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Effects of Quick Writing Instruction for High School Students With Emotional Disturbances

Linda H. Mason[1], Richard M. Kubina, Jr.[1], and Theresa Hoover[1]

Abstract

High school students with emotional disturbances (ED) often struggle with classroom writing tasks. In this study, the effectiveness of Self-Regulated Strategy Development (SRSD) instruction for 10 min timed persuasive quick writes with three high school students with ED was investigated. Results indicated improvement in the areas of quality, response parts, and word count. The acceptability of treatment was positive as indicated by student interviews. Implications for SRSD quick writing for high school students with ED are discussed.

Keywords

emotional disturbances, high school, writing, strategy instruction

Students with emotional disturbances (ED) are educated in the general education setting more than students in any other category of disability at the secondary level (Trout, Nordness, Pierce, & Epstein, 2003). Although students with ED perform at a lower academic level than their general education peers (Lane, 2007), approximately 96% of these students are educated alongside their nonidentified peers, spending approximately 74% of their school day in the general education setting (Mooney, Epstein, Reid, & Nelson, 2003). Despite having individual education plans (IEPs) for special education services, students with ED often participate in the secondary curriculum with minimal, if any, accommodations for meeting their individual academic needs (Wagner, 1995). Given this instructional context for students with ED, it is imperative that researchers develop academic interventions that work within the general education classroom (Cook, Landrum, Tankersley, & Kauffman, 2003; Ruhl & Berlinghoff, 1992).

The majority of published intervention research for students with ED is limited and restricted to behavioral interventions in self-contained settings (Mooney et al., 2003; Trout et al., 2003). In research for students with ED, published between 1990 and 2003, only 14 studies evaluated students' academic performance or academic-related behaviors (Lane, 2004). Furthermore, Sutherland and Wehby (2001) reported that dependent measures, such as constructed written responses, are rarely used in research focused on students with ED, even though researchers note their value in evaluating independent student performance. Fortunately, the effects of well-designed academic instruction are becoming an increasing focus of research for students with ED. Writing intervention research, in particular, has begun to show great promise for adolescents with ED (Mason & Kubina, 2011; Taft & Mason, 2010).

Effective Writing Instruction

Academic success often relies on a student's ability to use written language to effectively demonstrate knowledge (Graham & Leone, 1987). Competence in writing has become a "threshold skill," delineating important outcomes for obtaining employment and advancing a career (National Commission on Writing, 2004). Written language, therefore, becomes increasingly important as students progress through their high school years (Christenson, Thurlow, Ysseldyke, & McVicar, 1989). Asking students to respond through written tasks is well established as a method for examining students' prior knowledge before learning and for assessing learning during and after secondary classroom activities (Mason, Benedek-Wood, & Valasa, 2009). In content classrooms, science and social studies, for example, high school students are often asked to complete written tasks ranging from short constructed responses, as in a quick write (i.e., 10 min timed responses), to multicomponent

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writing tasks, as in a research report. In the current study, a validated instructional approach for teaching writing to elementary and middle school students with ED (Mason, Kubina, Valasa, & Cramer, 2009; Mason & Shriner, 2008), Self-Regulated Strategy Development (SRSD), was used for teaching quick writing to high school students with ED.

SRSD for students with ED. Students with ED when taught in a systematic and explicit manner, as in SRSD, have shown improvements in their ability to effectively communicate in writing (Mason & Shriner, 2008, Mason et al., 2010). In SRSD, students are provided teacher-directed instruction focused on strategy acquisition and procedures for self-regulated learning (Harris, Graham, Mason, & Friedlander, 2008). SRSD instruction assists students in understanding the writing processes of planning, composing, and editing/revising, as well as helping them develop a positive attitude toward writing (Harris, Graham, & Mason, 2003). SRSD employs a recursive and flexible format of six instructional stages for scaffolding student learning. The instructional format of SRSD provides students with ED the individualization required to meet their learning needs (Lane et al., 2008).

