes revealed that there was a causal relation between SRSD instruction using the

TIDE strategy and the essay quality outcomes for most participants. In fact, computed NAP effect sizes indicated there was a large effect of SRSD instruction using the TIDE strategy on the essay quality performance of three out of four participants. SRSD instruction using the TIDE strategy proved to have mixed effectiveness for the remaining participant. Although this result of mixed effectiveness is discouraging compared to results shown by the other participants, it should be noted that while this participant did have one overlapping data point from baseline to intervention, the participant's level data showed a mean of 1.0 for the baseline phase and a mean of 2.0 for the intervention phase. This demonstrates that the participant did improved in essay quality across the phases.

The treatment phase of this intervention was intentionally rigorous; therefore, the inclusion of cognitive strategies and self-regulation strategies in the intervention may have played a role in positive results on the essay quality outcome measure as both of these strategies provide students with a structure for learning when a task seems too difficult. For instance, within the SRSD model, teachers (a) describe and discuss a strategy, (b) model application of the strategy, (c) have students memorize the strategy, (d) support students' use of the strategy, and (e) move students toward independent use of the strategy. This cognitive strategy approach to learning along with the inclusion of the self-regulation strategies embedded into SRSD model (i.e., goal setting) may have provided participants with necessary confidence to write a higher quality essay. With that said, it should be noted that cognitive strategy instruction and self-regulation strategies have been well supported in research as being effective for use with students with disabilities and have been shown to increase student performance on important academic tasks (Englert, Raphael, &

Anderson, 1992; Englert et al., 1991; Graham & Harris,1989b; Schunk and Swartz, 1993; Wong, Butler, Ficzere, & Kuperis, 1997; Wong, Butler, Ficzere, & Kuperis, 1996; Wong, Wong, Darlington, & Jones, 1994).

Several single-subject studies examining the effectiveness of essay quality had similar strong results (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014). A significant difference between these studies and the current study is that one participant in the current study had mixed effects even though this participant demonstrated growth in essay quality. Therefore, future studies should continue to examine essay quality when studying SRSD instruction and expository writing with older students with EBD or at-risk for EBD. Additionally, all prior studies examined SRSD instruction and persuasive writing so additional research using expository text would be beneficial for understanding if essay quality generalizes across writing genres.

Number of Words Written

Number of words written is the total number of words in a participant's expository essay. A word was defined as any letter or group of letters separated by a space. To score a written composition for number of words written on a writing sample, the scorer counted the total number of words written on a writing probe and then verified in Microsoft Word word count. Similar to previously discussed outcome measures, the inclusion of effective treatment components (i.e., strategy-based instruction, cognitive strategy instruction, and self-regulation strategies) into the SRSD model was purposeful for analyzing the number

of words written outcome measures. As teachers implement effective teaching techniques into writing lessons that develop students background knowledge, discuss and model specific writing strategies with students, support students during guided writing tasks, and encourage students to set writing goals, it is anticipated that the length of a student's essay would increase or decrease.

Visual analyses and effect size results on writing probes in the current study indicated large effects for half (i.e., two out of four) of the participants for improving (or increasing) performance on the number of words written outcome measure, while results indicated mixed effects for one participant (Cameron) and small effects for the remaining participant (Daniel). Daniel's reported results for the essay quality outcome measure show that even though Daniel had high word count scores during baseline, he had low essay quality scores. These results may indicate that, for Daniel, word count and essay quality are correlated but imperfectly linked. Once Daniel started intervention and began to express his ideas, although in fewer words, his essay quality scores increased and his word count scores leveled out to the same as the remaining participants. It is conceivable that for Daniel, the intervention helped him better understand the components of writing, which he began to attend to during the intervention phase. Apparently, consequently, the number of words written decreased as he focused more on writing text that included the instructed writing components.

Prior research indicates that the SRSD model can be used to improve length of compositions with students with learning disabilities (Graham & Harris, 1989b; Harris, Graham, & Mason, 2006; Lienemann & Reid, 2006), however, research on the SRSD

model and the number of words written outcome measure for middle school students with EBD or at-risk for EBD is limited. In fact, only three studies have been conducted where number of words written (or length of essay) was used as an outcome measure (Cramer & Mason, 2014; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010). Findings from two of the studies showed an increase in results from baseline to intervention (Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010), while mixed results similar to this current intervention study were found in one study (Cramer & Mason, 2014). Therefore, results obtained during the current study analyzing expository text are not completely surprising. Additional research examining number of words written as an outcome measure and SRSD writing instruction could yield valuable information regarding the effectiveness of the SRSD model in increasing word count.

