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Self-regulated Strategy Development (SRSD) for Writing: A Tier 2 Intervention for Fifth Grade

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SELF-REGULATED STRATEGY DEVELOPMENT (SRSD) FOR WRITING:

A TIER 2 INTERVENTION FOR FIFTH GRADE

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A DISSERTATION

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An Abstract of the Dissertation Presented

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The purpose of this study was to examine whether Self-Regulated Strategy Development (SRSD) for writing could be used as a Tier 2 intervention to improve the writing of fifth grade students identified as performing below the 50th percentile on AIMSweb curriculum-based measures of correct writing sequences (WE-CBM CWS). Results of RMANOVA indicated that students in the SRSD Group made significant improvements in their WE-CBM mean score compared to the Control Group from pre- to post-test. Additional analyses using a modified WE-CBM that added one minute for students to

organize their writing thoughts (EWE-CBM) did not show significant improvements to mean CWS scores. Qualitative analyses indicated that the intervention teacher and SRSD students found the intervention method to be easy to follow, helped improve their writing, and that they will use it again in the future. Evidence from this study suggests that SRSD can be effectively used as a Tier 2 writing intervention within a multi-tiered system of supports model. The limitations and implications for practice are discussed.

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CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

Many people are able to effortlessly produce a written product to convey their messages to others. Whether this is through email, handwritten notes passed in the hallways of schools, book reports and daily writing journals, or brief to-do lists, these written products are the culmination of many cognitive processes working in conjunction. Some of these writing activities require more cognitive organization and effort on the part of the individual than others. Writing requires the use of not only fine motor function and visual motor integration skills, but also cohesive expression of grammatical and syntactic structures used in spoken language. In order to write, an individual must have background knowledge and linguistic skills related to the topic, the ability to sequentially organize words written onto paper or computer, efficient word retrieval skills, and the organization of thoughts, so that the person's message makes sense when it is subsequently read by someone else (Feifer & De Fina, 2002). One of the benefits of being able to write articulately is that others will be able to refer to those written thoughts in the future.

Writing allows us to be able to bridge time to our ancestors and read their stories. Carl Sagan eloquently explained this in his book, *Cosmos* (1980), noting that:

> Writing is perhaps the greatest of human inventions, binding together people, citizens of distant epochs, who never knew each other. Books break the shackles of time, and inspire us to make our own contributions to the collective knowledge of the human species (p. 232).

By today's standards writing skills are typically thought of as an essential feature of successful learners. For this reason it is of utmost importance that schools provide

students with the skills they need to become successful writers. In order to accomplish this instructional feat, educators, administrators, and policy makers need to become better informed about how students learn to write.

Current State of Writing

American students have held steady with their writing proficiency for several decades (Applebe & Langer, 2006); however, data continue to suggest that students are not proficient with writing tasks. Based on the definition found in the 2011 National Assessment of Educational Progress's (NAEP) report, "Writing is a complex, multifaceted, and purposeful act of communication that is accomplished in a variety of environments, under various constraints of time, and with a variety of language resources and technological tools" (National Center for Education Statistics; NCES, 2012). Data taken from the writing portion of the NAEP assessment indicates that only 24% of eighth- and twelfth-grade students who were administered the 2011 NAEP writing assessment earned a proficient score. Fifty-four percent of eighth-grade students and 52% of twelfth-grade students performed in the basic range. Basic skills are defined as "partial mastery of the prerequisite knowledge and skills that are fundamental for proficient work at each level" (NCES, 2012). Scores were significantly higher in both eighth- and twelfth-grade for females compared to males. Of the students who scored below the 25th percentile for eighth-grade scores, 67% were eligible for free or reduced-priced lunch. This statistic touches on prior research which indicates that poverty is a greater predictor of academic achievement than race or ethnicity (Burney & Beilke, 2008). Three-quarters of America's students are not able to demonstrate proficient writing skills. At the same time, newly developed curriculum standards, such as the

Common Core State Standards, have begun to place more emphasis on writing, and teachers and interventionists will need to become better prepared to teach writing to students.

The Common Core State Standards for Writing and Language (CCSS-WL) have been adopted by 43 states, the District of Columbia, and four territories (National Governors Association & Council of Chief State School Officers, 2014). Applebe and Langer (2006) have described the CCSS-WL as being "succinct, spiraling standards" in which the "range of expectations in many areas increases across grades" but that the writing and language portions of the standards have limited connections to the current theoretical models of writing related to better student outcomes. Applebe and Langer go on to describe some of the evidence-based instructional practices for writing that were not referenced in the CCSS, such as having students receive teacher and peer feedback for writing beyond kindergarten or first grade. There also have been large effect sizes for teaching students strategies to support the writing process in Grades 4-12, however, the CCSS do not reference those strategies. The CCSS provide ample attention to grammar skills for students between kindergarten and Grade 4; however, the best practices methods in delivering these teaching methods to children are not described in detail. Additionally, beyond Grade 3 the CCSS provide little to no guidance on spelling instruction, and learner motivation for writing is not at all addressed in the CCSS. Teachers are more likely to be effective when they are given the tools and guidance to know which instructional methods will produce the greatest effects in their students.

A random national sample of 174 primary grade teachers from across the United States completed a questionnaire regarding writing instruction in their classrooms (Cutler

& Graham, 2008). Seventy-two percent of teachers surveyed reported that they use a process approach combined with a traditional skills approach to teaching writing to their students, 20% used a process approach alone, 6% a skills approach, and 2% used the 6+1 trait method. Of the teachers surveyed, 65% reported that they did not use a commercial program to teach writing, handwriting, spelling, or any other aspect of writing to their students. The other 35% of teachers reported using a total of 137 different programs. With so many different methods used to teach students aspects of writing, there appears to be a need for more focused professional development, and improvements to teacher training programs that would support the learning of evidence-based instructional methods for writing.

With the CCSS-WL focus broadening for students and major assessments now being administered through computers, technology needs to become a more integral component of writing instruction. Forty-two percent of primary teachers surveyed said they do not use computers for writing assignments and another 25% reported only using computers several times a year. With so many states adopting the CCSS for their curriculum standards and the increased emphasis on writing skills for students, attention should be given to the early developmental skills needed for later writing abilities.

Early Influences on Writing

Although universal preschool is not yet a reality for the majority of communities in the U.S., this is the age range at which emerging skills in language development and at-risk indicators can and should be identified and addressed so that these students can make the same gains as children not at-risk for later academic difficulties. Hooper, Hosp, Nelson, Zeisel, and Kasambira Fannin (2010) studied the preschool predictors of

narrative writing skills in elementary schools. They found the greatest predictors of preschoolers' third to fifth grade narrative writing skills to be maternal education, core language abilities of the child, and pre-reading skills. In their longitudinal study, Hooper et al. (2010) reported that children who had higher pre-reading skills or higher core language abilities during preschool demonstrated faster growth in narrative writing than students who had lower skills in those measures in preschool. Early writing concepts, such as letter formation, as well as phonological processes, did not predict the level of written language in later grades.

Additionally, as students progress from kindergarten to first grade new influences begin to predict later writing ability for children. Coker (2006) explored the impact of first grade factors on the growth and outcomes of urban school children's primary grade writing skills. Writing samples were collected from 309 low-income students in urban schools each year as these students progressed from grades 1 through 3. Oral vocabulary was associated with students' first grade writing but not with writing growth over time. Students' letter-word identification subtest scores from the Woodcock-Johnson-III (an academic achievement measure) were associated only with first grade writing skills. Positive associations to later primary grade writing skills were observed in the range and types of books found in the classrooms of first grade students, as well as the total amount of books found in those classroom libraries. But, who the student had as a first grade teacher was a significant predictor for writing quality and length over time. Furthermore, student ethnicity, language status, range of paper and pencils readily available for students, and writing materials present in the classroom were linked to increased writing growth for students over time.