In the first SRSD instructional stage, students *develop and activate background knowledge*. During this stage, the teacher introduces and reviews vocabulary related to the targeted strategy and writing genre. The teacher explains to the student the use of self-regulation procedures such as goal setting, self-monitoring, self-instruction, and self-reinforcement. In the next stage, *discuss it*, strategy steps and the purpose of the strategy are described. Additionally, the teacher and students review the strengths and needs of the students related to the skills to be taught and establish goals for writing. The teacher *models it* by applying the strategy to the writing task in Stage 3. The teacher utilizes a think aloud, using all instructional materials and self-regulation procedures while writing. In Stage 4, students *memorize* strategy mnemonics and the steps of the strategy. The teacher *supports* the students in using the strategy through guided scaffolded practice in Stage 5. The students learn to establish goals, monitor their writing performance, self-instruct, and positively reinforce themselves for achieving goals. In the final stage, *independent performance*, the students take ownership of the strategy and begin to apply what they have learned across settings and tasks.

SRSD has been examined in three published studies for elementary students with or at risk for ED (Lane et al., 2008; Little et al., 2010; Mason & Shriner, 2008) and three published studies for middle school students with ED (Mason et al., 2010; Mastropieri et al., 2009; Mastropieri et al., 2010). Results of all studies indicated that SRSD effectively improved students' writing performance as measured by the holistic quality of writing, the number of text parts written, and the number of words written. In addition, the treatment acceptability of the intervention was reported to be positive in each study. The current study sought to replicate the positive findings noted in SRSD for quick writing for middle school students (Mason et al., 2010) with high school students with ED.

SRSD for quick writing. Quick writes are 10 min constructed paragraph responses to a question related to a specific topic and are often used in content classrooms (e.g., science and social studies) to foster student reflection and elaboration about learning (Wood & Harmon, 2001). Quick writes support content learning by presenting a nonthreatening, informal, and brief writing activity for students and can be used for assessing what students have learned in class activities and text reading (Fisher & Frey, 2004). Constructed paragraph responses, similar in format to the quick write, are included in standardized tests such as The National Assessment Educational Performance (The Nation's Report Card, 2007) to evaluate student text comprehension.

SRSD for quick writing has been tested in three studies with middle school students with disabilities (Mason et al., 2010; Mason, Kubina, & Taft, 2011). Each study implemented SRSD for the POW (Pick my idea, Organize my notes, Write and say more) + TREE (Topic sentence, Reasons: Three or more, Explanations, Ending sentence) persuasive writing strategies. SRSD for quick writing focused instruction on developing students' skills in writing a good persuasive response, one with at least 8 TREE parts/elements, fluently in a 10 min period. In each study, SRSD instruction for writing an untimed persuasive response with POW + TREE was implemented first. All SRSD stages for strategy acquisition and self-regulation procedures were used. After students demonstrated mastery in writing a persuasive response, additional lessons included teacher-led modeling of writing a response in 10 min, followed by student practice.

In the first two studies, Mason, Kubina, & Taft (2011) examined SRSD for quick writing with seventh- and eighth-grade students with learning disabilities (LD) and/or attention deficit hyperactivity disorder (ADHD) in an inclusive middle school. In the first study, six students, in three pairs, were taught by a graduate research assistant. Results indicated that students improved performance with *large* effects, 94% of nonoverlapping points (PND) for number of post-instruction parts and 100% PND at maintenance. A PND of 90% and above is considered a *large* effect, 70%–90% a *medium* effect, and below 70% indicates a *small* effect (Scruggs, Mastropieri, & Casto, 1987). In the second study, special education teachers delivered instruction to 10 students in small groups. Results indicated that students improved the number of parts written with a *medium* effect, 84% PND, at post-instruction and a *small* effect, 64% PND, at maintenance. Results for quality of the response in both studies, however, were disappointing: 56% PND at post-instruction and 75% PND at maintenance, and 62% PND at post-instruction and 50% PND at maintenance, respectively. In both studies, although students demonstrated

improvement over baseline performance, authors noted insufficient scaffolding of support during guided practice as a potential influence for post-instruction variability in the quality of student responses.