Summary

In summary, knowledge gained throughout this study contributes to the extant research base by suggesting that SRSD instruction using the TIDE strategy is associated with improving performance on essay element and essay quality measures. Mixed results were found, however, when using SRSD instruction and the TIDE strategy for increasing the total number of words written by a participant.

RESEARCH QUESTION 2

Because special education tends to rely heavily on standardized, norm referenced instruments as tools for identifying and evaluating the growth of students (Jenkins & Pany, 1978), The Test of Written Language, Fourth Edition (TOWL-4; story composition subtest)

was used for both screening potential participants (i.e., participants were required to attain a score at or below the 25th percentile to qualify for the study) and was administered to each participant post-intervention to test generalization to a different writing task. Results on the pre-post standardized assessment indicate that all students improved on posttest in terms of raw scores and national percentile ranks. Also, as a group, the participants' percentile rank increased from 11.50% to 58.75%. However, standard score results indicate non-significance.

Therefore, even though it is encouraging to see positive results on pre-post raw scores and national percentile ranks to offer even more evidence of promising improvement in writing following the SRSD treatment using the TIDE strategy, it cannot be determined whether the improvements identified on the TOWL-4 were attributed to the treatment or represent what would be typically expected for students with EBD. This uncertainty is because the standard score obtained by the participants was non-significant and, in addition to participating in treatment, participants continued to receive general writing instruction in their classrooms where progress through the school year is expected. Despite the absence of causality, the inclusion of a standardized writing assessment was still a useful addition to this study as it indicates real writing growth with respect to the normative sample.

All of the SRSD single-subject studies found in prior literature that include the same population as this study and include a standardized measure for the purpose of measuring generalization (Mason, Kubina, Valasa, & Cramer 2010; Mastropieri et al., 2009; Mastropieri et al., 2014) found similar results of participant growth in writing. However, all prior studies used the Woodcock Johnson-Fluency subtest as a standardized measure as

opposed to the TOWL-4-story composition subtest and all prior studies reported statistically significant results as opposed to the non-significant results reported in this study. Additional studies analyzing story composition as opposed to fluency are needed.

RESEARCH QUESTION 3

In single-subject research studies, questionnaires are often administered to gather information from the participants regarding the treatment they participated in (Kennedy, 2005). This process is completed to understand how effective the participants deemed the treatment to be and to obtain ideas for improving the research in future studies (Horner et al., 2005; Kennedy, 2005). The questionnaire developed for this study was influenced by a measure used in a SRSD study with high school students with disabilities (Kiuhara et al., 2012). The questionnaire (see Appendix O) was analyzed to help answer the second research question: What are the perspectives of the participants towards the self-regulated strategy development model when learning to write expository text?

Student Perceptions

A seven question Likert-type scale rating from 1 to 6 (*1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Somewhat Agree; 5 = Agree; 6 = Strongly Agree;* and *No Opportunity to Observe*) was used in the study to measure student perceptions. Results indicated that one participant did not like the study and answered, "Disagree" for all questions. Remaining participants liked the study and answered, "Agree" or "Strongly Agree" for most questions. The participant who said he did not like the study smiled when he gave his answers to the questionnaire so one can assume this was his standard answer to most questions about school work.

Results from the social validity questionnaire confirmed a theme found in six previous single-subject studies implementing SRSD instruction with middle school participants with EBD (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014). The shared theme was that participants see the benefits of SRSD instruction and enjoy using the strategies embedded within SRSD lessons. Shared comments from students in past studies as well as the participants in the current study were that participants thought SRSD instruction (a) improved students writing (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mastropieri et al., 2010; Mastropieri et al., 2014), (b) improved students confidence about their writing abilities (Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013), (c) improved students planning skills (Cramer & Mason, 2014; Hauth, Mastropieri, Scruggs, & Regan, 2013), (d) improved students writing skills using a known strategy (Cramer & Mason, 2014; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014), and (f) improved likelihood that students would continue to use the skills gained during SRSD instruction (Hauth, Mastropieri, Scruggs, & Regan, 2013, Mastropieri et al., 2010).