Understanding the potential relationships among these early variables and later student writing success is important for teachers, administrators, teacher training program directors, and policy makers so that students can build upon these skills or be provided with evidence-based writing instruction to supplement and strengthen these factors. Research has been conducted on which writing instruction methods provide the greatest results for students. Teachers need to become competent and fluent in these instructional practices so that children make the necessary improvements to their writing skills in order to be ready for workplace demands.

Effective Methods to Teach Writing

Just as researchers have provided educators with effective instructional methods for teaching reading and mathematics to students, they have also identified evidence-based practices associated with teaching writing to students. Zumbrunn and Krause (2012) interviewed seven leaders in the field of writing instruction and asked them to identify what they believe to be the most important aspects of teaching writing to students. The leaders included: Linda Flower, Steven Graham, Karen Harris, Jerome Harste, George Hillocks, Thomas Newkirk, and Peter Smagorinsky. The qualitative data from these interviews identified five major themes of effective writing instruction. Effective writing instructors realize the impact of their own writing beliefs, experiences, and practices. Teachers need to feel confident and prepared in order to teach writing. Jerome Harste (Zumbrunn & Krause, 2012) added that writing teachers should write and share what they wrote with their students, because "there's power in making yourself as vulnerable as the students you're teaching." Effective writing instruction encourages student motivation and engagement. Students need to feel motivated and should write for

real purposes and audiences in order to get student "buy-in." Cutler and Graham (2008) also emphasized how important it is to keep students motivated by modeling enjoyment of writing for them, including making home connections that include writing tasks. Effective writing instruction begins with clear and deliberate planning, but also should be flexible. Effective writing instruction and practice happen daily, using other curricula content areas to practice writing. Effective writing instruction is a scaffolded collaboration between teachers and students. Students need to be taught these skills and teachers need to know the individual needs and skills of each of their students in order to help make and provide thoughtful and sensitive feedback to those students about their writing.

Graham, McKeown, Kiuhara, and Harris (2012) conducted a meta-analysis of 13 experimental and quasi-experimental treatment designs for writing interventions specifically at the elementary level which had at least four previous studies supporting the treatment method used. Through their meta-analysis they identified the following five themes as the most effective methods for improving writing for elementary students.

Explicit instruction. Explicit strategy instruction, which included general and task-specific writing strategies for students, as well as necessary background knowledge needed for the strategies, and procedures for how to regulate the strategies (i.e., goal setting, self-monitoring, self-instruction, and self-reinforcement) produced large effect sizes when a method known as Self-Regulated Strategy Development (SRSD) was used alone (effect size [ES] = 1.17). Additionally, students displayed improved writing abilities when they were taught how to plan, draft, and revise different types of text (Graham et al., 2012). Teaching students how to form mental images and be more

creative when writing also showed a moderate effect size (ES = .70), especially for students that were considered high achieving. Explicitly teaching students how to write different types of texts, including how the different types are structured and formed, moderately increased writing quality (ES = .59). Interestingly, grammar instruction did not improve writing quality for those in the studies. Lastly, teaching students spelling, handwriting, and keyboarding skills improved the quality of their writing in grades 1 through 3 (ES = .55).

Scaffolding for students' writing. Having students work collaboratively with peers to plan, draft, revise and edit their papers improves student writing outcomes (ES = .89). This effect was observed more often with typically developing students in grades 4 through 6. Setting clear and specific goals for students during their writing tasks improved writing quality (ES = .76). Prewriting activities in grades 2 through 6 showed modest positive effects (ES = .54). These types of activities would include gathering and organizing their ideas before their first drafts, taking notes, and drawing pictures to accompany the writing. Adult feedback during the writing process led to improvements in writing for all students.

Alternative modes of composing. Allowing students to use word processing tools during writing produced positive effects (ES = .47). This was especially true for struggling writers who used software that was designed to help the writer.

Other writing activities. Students who increased the amount of time they wrote per day by as little as 15 extra minutes yielded positive effects (ES = .30).

Complete writing programs. Classrooms that had implemented a comprehensive writing program showed improvements in quality of writing, especially for typically developing writers (ES = .42).

Key Findings from Writing Research

While ample research has been conducted on evidence-based instructional practices for reading, and although reading and writing are linked through the cognitive processes involved in either activity, less research scrutiny has been given to the area of writing. Of the research that has been done in this area, just a few approaches to teaching writing have been repeatedly studied through experimental and quasi-experimental methods.

Writing's link to reading. Graham and Hebert (2010; 2011) conducted a meta-analysis to explore three research questions. First they wanted to learn whether writing about material read enhances reading comprehension. Evidence from their meta-analysis showed that for students in Grades 2 through 12 writing about material read did enhance their comprehension of it (ES = .50). This was particularly true for students who were weaker readers or writers and who were explicitly taught how to do this (ES = .64). Four specific types of writing activities proved most beneficial and included: (a) extended writing (ES = .68); (b) summary writing (ES = .54), especially for elementary students (ES = .79); (c) note taking (ES = .45), which was found to be more effective for reading comprehension than reading and rereading text; and (d) answering/generating questions (ES = .28). Graham and Hebert (2010; 2011) found that for typically developing writers in grades 4 through 12, multicomponent writing instruction (e.g., process writing, skills-based programs) showed an increase in reading comprehension, as well as positive results

for weaker writers. Instruction in spelling and sentence construction improved the reading fluency skills for typically developing students in grades 1 through 7 (ES = .79). Spelling instruction improved word reading skills for all students in grades 1 through 5 (ES = .77). Finally they researched whether increasing the amount of writing a student completes improves reading. Interestingly, results indicated that having students in grades 1 through 6 increase the amount of writing they produce actually had equal or more of an impact on reading comprehension (ES = .30) than the effects of some specific reading programs for students to help improve reading skills (ES range .10 - .32).

Self-regulated strategy development (SRSD). SRSD is an evidence-based instructional method, meant to supplement a core writing curriculum, which helps writers develop strategies that will improve and self-manage their writing (Harris, Graham, & Mason, 2003). SRSD was initially developed by Graham and Harris in 1982 as an approach to instruction for those students who would often face debilitating difficulties with writing tasks that eventually impacted those students' affective, behavioral, and cognitive characteristics. The authors built upon prior research surrounding the effective application of explicit teaching methods, including characteristics of students with learning disabilities. SRSD has been used in whole class, small group, or tutoring type settings. The SRSD instructional method has evidenced improvements for high and low achieving students (Graham & Hebert, 2010; 2011; Graham et al., 2012; Saddler, 2006), students with significant learning problems (Harris et al., 2003; Straub & Alias, 2013), and those with emotional and behaviors disorders (Ennis et al., 2013). SRSD has helped to improve students' quality of writing, knowledge of writing, approach to writing, and self-efficacy (Harris et al., 2008). SRSD is comprised of six basic stages of instruction

which are meant to be guidelines that teachers incorporate into lessons. Lessons last approximately 20 to 60 minutes at least three times a week, with 8 to 12, 30- to 40-minute lessons typically being sufficient for elementary students to complete the stages (Harris et al., 2003).

Stage 1: Develop and activate background knowledge. Students learn pre-skills and vocabulary needed for the concepts being introduced (i.e., setting, character, etc.). Individualized self-statements often are introduced during this stage. Self-statements are discussed by the teacher and may include things that the students can say to themselves that can help them or hurt them. Students learn to use positive self-statements.

Stage 2: Discuss it. Teacher and students begin to discuss the strategies that will be learned, as well as the specific writing strategy that will be used and any corresponding mnemonics. Students commit to learning the steps required for that specific strategy, as well as when and how to use the steps. Teachers and students often work together during this stage to examine individual baseline skills and graph their current performance before learning the new techniques. The graphing component is a powerful part of the self-monitoring aspect of SRSD and helps the student set future goals and see personal improvements over time.