In a third study for five middle school students with ED in an alternative school setting (Mason et al., 2010), persuasive quick writes were taught in five 30 min lessons and three to five 10 min practice lessons. PND for the quality of quick writes was 84% at post-instruction and 60% at maintenance, indicating a *medium* effect after instruction, with decline to a *small* effect at maintenance. Results were similar for number of parts and number of words written. In addition, findings from the Woodcock Johnson-III (WJ-III) writing fluency subtest (Woodcock, McGrew, & Mather, 2001), a standardized achievement test, given prior to the intervention, indicated a group mean of 17.20 (SD = 9.09), increasing to a mean of 21 (SD = 7.31) after intervention and with an effect size of .46.

One pre-instruction difficulty common to all participants in the three studies was the observed inability to effectively self-regulate writing behavior during the timed writing assessment. In prior research, studies indicated that writing instruction for self-regulation can positively impact and stabilize students' performance (Mason & Graham, 2008). Results of a meta-analysis, for example, indicated that use of self-regulation interventions for students with ADHD improved on-task behaviors, decreased inappropriate behaviors, and increased academic productivity and accuracy (Reid, Gonzalez, Nordness, Trout, & Epstein, 2004). The use of goal setting, self-monitoring, self-instruction, and self-reinforcement, that is so critical for the effects of SRSD instruction (Harris et al., 2008), may have supported student performance in the timed quick writing studies. In fact, two important findings of the Mason et al. (2010) study were the improved (1) stability of students' writing performance after instruction when compared to baseline and (2) attention to task from 83% at baseline to 98% after instruction for the 10 min assessment writing time.

Current study. Given the positive results of explicit strategy and self-regulation instruction in SRSD for improving the writing and attention to task behavior of middle school students with ED, we hypothesized that similar effects would be found for students with ED at the high school level. The purpose of the current study was to replicate the third SRSD for quick writing study (Mason et al., 2010) with high school students with ED. A multiple baseline across participants design was used to measure the effectiveness of SRSD for quick writing instruction. Student performance in writing a persuasive quick write was measured before, during, and after the intervention.

The following research questions were asked:

1. What are the effects of SRSD instruction on the quality, number of persuasive parts written, and number of words written in a 10 min persuasive quick-write?
2. Was the intervention acceptable for the participating high school students with ED?

Method

Setting and Participants

Approval for conducting the research was obtained through the authors' university Internal Review Board (IRB) and the participating district's school board. The parents/guardians of potential participants were notified of the study via e-mail and personal phone calls in accordance with IRB and district policies and procedures. University IRB approved consent forms were sent home for parent approval. Parents of the four invited students returned signed consent forms; students also consented to participate by signing the consent form. Students were not compensated for their participation.

The study was conducted in a suburban high school approximately 15 miles south of a metropolitan area in the eastern United States. At the time of the study, the high school had an enrollment of 1,191 students, with 12.8% of the students eligible for free or reduced lunch. Of the 152 students with IEPs at the high school, 22 were identified as students with ED.

The participants in this study were chosen by their classification of ED and their need for improving self-regulation during writing. The instructor (the third author of this article and a special education teacher in the school) and the school's English teachers discussed students with ED who would benefit from individualized self-regulation instruction for written expression. As a case manager for the students with ED in the school, the instructor was familiar with the students' individual educational plan (IEP) status and school performance. Four students, three males and one female, were identified based on this information. Students' names and identifying information was not shared with the first and second author until parent and student consent was obtained. The students' need for the SRSD intervention would be further established during baseline assessment. Although the instructor knew the participants as their behavioral case manager, she was not responsible for directly teaching core academic subject matter during the instructional day to any participant at the time of the study.

The one female student dropped out of the study due to a change in placement to the district's alternative education program, leaving three male participants. All three participants were in an inclusive English general education class for language arts. These classes consisted of 15 to 25 students and were taught by a certified English teacher. In English classes, writing instruction was embedded into the curriculum and related to literature. Two of the three students

received English instruction in a co-taught setting where a special education teacher was present for 80% of the time. One student received English instruction in the general education setting without support. English grades included evaluation of written assignments and monthly writing probes. The following student names are pseudonyms.

Kevin. Kevin was a 17-year-old 11th-grade student whose primary disability was ED. School records from his initial evaluation included school-related assessments as well as reports from a private psychiatrist who had been treating Kevin medically for 2 years for aggression and family-related mental health issues.