EDUCATIONAL IMPLICATIONS

Though teacher education geared toward students at-risk for EBD has historically been characterized by a focus on classroom management and social skills, many researchers have more recently argued that academically-focused interventions may be

most effective in supporting and engaging students with conduct disorders (Lane, 2007). Therefore, researchers have advocated for more targeted, evidence-based approaches to interventions for students at-risk for EBD as opposed to programs focused solely on behavior (Lane, 2007). Knowing the SRSD model is an evidence-based approach to teaching writing and has shown promise for students at-risk for EBD, there are two implications of this study for applied practice.

First, this study demonstrates that SRSD instruction using the TIDE strategy is promising for improving expository writing with seventh and eighth grade students at-risk for EBD. Additionally, since three out of the four participants in the study were co-diagnosed as being at-risk for EBD and as having a speech or language impairment this study also demonstrates that SRSD instruction using the TIDE strategy is promising for improving expository writing for seventh and eighth grade students at-risk for EBD also identified as SLI. Difficulties with expository writing for this population of students may be attributed to demands on writers' prior knowledge as well as the fact that expository text contains more unfamiliar vocabulary, fewer ideas related to the present, and less information directly related to personal experience. Therefore, in understanding the challenges faced by these students when learning to write expository text, it is encouraging that this dissertation provides some evidence that the SRSD model using the TIDE strategy is notable compared to writing instruction used during the baseline/ typical practice phase for students who are at-risk for EBD and have identified speech or language impairment. Some important components of the SRSD model that may have contributed to the fairly

substantial gains discovered in this study are highly explicit instruction, self-regulation strategies, cognitive strategy instruction, and strategy-based instruction.

Knowledge gained during this study contributes to the extant research (Ennis & Jolivette, 2014; Losinski, Cuenca-Carlino, Zablocki, & Teagarden, 2014; Sreckovic, Common, Knowles, & Lane, 2014) because results not only demonstrate expository writing growth for students who have writing difficulties but is currently the only study using SRSD instruction for expository text improvement with middle school students at-risk for EBD. Despite evidence of effectiveness for this population, however, more research and replication studies are necessary to determine that this practice is evidence-based when teaching expository writing to this population.

A second implication is that students included in this study perceive SRSD instruction using the TIDE strategy as effective for improving their learning. The social validity questionnaire suggests that participants found the SRSD treatment to be useful for improving expository writing, improving confidence in their writing abilities, and was worth their time and effort. Other single-subject SRSD studies including this population that have collected social validity information also have confirmed that students with EBD recognize the value in using SRSD for writing instruction (Cramer & Mason, 2014; Cuenca-Carlino & Mustian, 2013; Hauth, Mastropieri, Scruggs, & Regan, 2013; Mason, Kubina Jr., Valasa, & Cramer, 2010; Mastropieri et al., 2010; Mastropieri et al., 2014). Using practices that are academically effective and promote student buy-in hold practical value for educators.

LIMITATIONS OF THE STUDY

Several limitations to this dissertation study warrant consideration. The first is the researcher-developed writing probes were not piloted prior to this study. Although prompt topics included in the writing probe were selected from grade appropriate prompts developed by the Department of Education at The University of Oregon and the Department of Education at The University of Florida to ensure consistency and validity across writing probes and writing probes were reviewed by the special education department chair to ensure each probe was age appropriate, met the participants reading level, met the needs of English learners participating in the study, and took into consideration the participant's background knowledge, piloting the writing probes would have instilled more confidence in the results. The researcher felt many of the participants identified as ELL needed additional support in understanding the vocabulary included in the prompt topics on the writing probes. Low performance by some of these participants on various writing probes could be a result of limited vocabulary knowledge.

Also, procedures used for scoring the essay quality outcome measure proved to be a limitation in this study. Because the scoring rubric consisted of only four anchor points, it was difficult for the researcher to demonstrate participants essay quality growth. The rating scale, 0 – 3, of the rubric for scoring essay quality may not have been sensitive (i.e., limited rating scale) to incremental differences in essay quality growth of students who struggle with writing expository text such as the students in this study.

