Answering the Challenge: SRSD Instruction for Close Reading of Text to Write to Persuade with 4th and 5th Grade Students Experiencing Writing Difficulties

Karen R. Harris, Arizona State University/Institute for Learning Sciences and Teacher Education, Australian Catholic University

Amber Ray, University of Hawaii at Manoa

Steve Graham, Arizona State University/Institute for Learning Sciences and Teacher Education, Australian Catholic University;

Julia Houston, Phoenix, AZ Elementary School District #1

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Abstract

We designed and investigated the first set of instructional procedures we are aware of to teach 4th and 5th grade students how to write a persuasive essay following close reading of a source text. Eight boys and girls attending a diverse, low income school who were having difficulty learning to write participated in an experimental multiple-baseline design study. Self-regulated strategy development (SRSD) instruction for close reading of informational text and writing to persuade was situated in the writing process and included discussion, modeling, explicit instruction, scaffolding, collaboration among peers and with teachers, self-regulation of the writing process and affect, and additional components and characteristics. Outcome measures included genre elements, holistic quality, number of words written, and complexity of plans for writing. All students showed meaningful gains on the writing outcomes, with the exception of length, which varied, as predicted. Limitations and directions for future research are considered.

Concern regarding the prevalence of inadequate writing abilities among our K-12 students has become a worldwide issue; students who struggle with writing are at a significant disadvantage in all aspects of life (Aud et al., 2012; Cumming, Lai, & Cho, 2016; Festas et al., 2014). Writing is used as a tool for learning, communicating, self-expression and self-advocacy, social and political engagement, and more (Bazerman, 2008; Graham & Hebert, 2011; Harris, 2018; McKeown et al., in press). In the U.S., research indicates good writing is critical beyond the school years, as over 90% of white-collar workers and 80% of blue-collar workers report that writing is important to job success (National Commission on Writing, 2006). While significant numbers of students from all racial and ethnic groups and socio-economic levels experience difficulty learning to write, unacceptable achievement gaps persist for students living in high poverty areas, including students from marginalized racial and ethnic groups (Harris, 2018).

 Multiple factors help explain why students’ writing abilities are not developing adequately. (Harris, 2018; Harris & Graham, 2017). Expertise in writing does not develop easily. Skilled writing is complex, requiring problem solving and extensive self-regulation of an intricate process and attention to the functions the author intends (Boscolo & Mason, 2001; Cumming et al., 2016; Galbraith, 2009; Harris & Graham, 1996, 2009). Writers must negotiate the rules and mechanics of writing, while maintaining a focus on factors such as organization, form and features, purposes and goals, audience perspectives and needs, and evaluation of communicative intent and efficacy (Bereiter & Scardamalia, 1987; Harris & Graham, 1996). Clearly, writing makes multiple affective, behavioral, and cognitive demands on writers. Finally, teachers report inadequate preparation for teaching writing in degree programs and in in-service development, spending less time teaching writing than they do reading and other subjects, and less use of evidence-based practices than is desirable (Graham et al., 2012; Harris & Graham, 2017).

 A major, and demanding, focus in writing instruction and research today involves close reading and writing to learn. Until recently, however, writing effectively to inform or persuade after close reading of source texts was not a common expectation in the elementary grades (cf. Cumming et al., 2016). The Common Core State Standards (CCSS; National Governors Association & Council of Chief School Officers, 2010), however, specify that grade 4 and 5 students need to write logical and compelling persuasive essays based on close reading of source text (text that can be read to obtain facts, definitions, details, quotations, ideas, or other information). In the present study, we developed and investigated reading and writing strategies that work together to support close reading and writing to persuade among grade 4 and 5 students attending a school in a low SES area and experiencing difficulty with writing.

**Research on Relationships among Reading, Writing, and Writing to Persuade**

 Study of the relationships between reading and writing, and the effect of one on the other, has a long and impactful history (Cumming et al., 2016; Galbraith, 2009; MacArthur, 2014; Prain & Hand, 2016). Writing about material read enhances students’ learning (Bangert-Drowns, Hurley, & Wilkinson, 2004; Graham & Hebert, 2011; Newell, 2006). Across this large body of research, however, there has been relatively little focus on close reading of source text with the explicit purpose of writing to persuade until recently. Further, research has focused primarily on secondary and college students (cf. Cumming et al., 2016; Klein & Boscolo, 2016; Mason, Reid, & Hagaman, 2012). No studies were located focusing on learning close reading of source text followed by planning and writing to persuade at the upper elementary grades.

 Argumentative writing (where the purpose is to defend a position with the goal of persuading readers to accept it) in grades K-12 is the focus of a great deal of attention at this time (Ferretti & Fan, 2016; Klein & Boscolo, 2016; Prain & Hand, 2016; Tannen, 1998). As noted by the authors of the CCSS, argument has a unique importance in college and careers. The process of considering facts, making decisions based on those facts, and explicating the rationale for decisions to others it is central to knowledge building (Common Core State Standards for English Language Arts and Literacy, App. A, 2010). Further, while recognizing a variety of persuasive strategies, the CCSS place particular emphasis on writing logical arguments in preparation for work, higher education, and life in the 21st century.

The CCSS (2010) specify that grade 4 and 5 students need to be able to use texts they have read as sources for writing persuasive essays that support a clearly presented position with logically ordered and linked reasons. These reasons should be backed by facts and details and the essay should end with an effective conclusion. Self-regulated strategy development (SRSD) instruction for writing has been deemed an evidence-based practice (Harris & Graham, 2017); a meaningful body of research also exists on SRSD instruction for reading, and reading and writing in tandem (Graham et al., 2012, 2013; Mason et al., 2012). Thus, the SRSD instructional approach was used in this study.

**Foundations of SRSD for Reading, Writing, and Writing from Source Texts**

 Since its inception, the SRSD model of instruction has been based on theoretical integration (Harris, 1982, 2018; Harris & Graham, 2009, 2017). Ongoing, thoughtful, effective integration of diverse, validated approaches to teaching and learning (regardless of whether or not the disciplines from which they originated are viewed by some as discordant) and triangulation of evidence for effective teaching and learning practices for diverse learners across these theories, remains essential to SRSD instruction. As Harris (1982, 2018) has noted, single theories prevalent today cannot capture the complex nature of learning, contexts for learning, and the diversity among learners. Nor can single theories address all of the challenges we face - yet each can contribute to effective instruction. Theoretical integrationists (Harris, 2018) also recognize that critical attributes of effective teachers and characteristics of effective instruction belong to no single theory, but rather are supported by many.