Kevin's educational history indicated that he moved three times during his elementary years and was home schooled for 1 year. Prior to his initial testing for special education, he received services related to attention deficit hyperactivity disorder (ADHD) through a 504 plan. Kevin initially became eligible for special education services as a student with ED in eighth grade. Kevin used medication for ADHD and was diagnosed as having obsessive-compulsive traits. Kevin's written language scores on the Woodcock-Johnson-III (WJ-III) expressive writing test, given in the spring 2007 when he was in ninth grade, were in the 33rd percentile. His current classroom performance reflected this performance score; his grades in English, as reported by his English teacher, were suppressed by written work assignment incompletion.

Kevin's current IEP focused on appropriate time management skills to complete assignments both at school and home, as well as demonstrating self-advocacy skills by asking for assistance and/or clarification related to assignments and classroom situations. Kevin had a behavior plan that addressed assignment avoidance behaviors. Kevin participated in general education for all his academic courses with a special education co-teacher being present in 80% of his English classes. Kevin's quarterly grades in English 11 during this study were 75%, 78%, 67%, and 65%. His final average for English 11 was 67%.

Heath. Heath was a 17-year-old 11th-grade student with a primary disability of ED. Heath moved several times during elementary school but had been in the current school district since fourth grade. Heath received his initial school evaluation in the fourth grade, resulting in special education services to address anger management, self-monitoring, and self-control issues. His identification as a student with ED was determined by the school district with additional information provided by Heath's psychiatrist, who had evaluated and diagnosed ADHD and bipolar disorder. There was no indication of medical intervention in his school records.

Heath's school records indicated that his achievement test scores fell within the average range. His most recent Pennsylvania System of School Assessment testing scores, from eighth grade, were at the proficient level in math, reading, and writing. Since entering high school, Heath demonstrated typical social functioning for a student his age. He received emotional support services only on an itinerant basis, meeting with the emotional support teacher when he deemed it necessary. Heath received all his academic instruction in the general education setting with no direct support. His current IEP addressed his need to complete assignments consistently in order to maintain a "B" average. Additionally, he had a behavior plan to address assignment avoidance behaviors. Although Heath's English 11 grades during the year of this study were 72%, 85%, 71%, and 71%, his performance indicated strength in reading; in writing, his performance was not proficient. His final average for the class was 76%, below the objective on his IEP.

David. David was a 15-year-old ninth-grade student. David was evaluated by a psychiatrist outside the school setting in third grade and was diagnosed with ADHD, depressive disorder, impulse-control disorder, and other diagnoses related to home issues. David had a short inpatient placement during fifth grade to address aggressive behaviors. Upon returning to public school, David had alternate transportation to school, social skills/anti-bullying therapy, and medication management provided by a local psychiatrist. His school placement, beginning in sixth grade, was listed as itinerant emotional support.

David transferred into the current school district at the beginning of ninth grade. He received itinerant emotional support in the school setting combined with medication to address ADHD and other behavioral concerns. David's most recent testing, in sixth grade, on the WJ-III indicated that he was in the average range of academic ability: 98 for Writing Fluency, 83 for Writing Sample, and 101 for Written Expression. Based on these scores, David had the ability to write but lacked self-regulatory skills for written expression in classroom assignments. David's current IEP goals focus on organizational skills and coping strategies. David also had a behavior plan to address his behavioral needs.

David participated in the general education setting for his academic instruction. A special education co-teacher was in his English class 80% of the time. His grades in English 9 during the year of this study were 81%, 73%, 76%, and 78%. David's final average was 77%, and like Kevin and Heath, grades were suppressed by writing performance.