A third limitation to the study is that three of the four participants received intervention during their language arts class period, reducing their number of minutes in

additional writing instruction, while one participant (Kyle) received intervention during an elective class period. Having intervention during an elective allowed this participant more writing instruction as he did not miss out on any instruction that occurred during language arts.

Finally, the focus of the study was on content and structure of expository essays using the TIDE strategy, but the mechanics of writing were not addressed. Future research should explore the possibility of incorporating planning and revising strategies as part of SRSD instruction when analyzing expository essays.

DIRECTIONS AND FUTURE RESEARCH

Previous research (Ennis & Jolivette, 2014; Losinski, Cuenca-Carlino, Zablocki, & Teagarden, 2014; Sreckovic, Common, Knowles, & Lane, 2014) have reviewed the effects of SRSD instruction specific with students with EBD and found that studies with middle school students with EBD have examined SRSD instruction with persuasive and narrative texts. This study extended the work to include SRSD instruction and expository writing, and found that it can be effective to support writing outcomes in this population as well. Acknowledging that this study is the first study to implement SRSD instruction with expository writing and students at-risk for EBD, future research should replicate procedures found in this study to validate findings.

Second, future research should consider investigations using SRSD and expository writing instruction with elementary and high school students. Although this study focused on improving the expository writing skills of students with EBD and at-risk for EBD in seventh and eighth grade, investigations that focus on expository writing are also needed

in the younger and older grades as well.

Additionally, campus administrators at the school where this study took place expressed a desire for the SRSD intervention to include mechanical and grammatical components as well as expression components in writing. Therefore, future research should consider implementing a multi-component SRSD intervention that includes a mechanical/ grammatical component as it seems to be of interest to educators and administrators.

Also, future researchers should consider if students at-risk for EBD experience greater benefit from SRSD and TIDE instruction taking place in a whole class setting, similar to the study conducted by Benedek-Wood and colleagues (2014), or in a more intensive (one-on-one) setting similar to this study.

Finally, because the SRSD model has significant potential benefits for improving a student's self-determination skills (e.g., Cuenca-Sanchez et al., 2012), in the future, researchers should look at using the SRSD model to help students express their feelings in an elective course or therapy session.

CONCLUSION

The purpose of this study was to examine the extent to which self-regulated strategy development (SRSD) writing instruction using the TIDE strategy can improve the outcome of expository writing for middle school students with EBD or at-risk for EBD who experience writing difficulties. Given the emphasis in core classes for students in the middle school to be able to write expository text, studies examining ways to improve expository writing, such as this dissertation, are warranted.

The results of this dissertation revealed that student performance on writing

measures can improve and maintain expository writing outcomes. The intervention resulted in increased essay element and essay quality outcomes for all or a majority of participants and increased total number of words written outcomes for half the participants. Additionally, all participants in this study improved their raw scores and national percentile ranks on the TOWL-4 Story Comprehension subtest, however, there is not enough information to conclude that these gains were a direct result of the treatment. Finally, the results of the social validity questionnaire indicate that participants value the benefits of SRSD instruction and enjoy using the TIDE strategy embedded within the SRSD lessons. Although one participant was not completely fond of the intervention, this participant did show growth on all three dependent measures. Despite several limitations, the SRSD treatment using the TIDE strategy taught in this study is promising for improving expository learning in middle school students with EBD or at-risk for EBD.

Appendix A

Dear Parents,

I am currently carrying out some research for a dissertation study with The University of Texas at Austin. The main focus of the study is on improving writing outcomes for students. To carry out this investigation, I will be providing one-on-one tutoring to students using the self-regulated strategy development (SRSD) model in hopes to improve students' ability to write expository text.

Attached you will find additional information regarding the study. Please feel free to contact me if you have any questions or concerns.