Stage 3: Model it. The teacher begins to model the composition strategy in front of the class, along with using the selected types of self-instructions while writing. Natural modeling with enthusiasm is an important aspect of this step. The teacher also sets a goal for this part of the writing and uses graphic organizers to help the writing process. After the teacher has modeled the writing strategy a discussion of the

importance of the self-statements used during the model takes place and students begin to create their own self-statements that they write down to use in later stages.

Stage 4: Memorize it. The students in this stage need to memorize the steps in the composing strategy, including any mnemonics used to help them remember the steps when it is time for them to write.

Stage 5: Support it. Teachers support, or "scaffold," students' strategy use. After any additional self-regulation strategies, goal setting, self-monitoring, or self-reinforcement strategies are discussed, the students begin to write using what they have learned, along with teacher support. Each of these supported stories can be graphed with the original baseline data the student recorded before the strategy was introduced. This helps to maintain students' motivation. Teacher support continues but is slowly faded, making this typically the longest of stages to complete in SRSD.

Stage 6: Independent performance. Students are taught to use their self-instructions in their head, instead of vocalizing them. They also plan for generalization and maintenance, including booster sessions as needed.

6+1 trait writing. This method was originally developed in the 1980s as an approach to classroom assessment of student writing that would provide teachers and students with a more structured approach to understanding how well students wrote. It was designed to be added to an existing writing curriculum rather than being a stand-alone one. Culham (2003) described it by saying it "emphasizes writing instruction in which teachers and students analyze writing using a set of characteristics, or "traits," of written work: ideas, organization, voice, word choice, sentence fluency, conventions, and presentation" (Coe, Hanita, Nishioka, & Smiley, 2011). This approach is widely used,

however, it has not been adequately studied using experimental methods. Coe et al. (2011) specifically investigated the impact of the 6+1 Trait Writing approach on grade 5 students to determine whether there was an impact on student achievement in writing and whether the achievement varied according to student gender or ethnicity. Sample data were collected from grade 5 teachers in 74 Oregon schools in two cohorts across two consecutive years, including a total of 2,230 students in the treatment condition and 1,931 students in the control condition. Random assignment and control groups were matched based on similar free or reduced-price lunch percentages. Outcomes of this study showed that while the 6+1 Trait Writing model did cause a statistically significant difference in student writing scores, the effect sizes were generally small (ES = .11). There were no gender or ethnicity effects found in this study.

Process approach. The process approach to writing, otherwise referred to as Writers' Workshop, came about in the late 1970s and began to focus students more on the writing process instead of just the end product. In the process approach students are encouraged to choose their own topics and take time to think about and reflect upon what they are writing about (Harris et al., 2003). Students are encouraged to write for real purposes and audiences. They are shown that writing is a process that includes a first draft, followed by writing conferences with their teachers and peer collaboration, mini-lessons, modeling and sharing are all component parts to the process approach to writing. Mini-lessons are often associated with "teachable moments" and may overlook necessary explicit instruction that writers – especially those with writing deficits – benefit from most of all.

Summary of Literature Review

According to national test data (NAEP, 2011) eighth and twelfth grade writing achievement in the United States has remained relatively stable for decades. This is to say that while it has not declined, it has also not made significant improvements. Three-quarters of America's schoolchildren in grades 8 and 12 are not proficient with their writing quality or skills. A mere 27% are considered proficient or advanced in writing, with only 3% of those being in the category of advanced (NCES, 2012). With the adoption of the Common Core State Standards by 43 states, a shift is occurring in the emphasis placed on writing skills. Nonetheless, the new standards have provided little to no guidance to teachers on how to teach these new standards, which include minimal representation of the evidence-based instructional practices known to produce better writing for students (Troia & Olinghouse, 2013). Arguably, now more than ever, teachers need good teacher training programs and adequate and on-going professional development opportunities to help support their young writers in the classroom.

Through understanding early predictors of later writing skills (Cutler & Graham, 2008; Hooper et al., 2010) and using evidence-based instructional practices, such as feedback from teachers and peers during writing (Graham et al., 2012; Troia & Olinghouse, 2013; Zumbrunn & Krause, 2012), teachers can see improvements in student writing. Such methods include increased time for writing opportunities (Graham et al., 2012; Graham & Hebert, 2010; Zumbrunn & Krause, 2012), explicit teaching of text structure, spelling, handwriting, and keyboarding skills (Graham et al., 2012), and explicit teaching of self-regulated strategy development (Dunn & Finley, 2010; Ennis et al., 2013; Graham et al., 2012; Graham & Hebert, 2010; 2011; Harris et al., 2003; 2008;

Straub & Alias, 2013). Not only does improving writing skill help students learn to be better writers, but it also improves many aspects of reading as well, including reading comprehension, reading fluency, and word reading (Graham et al., 2012; Graham & Hebert, 2010; 2011). Identifying research that supports effective writing practices is especially important during this time of change in state curriculum standards. Providing the necessary information and support to teachers regarding how they can best teach their students should take center stage in the area of writing.

Research Questions and Hypotheses

As has been described thus far, research in the area of writing is of utmost importance to the future of student writing success as state standards are changing without specific recommendations being provided to teachers on how to instruct their students. SRSD is an evidence-based approach to teaching writing that supplements any school-wide writing curriculum. While SRSD has been researched with several different populations and across grade levels, additional research exploring the effects of lower performing writers to independently use the SRSD techniques during timed writing curriculum-based measurements (WE-CBM) would be beneficial. This research study examined the effects of SRSD for writing as a Tier 2 intervention for fifth grade students performing below the 50th percentile for WE-CBM. The research questions for this study were as follows:

1. Will the implementation of a specific SRSD strategy (e.g., POW+WWW
   What = 2, How = 2) as a Tier 2 writing intervention and supplement to a
   classroom writing curriculum result in writing improvement, as measured by
   AIMSweb WE-CBM for Correct Writing Sequences (CWS), for fifth grade

students performing below the 50th percentile when compared to the writing of typically achieving fifth grade students who did not receive intervention?

2. Will intervention students be able to independently follow the sequence of steps in the POW + WWW What = 2, How = 2 strategy during an extended time WE-CBM (WE-CBM + 2 minutes)?

3. What are teacher and student ratings of how well they like the SRSD method?

Based on the above research questions, along with evidence from the research on effective instructional practices for improving writing skills with students, the following research hypotheses were made:

1. Implementation of POW + WWW What = 2, How = 2 as a Tier 2 writing intervention and supplement to a classroom writing curriculum will result in writing improvement, as measured by AIMSweb WE-CBM and an extended time EWE-CBM for Correct Writing Sequences (CWS), for fifth grade students performing below the 50th percentile when compared to typically achieving fifth grade students who did not receive POW + WWW What = 2, How = 2.

2. Those students who participate in the intervention will be able to independently follow the sequence of steps in the POW + WWW What = 2, How = 2 strategy during an extended time WE-CBM (WE-CBM + 2 minutes).

3. The teacher and students who implement the SRSD method will rate it as satisfactory on a post-intervention satisfaction scale.

CHAPTER 2: METHOD

Setting and Participants

The setting for this study included three regular education fifth grade classrooms in a K-5 elementary school located in the Northeast. The school had a student population of 357, with 67.7% of the population qualifying for free or reduced-priced lunch. There were 71 students in the school who received special education services (19.8% of the total population).