Procedures

All assessment and instruction occurred one-to-one in a classroom before or after school hours. Baseline data, a minimum of five assessment probes, were collected for all participants prior to intervention. These baseline data were examined to validate the teachers' recommendation for the students' participation in the intervention. Once baselines were documented as stable, participants were assigned to order of instruction. Kevin demonstrated the most stable

baseline and therefore began the intervention first. During instruction and at the conclusion of Kevin's Lesson 4, additional baseline data were taken at scheduled intervals for Heath and David. Heath began instruction at the conclusion of Kevin's instruction. David's baseline data continued; an additional data point was taken at the conclusion of Heath's Lesson 4. David's instruction began at the conclusion of Heath's instruction. After demonstrating criterion performance by writing a persuasive quick write with at least eight parts in Lesson 5, each student was given a minimum of six post-instructional probes. All students were given two maintenance prompts, 1 week and 2 to 3 weeks after the final post-instruction probe.

Instruction

All instruction was provided by the third author, a doctoral student and a special education teacher in the school. The instructor received training in SRSD from the first author prior to the commencement of the study. This training consisted of a three-credit graduate-level class on strategy instruction and two 1-hour individual training sessions. In addition, a review of SRSD for POW + TREE quick writing and videotaped practice with feedback for the modeling lesson was completed.

Each student had a spiral bound notebook to record their writing responses across the four phases (baseline, instruction, post-instruction, and maintenance). Prompts requiring a persuasive response were used for instruction and assessment. Instructional support materials included the following: (a) POW + TREE chart listing the strategy mnemonic and steps, (b) POW + TREE graphic organizer for student planning notes, (c) chart listing transition words, (d) sheet for students' self-instructions, and (e) graphing chart for self-monitoring performance. Prompts and instructional materials were developed by the first author and used in prior research (Mason et al., 2010; Mason, Kubina et al., 2011).

A minimum of five 30 min instructional lessons were implemented for each student. These lessons were repeated until each student demonstrated writing a response with a minimum of eight parts (1 point for a topic sentence, 1 point for each reason, 1 point for each explanation, 1 point for a counter-reason, 1 point for a refute, and 1 point for an ending sentence). The fifth lesson, which included practice in writing a 10 min timed response, was repeated with new prompts until writing a response with eight parts in 10 min was achieved as documented and graphed by the instructor and the student. One-to-one instruction was conducted in a classroom in the students' school, before and after school hours based on the students' personal schedules. Seven lessons for Kevin and five lessons for Heath were given over a 20-day period. Seven lessons for David were given over a 35-day period. Variations in the instructional days will be discussed in a later section of this article. Students' quick writing data were collected for all lessons with exception of the first introductory lesson. The students charted the number of parts written and then self-reinforced through positive self-statements. The instructor provided positive verbal feedback for writing successes and for effort.

Lesson 1. The instructor introduced the POW + TREE steps using the mnemonic chart and discussed the purpose of a quick write. The student was told that their ability to write 10 min quick write persuasive responses should be improved after instruction. The student was given the transition word list to use when transitioning from one idea to another. A model/anchor persuasive response was then used to illustrate TREE strategy parts in a written response. The student and instructor read the model paper together, identifying the strategy parts. Once the student demonstrated an understanding of the parts, the instructor and student reviewed one student-written personal baseline writing response. The student was given a graphic organizer for recording the parts written in the baseline response and then graphed the number of parts on a graphing chart. The number of transition words written were also counted and recorded. Lesson 1 ended with a review of the strategy and instruction praise for participation and hard work. The instructor and student set a goal to improve persuasive writing by using POW + TREE next time.

Lesson 2. Lesson 2 began with a review of the POW + TREE strategy. The instructor then modeled planning and composing with POW + TREE while thinking aloud and using all instructional materials for quick writing. Self-instructions, positive statements the student could use when having difficulty, were also modeled. After modeling, the student and instructor discussed the writing process and use of self-instructions. The student then completed a listing of personal self-instructions.

The student's baseline writing, reviewed in Lesson 1, was then rewritten by applying the strategy. During this rewriting, the instructor answered student questions while continually praising strategy use. The student, with the instructor's assistance, graphed the response parts in the revision. The student was verbally praised for the improvement; the lesson concluded with a review of the strategy. Due to a 5-day school suspension, the modeling component of this lesson was repeated for David to ensure a solid understanding of the strategy; no data were collected for him on this day.