Best,

Megan Carroll
megancarroll@austin.utexas.edu
meganleacarroll@gmail.com

IRB USE ONLY
Study Number: 2017-01-0014
Approval Date: 10/03/2017
Expires: 02/09/2018

Permission to Conduct Research

Title: The Impact of Using Self-Regulated Strategy Development to Improve Expository Writing Outcomes in Students with or At-Risk for Emotional and Behavioral Disorders

Introduction

Mastropieri et al. (2009) found that only 15.9% of all peer reviewed special education research articles described an academic or behavioral intervention for students with EBD with writing interventions being the least researched. Writing outcomes for students with disabilities in general are abysmal. More specifically, the National Assessment of Educational Progress Writing Assessment of 2011 found students with disabilities in eighth and twelfth grade, on average, scored well below the Proficiency level on writing skills. According to Nelson, Benner, Lane and Smith (2004), students with EBD, from kindergarten through twelfth grade, score at levels considered well below average on standardized writing assessments. This academic difficulty, along with the limited research for students with EBD, places them at increased risk for academic failure (Lane, 2004) as writing is an expectation in school and the primary method that students communicate their understanding of a subject matter to their teachers and peers (Graham, 2006). *Therefore, the purpose of this research study is to implement the SRSD model for writing using an expository writing strategy (TIDE) with older students identified as having or at-risk for EBD.*

Purpose of the Study

Research Question(s):

1. What are the effects of self-regulated strategy development (SRSD) writing instruction using the TIDE strategy on proximal writing outcomes (i.e., essay quality, essay elements, and number of words written) on an expository composition written by participants with EBD or at risk for EBD who have writing difficulties?

2. What are the effects of self-regulated strategy development (SRSD) writing instruction using the TIDE strategy on distal writing outcomes (i.e., TOWL-4, story composition subtest) on an expository composition written by participants with EBD or at risk for EBD who have writing difficulties?

3. What are the perspectives of the participants towards the self-regulated strategy development model when learning to write expository text?

What will be done if you agree for your child to take part in this study?

- Your child will work individually with a researcher who will teach him or her a strategy (TIDE) for expository writing.
- Your child will write expository essays to see if he or she is learning the strategy.
- Your child will complete a pre and post 30-minute assessment on writing skills.
- The researcher will need to get access to the following information from your child's school: your child's name, gender, birthdate, ethnicity, free/reduced lunch status, special education status and category, and bilingual status (ELL, ESL, LEP, etc.).
    - Your decision to permit or not permit access to this information will not affect your eligibility for the nutrition program.

What are the risks involved in this study?

Potential risks associated with participating in this research study are not expected to exceed risks otherwise encountered in everyday life. If at any point it is believed a participant is in physical or psychological danger during a session, we will end the session. In the unlikely event of an emergency, the researcher will follow school protocol depending on the level of the emergency.

What are the possible benefits of this study?

There is no guarantee of potential benefits for the participants. However, the results of the research may improve writing outcomes for the participant as well as provide a benefit to society in general in the form of new and/ or improved evidence-based, effective writing procedures useful for individuals with EBD.

Does the student have to participate?

Participation is voluntary; no student has to participate and withdrawal may take place at any time. Withdrawal or refusing to participate will not affect your relationship or your student's relationship with The University of Texas at Austin in anyway.

Will there be any compensation?

Neither you nor student will receive any type of payment for participating in this study. However, participants may receive incentives such as a favorite snack.

How participant's privacy and confidentiality will be protected if you allowed your student to participate in this research study?

Research sessions will be publicly recorded. Data will be coded and stored at UT Austin in a locked cabinet in a locked office (SZB440). Only the investigators involved in the research will have access to the data.

Whom to contact with questions about the study?
Prior, during, or after study contact the researcher at 713-562-2092 or send an email to megancarroll@utexas.edu for any questions or if you feel that any harm has been done.

Whom to contact with questions concerning rights as a research participant?
For questions about participant's rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (512) 471-8871 or email at orsc@uts.cc.utexas.edu.

Signature
You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to allow the follow student to participate in this study. By signing this form, you are not waiving any of your legal rights.

_____ My child MAY be **video** recorded.
_____ My child MAY NOT be **video** recorded.

_____
Printed Students Name

_____ _____
Parent/ Guardian Signature Date

_____ _____
Signature of Investigator Date

Appendix B

IRB USE ONLY
Study Number: 2017-01-0014
Approval Date: 10/03/2017
Expires: 02/09/2018

Assent for Participation in Research

Title: The Impact of Using Self-Regulated Strategy Development to Improve Expository Writing Outcomes in Students with or At-Risk for Emotional and Behavioral Disorders

Introduction
The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study. The person performing the research will answer any of your questions. Read the information below and ask any questions you might have before deciding whether or not you would like to take part. If you decide to be involved in this study, this form will be used to record your consent.