Participants in the treatment condition were selected based on performance on CWS WE-CBMs which were administered to all fifth grade students across the three classrooms. Students performing below the 50th percentile on the CBM, and who did not have writing goals in current Individualized Education Programs (IEPs), were included in the intervention classroom. The intervention classroom teacher had nine years of teaching experience, eight in grade 5. The intervention teacher was provided with Harris, Graham, Mason and Friedlander's book (2008) *Powerful Writing Strategies for All Students* eight months before the start of the intervention to review the six stages of SRSD and create lesson plans. During the study, fifth grade classroom time devoted exclusively to writing tasks was a 50-minute writing block once a day with an additional 20-minute Word Study block. Students who missed three or more intervention days were discontinued from the study. A total of 13 students, from an initial 15, completed the SRSD intervention. A summary of student and school demographic information is provided in Table 1.

Table 1.

Participant and School Demographics

Group	Percent
Intervention Participants	
Boys (n=12)	92
Girls (n=1)	8
Control Participants	
Boys (n=12)	39
Girls (n=19)	61
School	
Free and Reduced Lunch	67.7
Special Education	19.8

Control participants in this study included all other students in fifth grade at this same school with two different teachers who followed the same blocks of time set aside for writing activities. During the SRSD intervention block, all students in the control group received social studies instruction and did not perform writing activities.

All study procedures were reviewed and approved by the University of Southern Maine Institutional Review Board (IRB) before the study began.

Research Design

Pre-post group design. This quasi-experimental study included a pre-post group design which included one control group and one experimental group. The classroom mean scores on two types of CWS using AIMSweb WE-CBM and an adapted version of the AIMSweb probes for both the control and experimental groups were compared as pre-test measures. After implementing POW + WWW What = 2, How = 2 in one classroom, as a Tier 2 writing intervention, a post-test measure using both types of the CWS probes was compared.

Materials

    Assessment materials. The dependent measures used in this study included the AIMSweb WE-CBM probes (NCS Pearson, 2013) for both pre- and post-test measures. In addition an adapted version of the AIMSweb WE-CBM measures was used. This version included an extra minute for students to create an outline for what would be included in their writing prompts, as well as an additional minute after the writing prompt to review their work. Both types of these probes involved providing the student with an orally stated "story starter" which the student was directed to think about for 60 seconds (Appendix A). After 60 seconds, the examiner told the student to start writing and to finish the story. After another 90 seconds, the examiner reminded the student he should be writing about the topic of the story starter. At the end of 3 minutes the examiner directed the student to stop and put down his or her pencil.

    The EWE-CBM procedures included adding an outlining step prior to actual writing and a review step after writing. Instead of thinking about the story starter prior to writing, the students were given 1 minute to write an actual outline. The rest of the EWE-CBM was identical to the standard version. At the end of the 3 minutes the students were given 1 additional minute to review what they had written. The purpose of the extended version of the WE-CBM was to monitor the independent application of steps taught to students using the POW + WWW What = 2, How = 2. The students' actual outlines and related permanent products from the EWE-CBM were gathered and reviewed as post-hoc qualitative data about the methods used by students when asked to organize their writing.

Scoring guidelines provided by AIMSweb were used for both the standard and EWE-CBM samples using rules for correct word sequences (CWS; Appendix B). Students were supplied with lined paper and a pencil for each writing CBM. For the EWE-CBM, the students' written outlines were collected and analyzed qualitatively. In addition to the WE-CBM and EWE-CBM assessments, the teacher and students in the experimental classroom completed a post-intervention satisfaction survey to learn how well they liked the SRSD intervention (Appendix C).

Intervention materials. The intervention materials included lessons from sections of Harris, Graham, Mason and Friedlander's *Powerful Writing Strategies for All Students* (2008) specifically related to the POW + WWW What = 2, How = 2 (pp. 77-126; Appendix D). This intervention had been validated in numerous research studies and demonstrated efficacy with a variety of populations in a whole classroom format, however, it had not been evaluated as a Tier 2 intervention for students with writing difficulties.

Procedures

Screening and pre-test. During the normal classroom writing block both AIMSweb WE-CBM and EWE-CBM probes were administered to all students in grade 5 according to standardized procedures outlined by AIMSweb administration guides (Appendices E and F). Consistent with prior research (Shinn, 1989), five individual probes were administered to students, with the median score being used to determine baseline skills and to make comparisons between control and treatment groups' mean CWS scores. One probe was administered each day over five consecutive school days. Students who scored below the 50th percentile on WE-CBM were chosen as participants

in the Tier 2 SRSD intervention block. A control group consisted of all fifth graders who scored above the 50th percentile on the WE-CBM. The students' median score on each type of writing CBM was used to compute group pre-test mean scores.

Intervention phase. The intervention phase of the study included having the intervention group teacher introduce the six steps of SRSD to the students. Lessons were specific to implementation of the POW + WWW What = 2, How = 2 strategy. The steps of the strategy were as follows:

P = Pick my idea.

O = Organize my notes.

W = Write and say more

W = Who is the main character?

W = When does the story take place?

W = Where does the story take place?

W = What does the main character do or want to do; what do other characters do?

W = What happens then? What happens with the other characters?

H = How does the story end?

H = How does the main character feel; how do other characters feel?

The intervention transpired over the course of five weeks of lessons during a grade-wide intervention block using the procedures defined by Harris et al. (2008). This time frame was chosen for three reasons: (a) it conveniently occurred between two, one-week school vacations; (b) the social studies curriculum in which the control group participated in was also for this length of time; and (c) the steps of SRSD can be taught in eight to twelve 30-40 minute lessons.

During the SRSD lessons students worked in pairs or small groups to help each other memorize the strategy mnemonic. As the intervention procedures indicate, students worked to graph their performance on their written products and were encouraged by the intervention teacher to generalize their strategies to other academic subjects.

Once all of the planned lessons for this specific strategy were taught to the students in the experimental group, post-tests using both WE-CBM and EWE-CBM probes were administered over 5 school days in the same fashion as during the pre-test phase. Each student's median post-test score for each type of measure was used to compute group means. The mean group scores for both types of writing CBMs were compared between the control and treatment groups to explore differences. At the end of the study, the satisfaction survey was administered to the teacher and all students in the experimental group.

Data Analysis

Repeated Measures Analysis of Variance (RMANOVA) were conducted at the end of this study to determine if there were significant differences on the WE-CBM and EWE-CBM both within and between control and experimental groups. Additionally, post-hoc qualitative data were gathered by sorting students' methods for outlines and writing notes to identify the extent to which the students could independently organize their writing when extended time writing prompts were used. Furthermore, results of the satisfaction survey were reported as mean raw scores with qualitative indicators of relative liking.

CHAPTER 3: RESULTS

Descriptive Data

Table 2 shows the means and standard deviations for each group on the WE-CBM

and EWE-CBM measures. As expected, on both measures, the SRSD group students

scored lower than the control group students. On the traditional WE-CBM the SRSD

students gained about 5 additional points, whereas the control students went down by

almost 1 point. On the extended time writing CBM, the SRSD students gained less than

4 points while the control group students gained less than 1 point.

Table 2.

Means and standard deviations (SD) for WE-CBM and EWE-CBM Scores

	WE-CBM		EWE-CBM	
Group	Pre-Test	Post-Test	Pre-Test	Pre-Test
SRSD (n = 13)	27.85 (7.82)	33.27 (15.02)	40.77 (15.51)	44.42 (20.54)
Control (n = 28)	51.25 (8.29)	50.84 (11.70)	60.93 (12.52)	61.34 (16.49)
All Participants (n = 41)	43.83 (13.66)	45.27 (15.12)	54.54 (16.38)	55.98 (19.33)

Effects of Self-Regulated Strategy Development

A repeated measures analysis of variance (RMANOVA) was calculated in order

to examine scores before and after the SRSD intervention. A statistically significant

main effect for WE-CBM was found [$F_{(1, 39)}$ = 64.07, p = .000] for the students'

individual gains (e.g., within subjects) over time, however the gains were no different

between the groups. Specifically, the SRSD group's mean WE-CBM increased

significantly from pre- to post-test (m = 27.85, SD = 7.862 to m = 33.27, SD = 15.02),

while no significant differences were observed in the control group's mean WE-CBM

scores from pre- to post-test (m = 51.25, SD = 8.29 to m = 50.84, SD = 11.70). A graph

depicting the groups' mean WE-CBM score changes is shown in Figure 1.