SRSD is not the only theoretically integrated approach to understanding writing. Ivanic, for example, (2004) identified and analyzed six writing discourses (“configurations of beliefs and practices in relation to the teaching of writing,” p. 220): skills, creativity, process, genre, social practices, and sociopolitical. He then examined how a comprehensive writing pedagogy might integrate understandings from all, despite the tensions and contradictions identified among them. Prain and Hand (2016) proposed the “interlocking explanatory value” (p. 431) of three theory shifts over the past 30 years identified by Klein and Boscolo (2016), who also recognized the potential of integrating across these theories. “Interlocking” insights from sociocultural, socio-semiotic, and cognitivist perspectives can help build understanding of the value of writing for student learning (Prain & Hand).

***SRSD instruction.*** SRSD instruction is a multicomponent, multi-characteristic approach (Harris & Graham, 1996, 2009, 2017; Harris, Graham, Mason, & Friedlander, 2008). An overview is provided here; further detail can be found in Method. SRSD instruction is not scripted, reflects strong respect for and reliance on teacher judgement, and situates writing development within the writing process (Harris & Graham, 1996, 2017; Harris, Graham, & Adkins, 2014; Harris et al., 2008). SRSD instruction involves interactive, discourse based, scaffolded, explicit learning of knowledge and strategies for genre-specific and general aspects of reading and writing; the knowledge (such as vocabulary and background knowledge) needed to use these strategies; development of attributions to effort, learning, and strategy use; and strategies for self-regulating reading/writing strategy use, affective demands faced by the writer, and writing behavior. Multiple theories and lines of research have established that rich, high quality social contexts and interaction aid reasoning and learning (cf. Blank, 2002; Harris, 1982; Kuhn, 2015; Rogoff, 1990). Rich discussion is essential in SRSD; further, effective student, teacher, and peer collaboration make critical contributions to developing as a writer and help create a writing community (Harris & Graham, 1996).

Even when the focus is solely on writing, SRSD instruction begins with reading, analyzing, and discussing model texts that represent what students are learning to achieve, as well as classroom or other texts (Harris & Graham, 1996; Harris et al., 2008; IRA/NICHD, 2012). Weak texts are also read, evaluated, and revised. This discussion aids not only in building background knowledge and vocabulary, but also in learning to read with a writer’s eye and to think like a writer. Aspects of topic, audience, and purpose are investigated and discussed throughout SRSD instruction, as are aspects of genre and general characteristics of effective writing (Harris & Graham, 1996). Together, teachers and students set clear goals (differentiated as needed) and establish criteria for evaluating progress in meeting these goals. Multiple elements of SRSD instruction, including discussion, modeling, self-instructions, and self-assessment, help teachers support students in development of motivation, positive attitudes toward writing, and belief in themselves as capable writers. (i.e., self-efficacy). Progression through the stages of SRSD instruction is mastery-based, and promoting maintenance and appropriate generalization is integrated throughout instruction.

***Aspects of genre and close reading.*** The genre-based and general reading/writing strategies targeted for SRSD instruction at differing grade levels, including those in this study, have been developed through careful analysis and study of multiple theories and research on genres (Graham & Harris, 2005; Harris & Graham, 2009, 2017). Research indicates that SRSD instruction to teach second through fifth graders to write persuasive essays results in significant and meaningful outcomes (Graham et al., 2012; Harris & Graham, 2017). Thus, we relied on this evidence base in this study. Mason and her colleagues have provided a solid evidence base for SRSD for reading comprehension at middle and secondary grades (cf. Mason, 2017; Mason et al., 2012). We modified the close reading strategy instruction from this research base to be appropriate to younger students, and designed the integration of SRSD instruction for close reading with SRSD instruction for writing to persuade (as detailed in Method).

Finally, we concur with multiple voices in the field cautioning against creation of an “argument culture,” where winning an argument is the penultimate goal, leading to undesirable outcomes such as an adversarial frame of mind and distorting facts or positions (Tannen, 1998). Rather, teaching writing to persuade in grades K-12 should encompass consideration of multiple viewpoints, learning, debate, and discussion of a topic (Common Core State Standards for English Language Arts and Literacy, App. A, 2010; Ferretti, Andrews-Weckerly, & Lewis,2007; Ferretti & Lewis, 2013; Harris, 2018; Lunsford, Ruszkiewicz, & Walters, 2016; Tannen, 1998). Students in the present study read about, discussed, and wrote on more than one side of selected issues (regardless of their initial view or preference); we emphasized that a strong essay might persuade your reader to agree with you, but people can disagree and learn from each other.

**The Present Study**

A multiple-baseline across participants design, with multiple probes in baseline, was used to examine writing outcomes after SRSD instruction in close reading of a source text and writing to persuade. Instruction was provided by two members of the research team. The eight students in this study attended a Title 1 school and experienced difficulties learning to write. Outcome measures for essays included genre elements, holistic quality, length, and complexity of plans for writing. The holistic quality score was included as it reflected aspects of writing performance addressed in instruction beyond genre elements and structure. In addition, maintenance of any improvements on these outcomes was examined. We predicted students would show meaningful improvements for all measures both post-instruction and at maintenance, except length. Results for length in SRSD research are mixed. Some students write more after SRSD instruction while others write about the same number of words or less, but with improved performance on holistic quality and inclusion of genre elements (Harris & Graham, 2017).

**Method**

**Setting**

 This study took place in a Title 1 public elementary school located in a large urban city in

the Southwest United States that was willing to participate. The school served 435 fourth through sixth grade students and received a “B” letter grade on the State report card system, indicating above average performance. The majority of the students in the school were Hispanic (65%), and about 60% of the school’s students passed the State’s standardized academic assessment. In this district, 87% of students lived below the poverty level, 17% of students were immigrants, 51% of students were limited in English proficiency, and 6.1% of students were homeless.