Purpose of the Study
You have been asked to participate in a research study about writing practices. The purpose of this study is to investigate the effects of self-regulated strategy development (SRSD) model on writing outcomes. In addition, the study would like to know participants' perspective on the self-regulated strategy development model when learning to write expository text.

What is the Self-Regulated Strategy Development (SRSD) model?
This model consists of six instructional stages designed to directly and explicitly address difficulties students experience with the writing process. The six stages are: (1) Develop Background Knowledge, (2) Discuss It, (3) Model It, (4) Memorize It, (5) Support It, and (6) Independent Practice. Self-regulation strategies are also interwoven into the six stages to help students to become independent and proficient writers.

What am I going to be asked to do?

- Work individually with a researcher who will teach you a strategy (TIDE) for expository writing.
- Write expository essays to see if you are learning the strategy.
- Complete a pre and post 30-minute assessment on writing skills.
- Allow the researcher to get access to the following information from your school: your name, gender, birthdate, ethnicity, free/reduced lunch status, special education status and category, and your bilingual status (ELL, ESL, LEP, etc.).
    - Your decision to permit or not permit access to this information will not affect your eligibility for the nutrition program.

What are the risks involved in this study?
Potential risks associated with participating in this research study are not expected to exceed risks otherwise encountered in everyday life. If at any point it is believed a participant is in physical or psychological danger during a session, we will end the session. In the unlikely event of an emergency, the researcher will follow school protocol depending on the level of the emergency.

Do I have to participate?
No, participation is voluntary. You should only be in the study if you want to participate. You can even decide you want to be in the study now, and change your mind later. No one will be upset. If you would like to participate, sign this form below.

Will I get anything to participate?
You will not receive any type of payment participating in this study. However, you may receive incentives such as a favorite snack.

Who will know about my participation in this research study?
The records of this study will be kept private.

Whom to contact with questions about the study?
Prior, during or after your participation contact the researcher at 713-562-2092 or send an email to megancarroll@utexas.edu with any questions or if you feel that you have been harmed.

Signature
Writing your name on this page means that the page was read by or to you and that you agree to be in the study. If you have any questions before, after or during the study, ask the person in charge. If you decide to quit the study, all you have to do is tell the person in charge.

_____ I MAY be **video** recorded.
_____ I MAY NOT be **video** recorded.

_____ _____
Signature of Participant Date

Appendix C

TIDE: LESSON #1 – Part 1.1

This lesson typically takes two class sessions to complete.

Purpose: Develop Background Knowledge, Discuss It

Objectives: Writing to explain and TIDE identification; identification of TIDE in an essay example

Materials:

- TIDE Mnemonic Chart
- TIDE Graphic Organizer
- TIDE Color Chart
- Model Essay 1 – What Really Matters
- Linking Word Chart
- Crayons (green, yellow, orange, red)
- Pencils
- Scratch paper
- Student folder
- TIDE flash cards

____ I. Introduction: Discuss explanatory essays and writing to explain

Ask the student if he or she knows what the word "explain" means and discuss this (it is when you want to accurately tell someone about something). Is there something you know a lot about you might want to explain it to someone? Can you think of a way to explain it to your friends?

Tell the student he or she is going to learn a trick to help them write a paper that explains to the reader something that they know about. "A paper that tells the reader about that you know is called an explanatory essay. When you write an explanatory essay, you are trying to teach or explain something."

A powerful expository essay has a good beginning that gets the reader's attention and tell the reader what they will learn, gives the reader at least three important details about the topic, gives facts that support each important detail, and has a good ending sentence or statement. A good expository essay can also be fun to write and fun to read.

We will learn a trick for remembering the parts of a powerful expository essay. This trick is called TIDE, and is the trick we will use to help us organize our notes. Briefly describe

and discuss the concept of notes and show a student friendly example. We make short notes to remind us of what we want to write. Notes are faster than writing whole sentences.

____II. Introduce TIDE

Point out TIDE (TIDE Mnemonic Chart). Emphasize that TIDE is a trick good writers use for organizing their notes to write a powerful expository essay. TIDE will make it easier to write because it reminds you what to include when you write.