Figure 1.

WE-CBM Scores by Condition
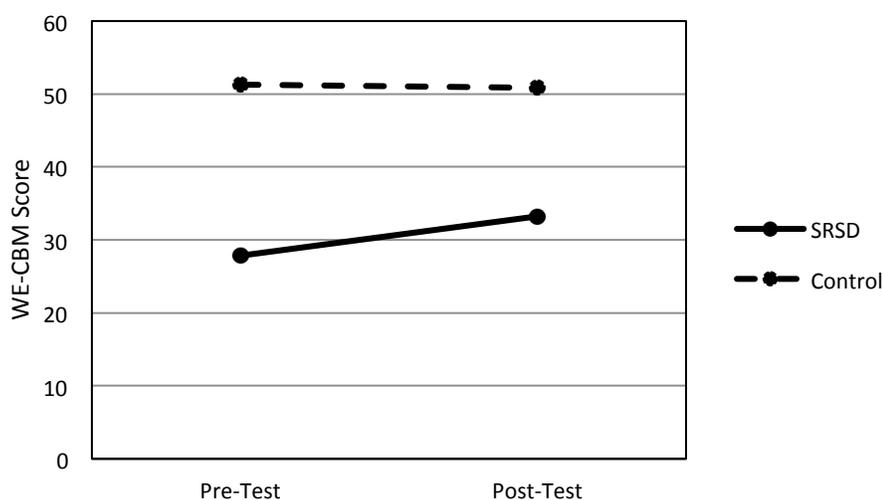
Tests of within-subjects contrasts for WE-CBM revealed a large effect size for

this measure (partial eta^2 = .637). In addition to this, a large effect size also was observed

in tests of between-subjects effects [F $_{(1, 40)}$ = 470.88, *p* = .000, partial eta^2 = .922]

indicating that 92.2% of the group difference at post-test on the traditional writing CBM

was accounted for by the treatment effect.

Outcomes on the EWE-CBM were different. The RMANOVA revealed no

significant main effects for EWE-CBM from pre- to post-test [F $_{(1, 39)}$ = 2.02, *p* = .163].

Neither the SRSD group's EWE-CBM mean change (m = 40.77, SD = 15.51 to m =

44.42, SD = 20.53) nor the control group's EWE-CBM mean change (m = 60.93, SD =

12.52 to m = 61.34, SD = 16.49) showed significant differences from pre- to post-test. A

graph depicting the groups' mean EWE-CBM score changes is shown in Figure 2.

Although the SRSD group made greater gains than the control group on both types of

CBM, the change in scores was bigger on the traditional WE-CBM than on the extended time version.

Figure 2.

EWE-CBM Scores by Condition
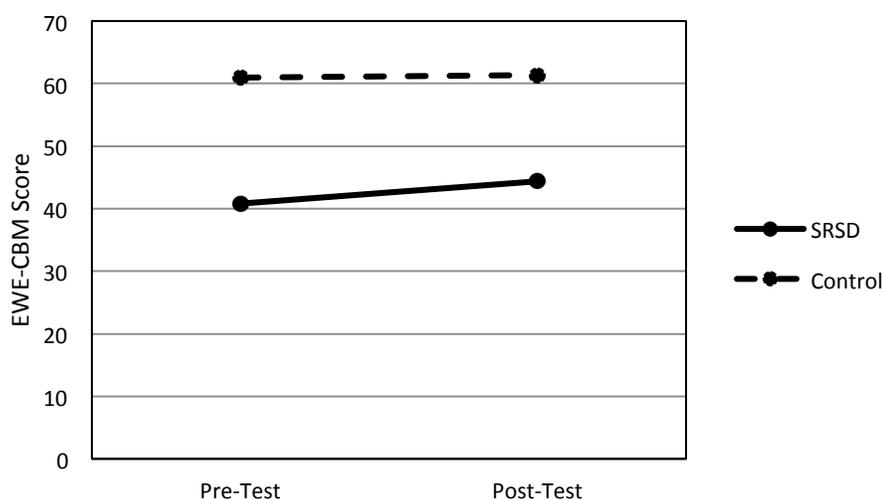
In addition to significant gains made by the SRSD group for CWS on WE-CBM, the group's mean weekly Rate Of Improvement (ROI) on these measures was also well above the national ROI on AIMSweb national norms for students performing at the 25th percentile rank. Table 3 shows these comparisons.

Table 3

Weekly Group Rate Of Improvement (ROI) for CWS WE-CBM

Group	Rate Of Improvement (ROI) CWS WE-CBM
SRSD	1.08
Control	-0.08
AIMSweb National Norms for 25th percentile	0.22

Treatment Integrity

In order to verify treatment integrity, 30% of SRSD lessons were observed by the primary researcher or a trained graduate student using an SRSD Treatment Fidelity Checklist (Appendix G). The teacher completed all observed lessons with 100% treatment integrity. Additionally, 30% of assessment measures used in this study were co-scored by the primary researcher and a trained graduate student. Inter-observer agreement (IOA) was calculated by dividing the number of agreements by the sum of agreements and disagreements. The resulting ratio was converted to a percentage to indicate level of agreement between observers. There was 98% agreement between observers for co-scored WE-CBM and EWE-CBM probes.

Qualitative Analysis of Students' EWE-CBM Writing Outlines

Students' writing outlines created during the one minute added to the EWE-CBM probes were qualitatively analyzed for both the SRSD and control groups. Coding of the students' planning products resulted in five categories of planning method: (a) picture drawn, (b) re-wrote first sentence of prompt, (c) shorthand notes or bullets, (d) organizer created, or (e) little to nothing written. Percentages of each method used are shown in Table 4. During the pre-test of the EWE-CBMs, more students wrote little, few or nothing during their extra minute (33%), than those that drew a picture of something (16%), began to write the first sentence of the prompt (16%), wrote shorthand notes or bullets (23%), or began an outline (11%). By contrast, during post-test EWE-CBM assessment more students wrote shorthand notes or bullets (32%) or drew a picture (28%), than did those who began an organizer (17%), wrote little, few or nothing (19%),

or started the first sentence of the prompt (3%). For students in the SRSD Group, the

SRSD mnemonic was used in a total of 14% of the opportunities (n = 64).

Table 4

Planning categories

Method	Percent Used Pre-Test (n=214)	Percent Used Post-Test (n=209)
Picture drawn of something	16	28
Started to write first sentence of prompt	16	3
Shorthand notes or bullets	23	32
Organizer created (i.e., outline, boxes, graphic)	11	17
Little, few or nothing written	33	19
SRSD method used within intervention group	*n/a*	*14 (n=64)*

Teacher and Student Satisfaction Surveys

Social validity of the SRSD method was assessed using a satisfaction survey

which included a 5-point Likert scale, with five representing "strongly agree," and one

representing "strongly disagree." Students and the intervention teacher completed the

surveys on the final day of post-test data collection.

Results of the qualitative teacher satisfaction survey indicated that the

intervention teacher thought favorably of the SRSD method (5), will use the method with

future classes (5), thought it made a difference for her students (5), and believed the

method was understandable and easy to implement (5). Teacher survey results are shown

in Table 5.