**Student Participants**

All fourth and fifth grade students in four classestaught by two teachers willing to participate in this study completed the Story Composition subtest of the Test of Written Language - 4 (TOWL-4; Hammill & Larsen, 2009). Reliabilities for this subtest are greater than 0.80. Two trained graduate students scored the TOWL; interrater reliability (Pearson product-moment correlation) was 0.90. Thirteen students met the following study criteria: (a) scored at or below the 25th percentile on the Story Construction subtest of TOWL-4; (b) identified as having difficulty learning to write by their classroom teacher; (c) wrote at least two connected sentences when writing a story for the TOWL-4, and (d) were missing one or more of the expected genre elements (see Method) on an opinion essay assigned in class. Five of these students never participated in the study due to moving, lack of consent, or prolonged absence.

 Eight students completed the study (parental consent and student assent were obtained), including five fourth-graders (three girls and two boys; two of these children were Hispanic, one Native American, and two White) and three fifth-graders (all boys; one Hispanic, one Native American, and one White student). Students were assigned to instructional groups of 2 or 3 based on school schedules, as was order of groups for instruction. Six of the eight students did not meet the Annual State Writing Assessment standards (Alison, Micco, Alejandro, Samuel, Daniels, Tomás); two did (Shada and James). Their teachers indicated they believed these two students had met annual state writing assessment standards due to intensive test preparation and characteristics of the state assessment and standards at that time, which did not focus on writing to persuade. English was the primary language of all student participants; none received special education services. Two of the students, Micco and Alejandro, were receiving support for behavioral difficulties which were maintained during instruction. Group 1 included three fourth graders (Alison, Shada, and James); Group 2, three fifth graders (Micco, Alejandro, and Samuel); and Group 3, two fourth graders (Daniela and Tomás). These teachers indicated that instruction in writing opinion essays had been addressed, as had story and informative writing. Reading source texts and then writing to persuade was not addressed at these grade levels.

**Writing Probes and Informational Source Texts**

 **Writing prompts.** Before the study began, students’ teachers confirmed the appropriateness of each topic written about in data collection and instruction for fourth and fifth graders (e.g., teamwork, plastic bags, school uniforms); none of the prompts used in instruction were used during data collection. The prompts were similar to ones used in a prior SRSD study, and these prompts produced equivalent writing performance in that investigation (Graham et al., 2018).

**Informational texts.** Each writing prompt was accompanied by an informational text about the topic including relevant information and facts. Texts also included information that was not central to the argument the writer was being asked to make, as it is important for students to realize they have to read closely for information that is relevant to their argument. Each article was developed by the research team using factual information taken from at least three child-friendly websites. Texts were single spaced, 350 to 375 words long, and consisted of 30 to 35 sentences. The Readability Test Tool (<http://read-able.com>) reported an average grade level of 4 across multiple indices for all informational texts. The writing prompts and accompanying texts were randomly ordered for administration before the start of the study, and all students were administered the same writing prompt at each testing point to control for effects due to prompts. All informational texts are available online.1

 **Administering probes.** Writing probes were administered for each group by a graduate assistant (GA), following a script (available online, see Endnote), who did not serve as the students’ teacher during SRSD instruction. The GA explained that she could not help them with their essay or spell words. While students wrote for differing readers throughout instruction (parents, teachers, principals, classmates), the reader was standardized for all assessments. Students were asked to write an essay to persuade their classmates of a specific point of view and all prompts followed the same format. One prompt, for example, was, “Write an essay persuading your classmates that teamwork is a good idea.” The students read along as the GA read the informational text out loud. Students then had the text available for close reading and mark up, planning, and writing. Students had as much time as needed to complete their essays.

**Measures**

Before students’ essays were scored, each essay was typed and spelling, capitalization, and punctuation errors were corrected to reduce the likelihood of presentation effects biasing raters’ judgements (Graham, Harris, & Hebert, 2011). Typed essays were checked by another research team member and any errors (which were rare) were corrected. Identifying information was removed from each essay. Essays were scored for persuasive writing genre elements, holistic quality, and length; plans were also collected and scored.

**Genre elements.** Each essay was scored for the following persuasive essay elements in presenting and defending a point of view (Scardamalia, Bereiter, & Goleman, 1982): premise (statement indicating what the author believed), reasons (statements offering support for why the author believed this), explanations (providing further detail to support a reason), and conclusion (a closing statement that wrapped up the essay). For premise and conclusion, a score of 1 was awarded if the element was present and a score of 0 if it was absent. For reasons and elaborations, 1 point was awarded for each separate and unique reason and elaboration included in an essay. Each essay was blinded and scored by the second author as the study was in process and a trained GA once the study was completed. The Pearson product moment correlation between raters’ scores was 0.94. The second author’s scores are reported in this study, as they were used to determine stability and make decisions about phase changes.

**Holistic quality.** All essays were scored for holistic quality using a traditional holistic writing scale (cf. Hout, 1990; scoring protocol available from first author). Raters read each essay attentively, but not laboriously, to obtain a general impression of overall writing quality. Essays were scored using a 9-point scale, with nine representing the highest quality. Raters were told that persuasiveness, ideation, organization, word choice, grammar, and sentence structure should all be taken into account to form a single judgment about writing quality when scoring, but no single factor should receive undue weight. Raters were provided with a representative essay for scores of 2, 4, 6, and 8. All essays were randomly ordered and independently scored at the end of the study by two trained raters (training ended when 10 essays were scored within a single point) unfamiliar with the design and purposes of the study. The Pearson product moment correlation between raters’ scores was 0.80. Each holistic quality score was the average of the two raters’ scores.

**Length and plans.** The length of each essay was determined by using the word count feature in Word. Length was double checked by a second researcher; agreement was 100%. The plans students produced in advance of writing were scored for complexity using a five-point scale. A score of 1 indicated no plan was created; 2 indicated the plan was written out in full sentences, whether all genre elements were addressed or not, and then copied for the composition, 3 indicated the plan was a partially written essay that was extended in writing the final essay whether or not all genre elements were addressed, 4 indicated the plan included phrases or notes but did not address all genre elements of persuasive essays, and a 5 indicated the plan included phrases or notes and addressed all genre elements of persuasive essays. All plans were scored by two GAs blind to phase/condition. Percent agreement (number of exact agreements divided by the total possible number of agreements) was 97%.