Go over parts of TIDE step by step and talk with the student about how it will help them to become better at writing. Let's look at the parts of expository writing. Remember: expository means explain.

A. **T** = Topic Sentence – tell the reader what you will be explaining. The topic sentence is the main idea of what you will be writing about.

B. **ID** = Important Details – at least 3 – tell the reader three important details about the topic you are explaining and provide students with examples. The important details are the things that you find most interesting and important about the topic.

C. **E** = Ending – This is your conclusion sentence that restates the topic in a different way. (provide an example)

Practice TIDE: Use flashcards to practice reviewing what each letter in TIDE stands for and why it is important.

____III. Find TIDE in an Essay. Teacher models making notes on graphic organizer.

Tell the student you will read and help them examine an expository essay. While you are reading, have the student look to see if the writer used all parts of TIDE. Refer to the color chart for identifying parts of TIDE.

Give the student a copy of the expository essay. Ask the student to read along silently while you read the prompt and the full paper out loud.

- Have the student identify the topic sentence and underline it in green.
- Have the student identify the details and underline it in yellow.
- Have the student identify expositions and underline in orange.
- Introduce **linking words** – Words writers use to show that a new reason is being given. Linking words can be a single word or a group of words. Every important detail should have a linking word to make it clear that this is a detail. Go over the

chart of linking words with the student and have the student find linking words in the essay. Explain to the student that it is NOT ok to use only: First, Second, and Third as your linking words in an essay because this is boring to the reader.

- Have students identify the ending sentence and underline in red.

Examine the parts of TIDE.

____IV. Lesson Wrap Up (practice TIDE mnemonic, if time permits)

Tell the student they will tell what TIDE means from memory when they feel ready. Encourage them to practice.

Appendix D

Name: _____

Self-talk_____

Goals/tools_____

Prompt: Students sometimes question how things they learn will help them in their later lives. Think of a learning experience that you have had and explain how what you learned will be useful to you in the future.

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Appendix E

Student Name: **Date:** **Name of Scorer:**
Prompt:

Score: EE: _____ EQ: _____ TWW: _____

ESSAY ELEMENTS

1. **Topic Sentence**: (1 point) _____
2. **Important Details**: (1 point for each important detail —max limit = 3 points) _____
3. **Explanation:** (1 point for each explanation—max limit = 3 points) _____
4. **Ending** (1 point) _____

ESSAY QUALITY

Score of 3. Shows clear understanding of the expository topic stated in the prompt, supports topic thoroughly and consistently with specific logical reasons or examples, maintains focused and good organization

Score of 2. Shows some knowledge of the expository topic stated in the prompt but may not remain focused. Supporting details may be repetitious. Scattered organization with lots of lapse in sequence

Score of 1. Limited understanding of the expository topic stated in the prompt with limited evidence of organizational structure or sequencing

Score of 0. Off topic or no response

NUMBER OF WORDS WRITTEN
Punctuation does not count as a word; Words spelled incorrectly still count; Contractions count as one word (can't, didn't); A number counts as one word.

- NWW (computer counting) = _____
- NWW (manually counting) = _____
- NWW (final) = _____

Appendix F

Prompt: Think about someone you know facing difficulty and explain what they do to overcome their obstacle.

What Really Matters

Margaret is like any other teenage girl today: she talks on the phone, deals with the stress of schoolwork, and has a boyfriend. Unlike many of her peers, however, Margaret also has spina bifida, a condition in which one or more of her vertebrae did not form properly, leaving her spinal cord unprotected. Even though Margaret faces many challenges through having spina bifida, she is able to overcome those challenges.

First, Margaret has the support of loving parents. “I think that, growing up with a disability, the best thing that I have had is supportive parents” Margaret says. “Without them, I don’t know where I would be.” They both have always said that I could do something if I really wanted to.”

Next, Margaret is engaged in lots of after school activities. On most days, Margaret works at Able-Disabled Advocacy (A-DA), an organization that helps the disabled. On other days, she plays wheelchair basketball and tennis, even though she is not wheelchair-bound herself.

Finally, Margaret met her first serious boyfriend, Juan, when they played against each other during a wheelchair basketball tournament. “We were complete enemies on the court,” she says. They met again at a Spina Bifida Association conference. They danced together twice. Later she realized the special connection they shared, both having a disability.