Table 5

Teacher satisfaction survey results

Survey Item	Score
1. The SRSD method was easy to implement in my class.	5
2. The 6 Steps to SRSD were understandable.	5
3. SRSD made a meaningful difference for the students in my class.	5
4. I will use the SRSD method with future classes.	5

Responses to the survey of students in the SRSD Group indicated that the SRSD

method was easy to understand (m = 4.5), helped them write better (m = 4.2), they will

use the method again in classes (m = 4.1), and they think more teachers should use this

strategy to help students write better (m = 4.7). Student satisfaction survey results are

depicted in Table 6. In addition to the survey items completed by the teacher, the SRSD

students also were asked to write a statement at the beginning and end of the SRSD

intervention period regarding their thoughts about what was difficult for them during

writing tasks. Post-intervention student statements included feeling more confident

during writing tasks, finding it easier to generate topics to write about, and having fun

while writing. Specific student statements are shown in Table 7.

Table 6

Student satisfaction survey results

Survey Item	Mean	Range
1. The POW + WWW What = 2, How = 2 steps were easy to understand.	4.5	3-5
2. I was able to write better because I used this strategy to help me.	4.2	3-5
3. I will use POW + WWW What = 2, How = 2 again in classes.	4.1	3-5
4. More teachers should use this strategy to help students write better.	4.7	3-5
(n=15)		

Table 7

Students' statements about what is hard about writing before and after SRSD intervention

Student	Thoughts before	Thoughts after
1	Feeling stressed	Still feel a little stressed
2	Writing what you're thinking and staying on topic	It is easier to write what I am thinking
3	I have trouble getting started	I don't have trouble getting started anymore. I've improved my writing speed
4	I don't like writing	This isn't true anymore because I realized how fun it is in writing class
5	Getting creative	It is not hard for me anymore because I've learned the tricks to writing
6	I don't know what I am writing about	Now it's not hard for me anymore
7	Getting started and picking ideas	It is easy to write my stories
8	Getting started	It isn't hard anymore to start writing because the graphic organizer helped me a lot
9	Trying to come up with a topic to work off	I feel more confident because learning with [teacher's name] helped me through tough situations writing related
10	When your pencil breaks and it gets too thin to think about what to write about	Not hard to think of ideas and I can sharpen my pencil
11	To make ideas	I'm able to make ideas and write more
12	To get started	I overcame the "getting started" part
13	Staying on the same topic through the whole thing	This is not true anymore because I don't need help with my writing. I overcame this struggle
14	Keeping it neat and writing for a long time	It is easier to write for a long time
15	The final piece	I am confident to do a final piece

CHAPTER 4: DISCUSSION

The current study examined the effects of using a specific writing mnemonic from Harris and Graham's Self-Regulated Strategy Development method (SRSD, 2009) to improve the writing skills of fifth grade students with writing difficulties.

The first hypothesis was that students who initially performed below the 50th percentile would show improvements in correct writing sequences (CWS) on post-test WE-CBM and EWE-CBM data compared to higher achieving fifth grade students included in the control group who did not receive the SRSD Treatment. Statistical analyses using RMANOVA revealed a significant main effect for WE-CBM but not EWE-CBM. Upon further analysis, the SRSD Group made significant gains in their CWS (+5.4 points) compared to the Control Group (-.4 points) on the WE-CBM measure. In addition to these gains, the SRSD group also made significant gains in their weekly Rate Of Improvement beyond what is typically observed in students who perform at the 25th percentile rank on AIMSweb CWS WE-CBM, while the control group decreased slightly each week. This supports prior SRSD research which has shown writing improvements for students in large and small group settings, tutored students, and for high and low-achieving students (Graham, Hebert, 2010; 2011; Graham et al., 2012; Saddler, 2006), as well as for populations of students with significant learning disabilities (Harris et al., 2003; Straub & Alias, 2013), and those with emotional and behavioral disorders (Ennis et al., 2013). The current research supports the selected SRSD method as an excellent option for at-risk students as a Tier 2 writing intervention in a multi-tiered system of supports model (MTSS).

Nonetheless, the experimental version of the outcome measure (e.g., EWE-CBM) did not detect differences between the groups at post-test. Giving students additional time to plan their writing did not improve the overall quality of correct writing sequences. The lack of differences suggests that the three minutes typically given for WE-CBM is the appropriate amount of time for measuring and detecting improvements in writing skills. Giving lower-achieving students extra time to plan their writing did not differentiate between lower and higher achieving students' written performance. This result validates the use of short, timed writing assessments to measure students' writing skills and improvements over time.

The second hypothesis was that students in the SRSD group would be able to independently apply the specific SRSD steps to their writing during an extended writing prompt (EWE-CBM). The results showed that no significant differences in the CWS scores were observed between the SRSD and control groups when given planning time. Still, some of the students in the SRSD group did use the strategies as directed with given extra time; however, in the 64 opportunities for the students in the SRSD group to apply these steps to their writing during the additional minute added to the prompt, only 14% did so. Although a small percentage of the SRSD students used the method on the post-test, the minimal generalization of the SRSD steps to the EWE-CBM may be related more to the method by which these data were collected than the students' actual ability independently to use the SRSD steps. It is possible that the additional one minute added to the prompts so that students could organize their writing ideas was not a sufficient amount of time to develop these steps and apply them during the subsequent three-minute writing prompt.

It is important to consider why the SRSD students did not show significant improvements on the extended writing measure (EWE-CBM). It may be that giving students 3 minutes for a timed writing sample is ideal in order to evaluate writing fluency. When the students were given an extra minute to plan and review their writing strategies, the scores were not significantly different between the groups. Timed assessments are useful because they tap a student's automaticity with a skill. It may be that giving students 4 minutes instead of 3 elongates the writing process without improving overall writing skills.

The third hypothesis, that the teacher and students would rate the SRSD method favorably on satisfaction surveys, was supported. On a 5-point Likert scale, with one being "strongly disagree" and five being "strongly agree," the teacher rated all questions with fives. She felt as though the SRSD method was easy to implement, the six steps were understandable, SRSD made a meaningful difference for the students in the group, and she will use the method in future classes. This information supports SRSD as being a socially valid and valuable method to support the writing improvement of students at-risk. It also helps to highlight SRSD's ability to be implemented in a wide range of settings, including, in this case, as a Tier 2 intervention for fifth grade.

In addition to the implementation teacher's approval and overall satisfaction with the method, students in the SRSD group also rated it favorably. Beyond the satisfaction survey results, students' individual statements about what was hard for them in regards to writing before and after the intervention illuminated their thoughts and feelings about how the SRSD method changed students' perspectives about writing. Before starting the intervention one student wrote, "I don't like writing," and after the intervention wrote,

"This isn't true anymore because I realized how fun it is in writing class." Another student initially wrote that "getting creative" was challenging but then stated that "It's not hard for me anymore because I've learned the tricks to writing." These powerful student statements help support SRSD as a valuable tool for students not only to improve their writing but to also change their attitudes and beliefs about writing.

The SRSD method used in this study easily could be generalized to other grade levels and schools, provided that teachers and administrators are willing to be flexible with their daily academic schedules. In order to implement SRSD with integrity, there needs to be a specific set time set aside each day for this additional Tier 2 instructional support. The results suggest that the SRSD method could be used in conjunction with classroom writing curriculum during writing blocks or as a Tier 2 support for at-risk students.

Limitations and Future Research

Although there were significant improvement in students' CWS for WE-CBM, several limitations exist. The curriculum-based assessment measure used to document student improvements may not have been the most sensitive measure. One concern in using a CBM for evaluating the effects of SRSD was that students were not able to show the SRSD steps in the allotted time given to them during this timed measure, even when additional time was provided. Had students been given even more time to organize their writing beforehand, they may have been able to apply the steps better once the prompt began.