**SRSD Instruction for Close Reading of Informational Text and Writing to Persuade**

SRSD instruction was delivered by two authors of this article who participated in 10 hours of preparation until both met the criterion of modeling all stages of SRSD instruction without leaving out any elements or characteristics. Instructors were provided with a notebook that contained detailed directions for implementing all lessons and activities and a checklist of steps for each lesson (included online, see Endnote). Instructors developed their own lesson plans, but these were shared to confirm that all steps were included for each lesson. One instructor taught groups 1 and 3; the other taught group 2. Assignment of students and instructors to groups was determined by school and instructor schedules. While teaching, instructors checked off each lesson step as it was completed. Instructors, however, had the flexibility to respond to individual student needs, backing up and repeating a step if necessary, or reordering steps.

Each instructor worked with their groups of students three to four times a week for 45 minutes (unless interrupted by fire drills, etc.), with one exception. As the end of the school year neared, later lessons for group 3 were extended to 60 minutes. Instruction took place in an empty classroom during the school’s reteach and enrich time. Group 1 received 20 sessions and a total of 990 minutes of instruction; Group 2 received 27 sessions and a total of 1,215 minutes of instruction; and Group 3 received 22 sessions and a total of 1,095 minutes of instruction.

SRSD instruction takes place across six flexible, recursive stages, with gradual release of responsibility for writing to the student: (1) Develop Background Knowledge, (2) Discuss It, (3) Model It, (4) Memorize It, (5) Support It, and (6) Independent Performance. The six stages are intended to be thoughtfully combined, modified, and revisited in response to students’ and teachers’ needs. For example, Stages 1 and 2 typically are integrated together in the early lessons rather than being taught in distinctly different lessons. Further, teachers had pairs of students evaluate essays or plan and/or write together as possible, while they worked with a single student; had groups plan and write together as helpful, used games or fun activities to reinforce learning, and so on. Space precludes a detailed description of the SRSD instruction, as it was complex; a synopsis is provided here. The complete set of professional learning lesson plans (to be used as part of learning the SRSD instructional approach; not to be used as scripts), student materials, teacher materials, and tips for teachers are available online (see Endnote).

**Beginning with learning to write persuasive essays.** In this study, SRSD instruction first focused on learning to write opinion essays, as these students were not yet able to write strong opinion essays using their own ideas and arguments. Once students had developed initial capabilities in opinion essay writing (completed the first 5 stages of SRSD instruction), we then began SRSD instruction again, at stage 1, for close reading of source text for writing persuasive essays.

SRSD instruction, therefore, for opinion essays began with developing background knowledge and discussing opinion essays. Discussion addressed topics such as what an opinion is, the difference between facts and opinions, what it means to persuade, and what you should think about when you write to persuade (including the reader and strong versus weak reasons and explanations). Instructors were familiar with the students’ classroom and pretest writing, but began further development of understanding their students’ writing needs, writing strengths, and attitudes towards writing. As initial vocabulary and understandings were developing, students read model opinion essays that included all genre elements noted previously as well as a hook to grab the reader and strong linking words. These essays were written at a level representing reasonable goals based on these students’ current writing abilities rather than their reading level (Harris & Graham, 1996; Harris, Graham, & Friedlander, 2008; IRA/NICHD, 2012).

As these model essays were evaluated by the students and teacher, discussion began focusing on additional aspects of strong opinion essays, including: good opinion essays are fun to read, fun to write, make sense, and might convince the reader to agree with you; good writers think about their readers and use reasons and details to reach specific readers (i.e., what might convince your classmates might not convince your principal); use of effective words/vocabulary; use of an “attention getting” fact, question, exclamation, or “short story” (share a related personal experience, etc.) to begin an essay; varied linking words to tell the reader another reason is coming; and a good ending that wraps the essay up. In addition to reading with a writer’s eye, students talked about thinking like the writer, discussing how the writer might have come up with their ideas and what the writer might have been thinking about while writing. As instruction progressed, students set goals to make use of all of these additional aspects of strong opinion essays in their writing.

While students were clearly learning far more than mnemonics and genre elements, at this time two mnemonics were introduced to support working and long-term memory. Development of all previously noted vocabulary and understandings continued and was linked to these mnemonics as appropriate. Students learned that POW represents a good trick, or strategy, writers can use for all kinds of writing; **P**ick my idea (students learn to consider topic, audience, and purposes), **O**rganize my notes (i.e., organize ideas using a graphic organizer), and **W**rite and say more (i.e., continue to modify and improve the plan while writing). TREE was introduced as a good trick, or strategy for remembering the basic parts (genre elements) of a good opinion essay, as well as other aspects of good essays, and for setting a goal to have at least 8 “parts” in your essay: **T**opic sentence, Tell what you believe!; **R**easons, 3 or more, Why do I believe this? Will my readers believe this?; **E**xplain each reason, Say more about each reason that helps persuade your reader; **E**nding, Wrap it up right! One of the goals shared by all students was to “have all of my parts and score at least an 8” when they scored their own essays: 1 point for a clear topic sentence, 3 or more points for good reasons, 3 or more points for good explanations, 1 point for a good ending. Once students had all of the parts and each was done well, they set goals to do even better, adding more reasons and/or explanations. These genre elements were only one aspect of goals set by students, however. Students set and monitored goals to hook the reader, use interesting and varied linking words, use effective vocabulary, and so on. Teachers introduced hand motions for each part of POW (e.g., using thumb and index finger to pull thoughts from you brain as you picked your ideas; for more details, see Endnote).

A POW + TREE chart and a graphic organizer with all parts of TREE on it were given to students. The teacher began demonstrating and discussing how and why writers make notes rather than record their ideas in full sentences. Based on previous SRSD research (cf. Harris & Graham, 2017), it was correctly anticipated that many students would find making notes difficult. Time was taken to talk about what a note is, when people makes notes for themselves, and why notes are useful. The teacher facilitated group note making by leading taking notes from the model essays read earlier with student input; making notes was scaffolded over lessons until students were doing this independently. Some students referred to notes as “cave man talk” while others saw them as similar to text messages.