Margaret feels that, far from having limited her, her disability has allowed her to do things she might not have been able to do otherwise. She says that she would not have been involved in sports at all if it was not for wheelchair sports, and she would not have some of her current friendships or her boyfriend.

Appendix G

T – Topic Sentence

Did I respond to topic?

I – Important Evidence

Did I develop the topic?

D – Detailed Examination

Did I examine the evidence?

E – Ending

Does conclusion relate and extend?

Appendix H

TIDE Graphic Organizer

Self-talk_____

Goals/tools_____

<table>
<tr><td>T</td><td colspan="2">Topic Introduction

TS</td></tr>
<tr><td rowspan="3">ID</td><td>Important Evidence</td><td>Detailed Examination</td></tr>
<tr><td>Important Evidence</td><td>Detailed Examination</td></tr>
<tr><td>Important Evidence</td><td>Detailed Examination</td></tr>
<tr><td>E</td><td colspan="2">Ending

ES</td></tr>
</table>

Appendix I

TIDE COLOR CHART

T – Topic Sentence

I – Important Evidence

D – Detailed Examination

E – Ending

Appendix J

Linking Word Chart

Sequence	**Result**	**Emphasis**
~~First, second, third~~ Next, last, finally In addition, moreover Another Also In conclusion To summarize	So As a result As a consequence (of) Therefore Thus Consequently Hence Due to	Undoubtedly Indeed Obviously Generally Admittedly In fact Particularly / in particular Especially Clearly Importantly
Addition	**Reason**	**Example**
And In addition / additionally Furthermore Also Too As well as	For Because Since As Because of	For example For instance Such as Including Namely
Contrast	**Comparison**	
However Nevertheless Nonetheless Still Although / Even though Though But Yet Despite / In spite of In contrast to While Whereas On the other hand On the contrary	Similarly Likewise Also Just as Just like Similar to Same as Compare Compared to/ with Not only…but also	

Appendix K

Name: _____

My Personal Self-Statement Sheet

Goals	Self-Talk Statements

Appendix L

TIDE X-Y GRAPH

T									
ID									
ID									
ID									
End									
Links									
Total									

20

18

16

14

12

10

8

6

4

2

0

Sample #1 #2 #3 #4 #5 #6 #7 #8 #9 #10

Appendix M

Name: _____

Self-talk_____

Goals/tools_____

Prompt: Identify your favorite animal and explain why this animal is your favorite.

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Appendix N

Fidelity of Treatment Checklist

Lesson 1.1

Completed by: _____ Date: _____

Total time: _____ min.

Completed: 1 = step done (includes partially done) 0 = step not done
NA = not scored (may occur if during continued lessons)

Step	Components	Completed
I.	Build enthusiasm for the expository genre.	
II.	Introduce the term *expository* and its parts (good beginning, 3 details, facts to support each detail, good ending sentence)	
	Introduce the term TIDE	
	Practice TIDE mnemonic with student	
III.	Introduce TIDE charts and discuss how this trick will make writing expository essays easier	
	Go over each part of TIDE step by step	
IV.	One-on-one discovery of the parts of TIDE in an actual essay	
	Introduce color coding of each part and model with student	
	Wrap Up: Announce continued practice of TIDE parts	
	Total Completed:	_____/9

Appendix O

Student Questionnaire

Name: _____

For each question, please write in the number that best explains how you feel.

1 – Strongly Disagree; 2 – Disagree; 3 – Somewhat Disagree; 4 – Somewhat Agree
5 – Agree; 6 – Strongly Agree; 7 – No Opportunity to Observe

1. Self-regulated strategy development (SRSD) instruction improved my expository writing. _____
2. Self-regulated strategy development (SRSD) instruction improved my confidence about my writing abilities. _____
3. Self-regulated strategy development (SRSD) instruction improved my planning skills during writing. _____
4. Self-regulated strategy development (SRSD) instruction improved my writing skills using TIDE. _____
5. Self-regulated strategy development (SRSD) instruction was worth my time and effort. _____
6. I will continue to use the strategies I learned during self-regulated strategy development (SRSD) instruction. _____
7. Self-regulated strategy development (SRSD) instruction is worth recommending to other students who want to improve their expository writing.

   _____

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