A second potential problem with using CWS for measuring this intervention's effectiveness was that spelling and capitalization errors were penalized. Many students

in the intervention group had challenges with using correct writing mechanics in their writing, therefore, even if they were actually able to use more words in their post-test probes, their spelling and capitalization issues remained and were counted against final scores. Using a different evaluation method, such as total words written (TWW), or a qualitative analysis of writing, may have provided a more sensitive measure for determining whether students were able to write better after completing the SRSD intervention.

Third, some of the story prompts used in the EWE-CBMs appeared to attract more imaginative details and story length than other prompts did. The story starters for these prompts were, "Being chased by a shark wasn't fun. I had to...," and "I was in the middle of a lake when…" Many of the students included pictures of sharks, boats, and people fishing for these story prompts. The use of more picture organizers for these particular prompts may have impacted the overall CWS mean results for the EWE-CBM. Last, the sample sizes used in this study were small and the results should be replicated with larger populations and with a more diverse population of students before concluding that SRSD paired with traditional WE-CBM is an effective intervention for all students who have writing difficulties.

From this study additional researcher questions arose. For instance, the SRSD group consisted of 13 boys and 2 girls. With national writing data (NCES, 2012) showing that girls routinely outperform boys in writing, what factors contribute to this gap in performance? Additional research that evaluates differences in writing skills between boys and girls is needed. Additionally, do the positive effects of the SRSD method withstand time? Do students who have been provided SRSD instructional

methods at the elementary level show better writing in later years, such as in high school, college, and beyond? Can the methods used in the SRSD model be generalized to use in other academic subjects, such as science, social studies, or reading? With writing's strong link to reading (Graham & Hebert, 2010; 2011) there is certainly justification to include these types of instructional methods across subjects – especially for students who have been identified as being academically at-risk. Research is needed to show at which grade levels the SRSD methods are most useful as a Tier 2 support.

Additional research using the SRSD method should seek to replicate this study using an experimental design and random assignment. All the students who performed below the 50th percentile for CWS WE-CBMs in fifth grade were included in the Tier 2 intervention group. Had there been a randomly selected wait-list SRSD group, then analyses could have been made between those students who performed below the 50th percentile and received the SRSD intervention and those who performed below the 50th percentile and did not receive the intervention. Furthermore, a replicated study could include two at-risk control groups, one in which the participants also do writing activities during the intervention block and one in which does a different activity without a writing component. This type of study could be useful to learning more about the effects of explicit writing instruction using the SRSD methods compared to additional time devoted to writing without explicit instruction.

Implications for Practice

Several implications for practice exist for the use of the SRSD method as a Tier II writing intervention. This instructional method was easy to implement, according to the intervention teacher, in a school setting already set up with a multi-tiered system of

supports model. The invention steps are explicit and easy to follow, which lends itself nicely to its use as a strategy to be used in conjunction with existing class writing curricula. The basic tenets of SRSD include research-supported instructional practices which include modeling, deliberate planning, scaffolded collaboration between teacher and student (Cutler & Graham, 2008), and the use of explicit instruction in how to write different types of texts (Graham, McKeown, & Harris, 2012). The increase in student confidence in the writing process as a result of this study supports its use and applicability to intermediate-grade students. In addition to these implications for practice, the model easily can be included into professional learning communities where strategies and implementation techniques can be discussed between teachers across and within grade levels.

Specific to school psychologists, the understanding of this method as an evidence-based practice for students with diverse needs [e.g., Tier 2 support, intervention for students with specific learning disabilities (Harris et al., 2003; Straub & Alias, 2013) emotional and behavioral disorders (Ennis et al., 2013), and for high- and low-achieving students (Graham & Hebert, 2010; 2011; Graham et al., 2012; Saddler, 2006)] is important. When school psychologists can recommend evidence-based practices related to specific academic areas, students' academic outcomes are likely to be improved.

CHAPTER 5: SUMMARY

This study adds support to the research suggesting that Self-Regulated Strategy Development (SRSD) can lead to improvements in writing. Specific to this study, the SRSD method showed statistically significant usefulness as a grade-level Tier 2 writing intervention for fifth grade students performing below the 50th percentile rank for writing, as determined by CWS on AIMSweb WE-CBM probes. With only 24% of eighth- and twelfth-grade students who were administered the 2011 NAEP writing assessment earning a proficient score (NCES, 2012), educators need to work diligently, using proven methods, to improve students' writing skills. In an era of changing national standards for evaluating student success, with little guidance in the way of how best to teach students how to write well (Applebe & Langer, 2006; Troia & Olinghouse, 2013), it is of the utmost importance that teachers and those professionals working with children and youth use the methods that have been shown to work well. This study shows that SRSD can be easily implemented with fidelity on a large scale, within a multi-tiered system of supports, to help improve the writing of at-risk fifth grade students.

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Appendix A: WE-CBM Probes

1. I couldn't fall asleep in my tent. I heard this noise outside and …

2. I was fishing in the river when I felt a terrific tug on the line and …

3. The two space invaders stepped out of their spaceship and …

4. The noise was getting louder and louder …

5. It was a hot, dry day and I had been walking for hours without food or water when …

6. We were paddling on a beautiful lake in the woods when our canoe tipped over and …

7. I waved out the window at my family as …

8. Maybe animals aren't supposed to talk, but …

9. The phone call was mysterious and …

10. I stepped into the time machine and …

11. The roaring snow storm howled and …

12. I was shipwrecked on a deserted island when …

13. He crossed his fingers and opened the box. Suddenly …

14. The day was dark and misty as …

15. Working madly in my laboratory, I suddenly realized that my magic formula …

16. If I were to make a TV show, it would be about …

17. I was in the middle of the lake when …

18. I was picking berries when …

19. When I was in the Olympics, I …

20. Being chased by a shark wasn't fun. I had to …

Appendix B: Scoring Guidelines for CWS

Correct Writing Sequences (CWS)

Instructions
First, circle *Words* that are spelled incorrectly in the WE-CBM sample. This will help in determining pairs of correct adjacent words. Second, place a caret "^" between words that are (1) mechanically (spelled correctly, appropriate capitalization), (2) semantically, and (3) syntactically correct. Sum the number of carets "^" s. Scoring CWS requires more inferences about what the student intended such as whether a sentence "ended" when a period was omitted.

What is a Correct Writing Sequence?
Two adjacent writing units (words and punctuation) that are correct within the context of what is written.

Scoring Correct Writing Sequences
A caret "^" is used to mark each unit of the correct writing sequence. There is an implied space at the beginning of the first sentence.

    ^The^sky^was^blue.^   **CWS = 5**

Rule 1. Pairs of Words Must Be Spelled Correctly

    ^All^of^the^kids^started^to^laugh.^   **CWS = 8**
    ^All^of^the^kids^started^to_laghf. _   **CWS = 6**

Rule 2. Words Must Be Capitalized and Punctuated Correctly with the Exception of Commas. Correct punctuation must be present at the end of the sentence. The first word of the next sentence must be capitalized and be spelled correctly for a correct writing sequence to be scored.

    ^The^sky^was^blue.^ ^It^was^pretty.^   **CWS = 9**
    ^The^sky^was^blue.^ it was^pretty   **CWS = 6**

Rule 3. Words Must Be Syntactically Correct. Sentences that begin with conjunctions are considered syntactically correct.

    ^I^had^never^seen^the^wolves^before.^   **CWS = 8**
    ^I^never_seen^the^wolves^never.^   **CWS = 6**
    ^And^then^the^boy^gave^the^duck^some^bread.^ **CWS = 10**

Rule 4. Words Must Be Semantically Correct
    ^Jamaal^went^to^the^library.^   **CWS = 6**
    ^Jamaal^went_too_the^library.^   **CWS = 4**
    ^My^dad^made^the^treehouse^especially^for^me.^ **CWS = 9**

^My^dad^made^the^treehouse_specially_for^me.^   **CWS** = 7

Rule 5. Contractions. Apostrophes are required if the word cannot stand alone without it.