The teacher then introduced and facilitated discussion of weak essays that were deliberately developed to reinforce aspects of good opinion essay writing. Weak models had some strong aspects but included poor arguments for the targeted reader, irrelevant details, lack of transitions words, poor organization or word choice, and so on. The students and teacher recorded notes for the strong parts of these weak essays on a graphic organizer, and then discussed and created notes for better parts on the graphic organizer. Together, they revised this essay and wrote a new essay, and then evaluated their work; additional revisions could be made. Each student had a chart listing sample linking words and ideas for strong openings and endings; students added to their charts throughout instruction. Instructors repeated these activities during the first two stages until they determined that all students understood POW and TREE, could evaluate good and weak opinion essays, and were beginning to be able to make notes on the graphic organizer.

While the development of background knowledge, skills, and understandings continued through the next three stages, the teacher began Model It. During this stage, the teacher initially modeled, while thinking aloud, use of POW and then planning (using the TREE graphic organizer) and writing an opinion essay to a prompt. Strategies for self-regulating the writing process were included in modeling (goal setting, self-monitoring, self-instructions, and self-reinforcement), as was coping with issues such as not being sure what to do next, frustration or other emotions, coming up with good ideas, and so on (Harris, 1982; Harris et al., 2008). Students collaborated with the teacher, setting goals for the essay, suggesting good ideas for each part of the opinion essay, addressing all previously noted aspects of writing to persuade, and aiding the teacher with suggested self-talk during writing and coping with difficulties. The teacher and students then evaluated the final essay for all goals set. They graphed the number of genre elements (eight or more; more than three reasons could be given and more than one explanation could be used to support a reason) on a bar graph shaped like a rocket. The flames below and stars around the rocket were colored in to indicate other goals were met regarding a strong essay, such as a hook or catchy opening, effective linking words, good word choices, a strong ending, and so on. Students created a chart listing things they would like to say to themselves, or self-instructions, while they wrote, focusing on using what they know about writing to persuade and POW and TREE, as well as things to say to help themselves get going and to keep going, and things to say when they had accomplished a goal or done well.

Instructors continued this collaborative modeling and writing with students using differing topics; each collaborative essay was evaluated and graphed. Throughout these first three stages of instruction, the students memorized the POW and TREE mnemonics including what each letter stood for, what it meant, and why it was important; thus, Memorize It was addressed and further confirmed in the next stages. Teacher modeling was reduced and eventually ended as students moved into the Support It stage, planning and writing essays with less and less teacher/peer support; mnemonic and other charts were removed and students used scratch paper to create their own organizer for notes.

As appropriate, students wrote on more than one position regarding a topic (e.g., planning and writing an essay arguing in support of school uniforms and later planning and writing an essay arguing against requiring school uniforms) in instruction. When teachers judged students were ready, each student planned, wrote, and evaluated one or two essays independently, followed by teacher feedback. However, the final stage of SRSD instruction, Independent Performance, was not completed until later, as students would continue advancing toward independence after learning a strategy for close reading of informational text, as explained next.

**Adding use of a close reading strategy before planning.** At this point, teachers began SRSD instruction again at Stages 1and 2, focusing on close reading of informational text and using this text to support planning and writing to persuade. Develop Background Knowledge and Discuss It focused on the characteristics and purpose of informational text. The goal was to help students understand that informational source text includes facts and information that can be considered for use as reasons and explanations in persuasive essays. Teachers introduced a close reading strategy adapted for elementary students from research by Mason and colleagues (Mason, 2017; Mason et al. (2013). Students learned to carefully read a text with their purposes as a writer in mind and to markup facts and ideas relevant to their thinking and planning to persuade. This strategy is represented by the mnemonic TWA: **T**hink before reading, think about the author’s purpose, think about your own ideas for reasons and explanations; **W**hile reading, think about your reading speed (why not to read too slow or too fast), think about rereading and marking up the text for information or ideas you might use for reasons, explanations, or other aspects of your goals; **A**fter reading, think about: what will persuade your reader, think about and make notes for reasons and explanations to persuade your reader. While we initially provided students with different colored highlighters to markup text content related to reasons and explanations for their writing, the markers proved to be a distraction for these students. Therefore, students learned to underline relevant content and mark underlined content with a capital letter (R for think about for a reason, E for think about for an explanation, etc.; see Endnote for examples). As students moved to making notes during planning based on marked up text, the concept of plagiarism was defined, discussed, and examples identified. Students learned that they needed to express reasons and explanations in their own words, and this was stressed and modeled throughout the remaining lessons.

Teachers continued SRSD instruction as described earlier, but now incorporating POW + TWA + TREE throughout the Model It and Support It stages. Independent performance was reached when each student was able to independently markup informational text; use this marked text, their own ideas, and the aspects of writing to persuade represented by TREE to plan a persuasive essay; and write the essay. As before, during this progression through the stages teachers could return to earlier stages or aspects of instruction as needed.

**Fidelity of Implementation of SRSD Instruction**

Fidelity of instruction was addressed in four ways. First, instructors were trained to deliver SRSD instruction to criterion, as noted previously. Second, during instruction each instructor communicated daily with members of the research team to discuss instructional progress and next steps. Discussions included students’ challenges with materials or pacing and means to individualize instruction. Third, instructors created their own lesson plans, but also had a checklist for each stage of instruction and marked off each step in a stage as it was completed. Fourth, each instructor observed 33% of the other instructor’s lessons spread equally across phases, using the checklists for each stage of instruction. Prior to each observation, the instructor informed the observer of the instructional steps and any changes planned for that session. Lesson fidelity was computed by dividing the number of lesson steps taught by the total number of steps possible for that lesson, and multiplying the quantity by 100. SRSD instruction was implemented with a high level of fidelity in all three groups. Mean fidelity score was 99% for both instructors.

**Experimental Design**

A multiple-baseline across participants design with multiple probes during baseline was used to examine the effectiveness of the SRSD instruction (Barlow, Nock, & Hersen, 2009; Horner & Baer, 1978). Baseline consisted of regular instructional practices, which focused on writing skills and different types of writing. Once baseline data for genre elements were stable for students in the first group, SRSD instruction began for these students. Immediately following instruction, post-instruction writing probes were administered until stability in genre element scores (used to guide phase changes) was established. Instruction for students in groups two and three began once their baseline data was stable and all students in the preceding group evidenced a 50% increase in genre elements (this occurred on the first post-instruction writing probe in all cases). Students in groups 1 and 2 were administered one maintenance probe 55 days and 22 days, respectively, after SRSD instruction concluded for that group; collection of additional data points for maintenance was not possible. Students in the third group did not complete a maintenance probe due to the end of the school year. Data for baseline and post-instruction were analyzed using traditional single case design procedures, including visual inspection to examine stability, level, and trend of data points, as well as immediacy of effect on performance following completion of SRSD instruction and amount of overlap in scores across phases (Barlow et al., 2009). Overlap in scores was determined by calculating percentage of non-overlapping data points, or PND (defined as the percentage of post-instruction and maintenance scores exceeding the highest score in baseline for an individual or group). Space does not allow visual presentation for outcomes other than genre elements, thus data for the remaining outcomes is presented in text. Finally, as only one data point was collected at maintenance for the first two groups, maintenance data cannot be evaluated using these standards.

Finally, current pilotstandards for SCD studies established by What Works Clearinghouse state that an arbitrary (no rationale is given) minimum of five data points during baseline and all following phases is required for a study to meet their standards without reservations (What Works Clearinghouse, 2017). We believe this standard is inappropriate and required a minimum of three data points in each phase, with more data points collected only if needed to establish stability. Although a minimum of five data points is necessary to allow sophisticated statistical analyses for quantitative data in SCD studies, such statistical analyses are not required by WWC standards. Further, logic, theory and practice in SCD have long held that a minimum of three data points in baseline is appropriate in studies where two criteria are met that are not addressed in the current WWC standards: a) an a priori argument can be made that the participants’ performance is likely stable, and b) prolonged baselines, even with multiple probes, (such as would occur for students in the second and third baselines in this study) create ethical issues due to potential harm to the participants. Students in this study were selected based on low standardized scores, teacher interviews, and the absence of one or more genre elements in a classroom probe. As their baselines show, performance of students in the 1st and 2nd baselines was indeed low and stable in less than five data points. Further, traditional SCD standards, previous research, and our experiences have shown that longer baselines create unacceptable levels of repeated failure, particularly for students in the 2nd and 3rd baselines, and students frequently show effects on motivation, writing fatigue, and other effects (McKeown et al., 2015). In addition to ethical issues, these effects threaten the internal validity of the study (Barlow, Nock, & Hersen, 2009; Horner & Baer, 1978). We do not, therefore, view the use of a minimum of three data points to establish stability as a limitation of this study, but as a strength.

**Results**

**Genre Elements**

 Data for genre elements (used to make decisions about stability of writing performance in each study phase and when to shift from baseline to SRSD instruction) are presented in Figure 1. All of the essays written by the eight participating students during baseline were missing one or more of the genre elements required. Essays that received scores higher than 8 (the minimum when including a topic sentence, at least three reasons, at least one detail for each reason, and an ending) in baseline included either numerous reasons without details for each reason, or numerous details for one or two reasons (linking words and other instructed aspects were also frequently missing). In group 1, baseline essays for Alison, Shada, and James averaged (ranges reported in parentheses) 0.33 (0-1), 9.25 (8-11), and 10.67 (9-12) elements, respectively. For group 2, average baseline essay elements for Micco, Alejandro, and Samuel were 8.25 (8-9), 8.00 (all scores were 8), and 5.75 (5-6), respectively. For group 3 baseline essays, Daniela averaged 8.60 (7-9) elements, whereas Tomás averaged 7.20 (5-8) elements. Baseline data for all students were stable and exhibited small ranges, with a slight downward trend for Shada. Further, the level of performance for students in each group was relatively similar, except group 1 where Alison scored lower than the other two students. Thus, baseline data met standards for stability, level, and trend, as can be seen in Figure 1.

On the post-instruction probes administered immediately after instruction, all eight students made meaningful gains in number of genre elements in their essays. Collectively, genre elements increased almost three-fold from baseline (7.44) to post-instruction (21.79). Student performance on the genre element measure was either stable or ascending immediately following SRSD instruction and performance increased by more than 50% from baseline to the first post-instruction probe (i.e., the criteria used to determine when to start treatment for a subsequent group of students). Seven students averaged 20 or more genre elements on post-instruction writing probes (average post-instruction genre element scores for Alison, Shada, James, Micco, Alejandro, Daniela, and Tomás were 21.00 (20-23), 29.33 (28-30), 23.67 (20-31), 20.33 (19-23), 23.67 (23-24), 20.00 (18-22), and 21.33 (19-24), respectively. Samuel, however, averaged 15.00 (12-17) genre elements (close to a four-fold increase in elements). Genre element scores on the single maintenance writing probe administered to students in groups 1 and 2 remained well above baseline levels (15.00, 19.00, 19.00, 17.00, 21.00, and 15.00 for Alison, Shada, James, Micco, Alejandro, and Samuel, respectively), although there was a slight drop in these scores for all students but Samuel (whose maintenance score matched average post-instruction scores) and Alison (who evidenced about a 28% drop in her maintenance score compared to average post-instruction scores). PND for each group and all students was 100% for genre elements. Standards for stability, level, trend, and immediacy of effect for genre elements were met for genre elements at post-instruction.

**Holistic Quality**

 On the 9-point holistic quality scale, which reflected aspects of writing performance addressed in instruction beyond genre elements and structure, average baseline scores were below the mid-point for all but one student. Average baseline holistic quality scores for group 1 were 3.0 (2.5-4), 4.3 (3.5-4.5), and 5.0 (2.5-6.5), respectively, for Alison, Shada, and James (two of James’s baseline essays were above the mid-point at 6.0 and 6.5). Average writing baseline holistic quality scores in group 2 were 3.88 (3.5-5.5), 3.85 (2.5-4.5), and 3.00 (2.5-3.5) for Micco, Alejandro, and Samuel, respectively. Average baseline holistic quality scores in group 3 were 3.70 (3.5-4) for Daniela and 3.75 (3.5-4.5) for Tomás.