^I^went^to^Sam's^house.^   **CWS** = 6
^I^went^to Sams house.^   **CWS** = 4

Rule 6. Words with Reversed Letters. Words containing reversed letters are included in the total CWS count unless the reversed letter causes a word to be spelled incorrectly.

^There^was^a^bad^storm. ^   **CWS** = 6
^There^was^a^dad^storm. ^   **CWS** = 6
^The^dolphin^swam^in^the^sea.^   **CWS** = 7
^The bolphin swam^in^the^sea.^   **CWS** = 5

Rule 7. Story Titles and Endings. Words written in the title or endings that are capitalized and spelled correctly are included in the total CWS.

^The^Big^Run^   **CWS** = 4
the Big ^Run^   **CWS** = 2
the big run   **CWS** = 0
^The^End.^   **CWS** = 3
^The end.^   **CWS** = 2

Rule 8. Abbreviations. Commonly used abbreviations that are spelled correctly are included in the total CWS count.

^Jan^lives^on ^Sunset ^Blvd. ^   **CWS** = 6

Rule 9. Hyphens. Hyphenated words are counted in the total CWS count as long as each morpheme separated by hyphens is spelled correctly.

^My^sister-in-law^graduated^from^school.^   **CWS** = 6
^My siter-in-law graduated^from^school.^   **CWS** = 4

Rule 10. Numbers. With the exception of dates, numbers that are not spelled out are not included in the total CWS count.

3 men^ran.^   **CWS** = 2
^Three^men^ran.^   **CWS** = 4
^It^is^June^10, ^2004.^   **CWS** = 4

Rule 11. Unusual Characters. Symbols used in writing that are not spelled out are not included in the total CWS count.

^I^won^a^prize @ the^carnival.^   **CWS** = 6

Appendix C: Social Validity Survey

Teacher Survey: Please rate the following statements regarding your opinion of SRSD for writing in your classroom using the scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

	1	2	3	4	5
1. The SRSD method was easy to implement in my class.					
2. The 6 Steps to SRSD were understandable.					
3. SRSD made a meaningful difference for the students in my class.					
4. I will use the SRSD method with future classes.					

Student Survey: Please rate the POW + WWW What = 2, How = 2 method for writing that was used in your classroom using this scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

	1	2	3	4	5
1. The POW + WWW What = 2, How = 2 steps were easy to understand.					
2. I was able to write better because I used this strategy to help me.					
3. I will use POW + WWW What = 2, How = 2 again in classes.					
4. More teachers should use this strategy to help students write better.					

Appendix D: Checklist of Steps to POW + WWW What = 2, How = 2

- ☐ P = Pick my idea.

- ☐ O = Organize my notes.

- ☐ W = Write and say more.

- ☐ W = Who is the main character?

- ☐ W = When does the story take place?

- ☐ W = Where does the story take place?

- ☐ W = What does the main character do or want to do; what do other

   characters do?

- ☐ W = What happens then? What happens with the other characters?

- ☐ H = How does the story end?

- ☐ H = How does the main character feel; how do other characters feel?

Appendix E: Standardized Directions for WE-CBM Administration

1. Select an appropriate story starter.

2. Provide the student with a pencil and a sheet of lined paper.

3. Say these specific directions to the students:

"You are going to write a story. First, I will read a sentence, and then you will write a story about what happens next. You will have 1 minute to think about what you will write, and 3 minutes to write your story. Remember to do your best work. If you don't know how to spell a word, you should guess. Are there any questions?" (Pause).

"Put your pencils down and listen."

"For the next minute, think about ... (insert story starter)."

4. After reading the story starter, begin your stopwatch and allow 1 minute for students to "think." (Monitor students so that they do not begin writing).

   After 30 seconds say: "*You should be thinking about* (insert story starter)."

5. At the end of 1 minute say: "*Now begin writing".* Restart your stopwatch.

6. Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the test is finished, move close to them and say *Keep writing the best story you can.* This prompt can be repeated to students should they pause again.

7. After 90 seconds say: "*You should be thinking about* (insert story starter)."

8. At the end of 3 minutes say: "*Stop. Put your pencils down."*

If students want to finish their story, it is allowable to do so as long as they complete it on a separate piece of paper.

Appendix F: Extended Time WE-CBM Script

1. Select an appropriate story starter.

2. Provide the student with a pencil and a sheet of lined paper.

3. Say these specific directions to the students:

"You are going to write a story. First, I will read a sentence, and then you will write a story about what happens next. You will have 1 minute to think about what you will write, and 3 minutes to write your story. Remember to do your best work. If you don't know how to spell a word, you should guess. Are there any questions?" (Pause).

"Put your pencils down and listen."

"For the next minute, think about ... (insert story starter)."

4. After reading the story starter, begin your stopwatch and allow 1 minute for students to "think." (Monitor students so that they do not begin writing).

After 30 seconds say: "*You should be thinking about* (insert story starter)."

5. At the end of 1 minute say: "*Now please take 1 minute to create an outline of what you will write about. Go ahead."* Restart your stopwatch for an additional 1 minute.

6. After 1 minute say: *"Now begin your writing."* Restart your stopwatch for 3 minutes.

7. Monitor students' participation. If individual students pause for about 10 seconds or say they are done before the test is finished, move close to them and say *Keep writing the best story you can.* This prompt can be repeated to students should they pause again.

8. After 90 seconds say: "*You should be thinking about* (insert story starter)."

9. At the end of 3 minutes say: "*Stop. Take 1 minute to review what you wrote."* Restart stopwatch for an additional 1 minute before saying: "*Put your pencils down."*

If students want to finish their story, it is allowable to do so as long as they complete it on a separate piece of paper.

Appendix G: SRSD Treatment Integrity Checklist

Teacher: _____   Observer: _____

# of Students: _____   Date: _____

Lesson #: _____

Directions: During the lesson presentation, place a checkmark in the column for each step that is observed. If the step does not apply to the lesson, write in N/A in the column and do not include that step in the calculation of fidelity.

SRSD Step	Lesson Checklist	Completed?
1	**Develop Background Knowledge** (i.e., read works in the genre, develop vocabulary knowledge, introduce concepts, discuss what strategies will be learned)	
2	**Discuss It** (i.e., explore current writing and self-regulation strategies, graphing introduced and used with prior compositions, goal setting)	
3	**Model It** (i.e., teacher models writing and self-regulation strategies, analyze and discuss strategies and model's performance)	
4	**Memorize It** (i.e., require and confirm memorization of strategies, mnemonic(s), and self-instructions)	
5	**Support It** (i.e., use writing and self-regulation strategies collaboratively, prompts, guidance, and collaboration faded, discuss plans for maintenance)	
6	**Independent Performance** (i.e., students able to use task and self-regulation strategies independently, teacher monitors and supports as necessary,	

Number of checkmarks/6 = _____ % SRSD Lesson Fidelity

BIOGRAPHY OF THE AUTHOR

Christina A. Flanders was born in Boston, Massachusetts and grew up in the Lakes Region area in New Hampshire, where she earned her high school diploma from Winnisquam Regional School District in Tilton, NH. Christina graduated cum laude from Plymouth State College in 2000, with her Bachelor of Science degree in Psychology and the Law. She then continued on to earn her Master of Science degree in School Psychology from the University of Southern Maine in 2005.

Christina is a Nationally Certified School Psychologist (NCSP) and worked for nine years in the Laconia School District as a school psychologist. During that time she was awarded the 2014 New Hampshire School Psychologist of the Year distinction. She is now a full-time faculty member for Plymouth State University's M.Ed. in School Psychology program and serves on the New Hampshire Association of School Psychologists (NHASP) executive board. Christina is a candidate for the Doctor of Psychology degree in School Psychology from the University of Southern Maine in December 2014.