On post-instruction writing probes administered after SRSD instruction, all students evidenced improvements in the holistic quality of their essays. Scores for Tomás (group 3), Samuel (group 2), Daniela (group 3), Alison (group 1), and Shada (group 1) increased by close to three points from average baseline scores. Their average scores at post-instruction were: Tomás 6.83 (6.5-7), Samuel 6.00 (5-7), Daniela 6.67 (5.5-7), Alison 6.17 (6-6.5), and Shada 6.00 (5-7), respectively. Alejandro’s (group 2) scores increased by more than two points from baseline; his average score on post-instruction probes was 6.17 (5.5-7). James’ (group 1) and Micco’s (group 2) scores improved by slightly more than one point when compared to average baseline scores; average scores at post-instruction were 6.17 (6.5-7.5) and 5.17 (4.5-5.5), respectively. Holistic quality scores on the maintenance writing probe administered to groups 1 and 2 were similar to scores obtained on the post-instruction writing probes (maintenance scores for Alison, Shada, James, Micco, Alejandro, and Samuel were 7.00, 5.50, 6.00. 6.50, 6.00, and 5.00, respectively). PND for holistic quality was 83% for James (group 1) and Micco (group 2); it was 100% for all other students. For group 1 and 2 PND was 83%; it was 100% for group 3.

**Length of Essays**

 Alison, Shada, and James averaged 73.67 (39-96), 85.25 (83-88), and 117.67 (41-158) words, respectively. In group 2, Micco, Alejandro, and Samuel wrote baseline essays averaging 100.5 (71-141), 57.00 (46-67) and 35.50 (26-41) words, respectively. In group 3, Daniela averaged 60.20 (46-73) words and Tomás averaged 59.80 (41-91) words. Thus, variance across students was evident.

On post-instruction writing probes, the average amount written by Tomás (group 3), Alejandro and Samuel (group 2) increased by 32, 29, and 59 words, respectively, when compared to the average length of their baseline essays. Average length of post-instruction essays for Tomás was 118.33 (114-124), Alejandro was 104.00 (75-115), and Samuel was 74.67 (57-84). The length of Shada’s (group 1) and Daniela’s (group 3) post-instruction essays, respectively, increased by 6 to 11 words when compared to their baseline papers. Shada averaged 96.00 (81-109) words on post-instruction probes, whereas Daniela averaged 66.67 (69-83) words. In comparison to baseline papers, the average length of Micco’s (group 2) as well as James’s and Alison’s (both Group 1) post-instruction papers declined by 1, 11, and 19 words, respectively. Average length of post-instruction essays for Micco was 81.00 (80-83), James was 110.67 (100-118), and Alison was 71.00 (37-91).

Interestingly, the three students who evidenced a slight decline in length post-instruction essays experienced a slight increase on the maintenance probe (Micco wrote 87.00 words, James wrote 112.00, and Alison wrote 84.00 words). The findings at maintenance were more mixed for the three students whose essays became longer from baseline to post-instruction. Shadda’s maintenance essay decreased by 30 words when compared to the average length of her post-instruction papers (she wrote 69 words at maintenance). Samuel’s maintenance paper decreased by six words when compared to post-instruction (he wrote 67 words at maintenance), but Alejandro’s maintenance paper increased by 15 words when compared to post-instruction (he wrote 104 words at maintenance). PND for length of essays for Samuel (group 2), Alejandro (group 2), Daniela (group 3), and Tomás was 100%; it was 50% for Shada (group 1) and 0% for the other three students. PND was 17%, 67%, and 100% for groups 1, 2, and 3, respectively. Variance across students was again evident.

**Planning**

All but two students planned one or more baseline essays in advance. In group 1, Shada and Alison wrote a few words for one essay prior to writing (average score for both students was 0.19); James did no planning. In group 2, Micco planned 75% of baseline essays with a semantic web (average score = 3.75), whereas Samuel planned one baseline essay by writing part of the essay and then recopying it (average score = .125). Alejandro did no planning. In group 3, Daniela created a semantic web and Tomás generated phrases prior to writing 80% of the time (average score = 4.0 and 3.75, respectively). Variance across these students in planning scores was evident for this variable.

Following instruction, all post-instruction and maintenance essays written by students were planned in advance using the complete graphic organizer planning strategy taught to students (see Method). Consequently, the average planning score for post-instruction essays was 5.0 for each student; planning scores for the maintenance writing probes for group 1 and 2 students were also 5.0. PND for each group and all students was 100%. All students improved their planning scores. The earlier variability across students was no longer evident.

**Illustrative Essays**

While not formally scored, every plan and essay written post-instruction was reviewed to determine if students made use of the source text, and in every case it was clear that plans and essays incorporated ideas, information, and/or facts from the source text. These results are illustrated by the independent writing of one student (further examples are available in Harris et al., 2014 and online – see Endnote). After close reading of informational text and planning his essay to convince his classmates that we need to protect rainforests, James wrote:

“Hi everybody! I think it’s important to save the rainforest. My first reason is the rainforests are being cut down and the rainforests use to cover 14% of the Earth and now it is only covering 6% of the Earth. Another important reason is the rainforest is very important. We need water to drink from the rainforest and the rainforest gives us rain clouds. Last of all we need the rainforest for medicines. Scientists study plants in the rainforest for medicines, also some of the medicines help fight cancer. Now you know I think we should stop cutting down trees, it’s important and we need medicines.”

**Discussion**

As we predicted, the eight 4th and 5th graders in this study showed meaningful improvements for genre elements, holistic quality, and complexity of plans for writing following SRSD instruction for close reading of a single source text and writing to persuade. Across this group of students, average number of genre elements increased almost three-fold from baseline (7.44) to post-instruction (21.79). Genre elements scores were somewhat lower at maintenance for the 6 students with one data point, but all of their maintenance essays included all genre elements and received higher scores than their baseline essays. Short booster sessions may be needed over time to sustain abilities, and have been effective in previous SRSD research (Harris & Graham, 2017). Interpretation of maintenance data is limited by having only one data point for these students; future studies should establish stability at maintenance.

 Holistic quality scores also increased meaningfully for all eight students after SRSD instruction. At maintenance, two of the six students had higher holistic quality scores than they did post-instruction, two had equivalent scores compared to post-instruction, and two had slightly lower scores than they did post-instruction. All students, however, had higher holistic quality scores at maintenance then in baseline. While students did little planning at baseline, and no student produced a complete plan, all eight students received plan complexity scores of five, the highest score possible, both post-instruction and, for the six students, at maintenance. After SRSD instruction, all students marked up the source text as they read, and created and completed their own graphic organizer on scratch paper before writing.

 As expected and found in numerous previous studies, the number of words written varied across students at baseline, post-instruction, and maintenance (Harris & Graham, 2017). Following SRSD instruction, three students wrote 32 to 60 words more than the average length of their baseline data. Two students increased length by 6 to 11 words as compared to their averages at baseline, while three students wrote from 1-19 words less after instruction as compared to their average in baseline. Writing longer essays was not a goal of instruction; in future studies once students have learned this set of strategies goals can be set to expand their papers through revising, use of additional sources, and so on.

**Limitations and Directions for Future Research**

 In 16-20 hours of instructional time over five to seven weeks, these 4th and 5th grade students, who had not yet learned to write complete and effective opinion essays, made meaningful gains and wrote complete persuasive essays based on a source text. Generalization of these results, however, is not possible based on a single SCD study. Further, while the school year was ending and we did not have time to introduce use of a second source text in this study, we believe these students could have continued instruction and learned to use two source texts (or other sources, such as video and online sites) given more time; this should be addressed in future research. Instruction in this study, as required by SRSD, was tailored to the characteristics, strengths, and needs of these students rather than their age or grade. While these students made important gains, their progress represents only a beginning in close reading for writing to persuade. Future research should address further instruction after this beginning.

Replication of the results of this first study is needed, involving multiple-baseline designs and/or group experimental studies. Further, the context of instruction and the characteristics of these students must be considered when considering appropriate instruction for other students in light of these results. Students who are capable of writing opinion essays and have the relevant genre knowledge, for example, will not need the earliest sessions of instruction here. Further, when students enter with a stronger knowledge base and writing abilities, and/or more time is available for instruction, use of two or more source texts may be taught successfully, as was the case in FitzPatrick’s (2017) recent study on SRSD instruction with 5th graders experiencing difficulties with writing focusing on close reading for writing to inform.

We did not score student essays in this study for use of source text; future studies should address this. Future studies should also examine additional student learning outcomes, such as content knowledge gained about topics addressed, reading comprehension, and effects on motivation, self-efficacy, and so on. Although all students in this study were highly positive about the SRSD instruction in informal discussions with their teachers after instruction, measures of social validity should be included in future research.

 Further, research on classroom teachers’ implementation of this instruction is needed. Five published experimental studies have found that professional development for SRSD instruction is effective with teachers working with small groups or whole classes (Harris & Graham, 2017; McKeown et al., in press). A meta-analysis indicated that teacher-led SRSD resulted in meaningfully larger effects on genre elements than did research staff-led SRSD and no difference was found for holistic quality (Graham et al., 2013). We believe this is because, as we have observed and teachers have reported, teachers are able to integrate what students are learning about writing and self-regulation across relevant subjects and opportunities outside of designated writing instruction time (Harris & Graham, 2017; McKeown et al., in press).

Future research might also examine other aspects of both instruction and student writing. Ferretti and his colleagues (cf. Ferretti et al., 2007; Ferretti & Lewis, 2013; Ferretti & Fan, 2016) have argued that teaching students to ask “critical questions” about the relevance and effectiveness of argumentative strategies in light of their purpose and audience is important, and could improve SRSD instruction. Students, for example, might focus on developing arguments from consequences, facts, or examples. SRSD, instruction, however, includes aspects of these approaches throughout instruction. Because the source text was informative and instruction focused on persuasive facts and information found in close reading of these texts, our approach might be characterized as arguing from facts. Students’ posttest essays in the present study, however, also frequently included arguing from consequences and examples (i.e., when writing about rainforests based on a source text, students typically presented fact-based consequences and examples of failing to protect this resource). We did not, however, score essays for the presence of argument from consequences, facts, or examples. Future research might explore such scoring or the addition of explicit instruction in critical questions regarding argumentation. Further, future research should investigate additional bases for argument (such as appeals to emotion or ethics/character, cause and effect, and problem solution), as well as cultural contexts for argument (cf. Lunsford, Ruszkiewicz, & Walters, 2016).

 Finally, we have endeavored in this article to provide as complete an understanding of SRSD instruction as space allows. As Harris and Graham (2017) noted, misunderstandings, misrepresentations, and errors about SRSD instruction have been common in the literature base. For example, SRSD instruction has been described as grounded in cognitive theory rather than theoretical integration; failing to treat the classroom as a social setting and to involve peers and collaboration; scripted; and consisting of presentation, discussion, and modeling of genre elements only, rather than the more complex nature of SRSD instruction elucidated here (cf. Ferretti et al., 2007; Ferretti & Lewis, 2013; Harris & Graham, 2017). Thus, recognition and close study of the complex nature of SRSD instruction is necessary when future research is conducted.

 As noted earlier, unacceptable achievement gaps in writing persist for students living in high poverty areas, including students from marginalized racial and ethnic groups. The diverse group of students in this study, who attended a Title 1 school, developed meaningfully as writers in a relatively short period of time using evidence-based SRSD instruction. Much more needs to be done to bring impactful, evidence-based instruction to all students, and especially to those in high need schools. Finally, while this study represents a beginning in answering the challenges presented by CCSS expectations for close reading and writing to persuade, much more needs to be done.

1Endnote: Materials noted can be downloaded at: <https://figshare.com/articles/pow_tree_twa_for_Writing_Persuasively_from_Source_Text_Lesson_Plans_Materials_and_Tips/5217226/2>

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Figure 1 Genre Element Scores

Baseline

Post-Intervention

Maintenance

Genre Elements Score