Lesson 3. Lesson 3 and all subsequent lessons started with strategy memorization review. The student was presented with a blank graphic organizer, the transition word list, the self-instruction sheet, and his notebook. The student chose one prompt from two writing prompt options for planning and writing a response. The instructor prompted the student, as necessary, to support use of all strategy parts. Students also referred to their self-instruction sheets if they

became frustrated with the writing task. Results were graphed by the student; improvements in writing were discussed. The lesson concluded with the instructor thanking the student for working hard and reminding the student about the memorization test.

Lesson 4. The focus of Lesson 4 was to wean students off the graphic organizer, self-instruction sheet, and transition list support materials. Students were given their notebook and two prompt choices for writing a response. The instructor told the students that they would not have the supporting materials at all times and that they would need to write a response by writing their own strategy notes and by remembering the transition words and personal self-instructions. The instructor provided assistance only as needed in this lesson. Results were graphed and teacher verbal praise provided.

Lesson Five. Lesson 5 began with the instructor modeling how to use the strategy within a 10 min time limit. Modeling included specific directions in how to use time for review and revising the response. After teacher modeling, the student selected a prompt, practiced writing a response in 10 min, and graphed results. Interestingly, review of instructional videotapes indicated that all students continued to use overt self-statements. In addition, students self-monitored and charted their performance for each written response. If the student had difficulty writing the response in the 10 min time frame, Lesson 5 was repeated. Both Kevin (2 times) and David (1 time) repeated Lesson 5.

Fidelity of treatment. To ensure fidelity of treatment, the instructor communicated daily with the first author to discuss the day's lesson and to review the next lesson plan. Videotapes of each lesson were reviewed for percentage of lesson steps completed. A lesson checklist of steps, used in Mason, Kubina et al. (2011), was used by the first author to code the number of steps implemented in each lesson. Thirty-three percent of the lessons were randomly selected for evaluation by an advanced doctoral student who was trained in SRSD but was unfamiliar with the study. Training included (a) attending an undergraduate class on SRSD instruction and (b) working with the first author in monitoring preservice teacher's implementation of SRSD for a practicum project. Interobserver agreement (IOA), calculated by total observer agreement divided by the total number of lesson steps, was 100%. Treatment fidelity for instructor-checked and observed number of steps completed was 100%.

Measures

Students participated in the baseline data collection during five to seven 10 min sessions given over the course of 4 weeks. Participants were given the following directions for writing: *"Please listen carefully as I read these prompts. Please select one of the prompts and write a response to it in your journal. You will have ten minutes to write."* If a student finished early, no additional prompting was given and their session ended. Students who wrote for the full 10 min were given a 1-min warning when 9 min had elapsed and were instructed to stop when the 10 min expired. At the end of the 10 min, the instructor said, *"Stop."* Students were thanked for working hard.

Student quick writes were assessed for quality, number of persuasive parts, and number of words written. All writing responses were typed, with spelling errors corrected, prior to being submitted to scorers to reduce evaluator bias (Graham, 1999). Responses were evaluated by two advanced doctoral candidates, blind to the purpose of the study. The two scorers for this project received training and scored for the Mason, Benedek-Wood, Hamm, and Farmer (2011) writing intervention study with over 2,000 persuasive writing samples. Training, for the prior study, included a 2-hour training session for scoring measures followed by a 1-hour practice session to establish reliability.

Quality. Response quality was scored by using a 7-point holistic measure. According to Graham and Perin (2007), this is the most common method for scoring writing quality. Raters read the responses and scored the paper on a 0 to 7 point scale. Scorers were given author-developed anchor points or papers representing responses with a low- (2), medium- (5), and high- (7) quality holistic score. The use of anchor points was developed and used in previous research for quick writing (Mason et al., 2010; Mason, Kubina et al., 2011).

Persuasive parts. Each written response was scored on the basis of the following components: topic sentence (1 point), reasons related to the topic sentences (1 point for each reason), explanations for each reason (1 point for each explanation), a counter-reason and refute (1 point for the counter-reason, 1 point for the refute), and ending sentence (1 point).

Number of words. Word count was initially determined using the word count feature of the Microsoft Word program. Verification of the computer-generated count was determined with a manual count.

Fidelity of scoring. The two advanced graduate student scorers, with the previously noted training and experience in scoring persuasive responses, scored all writing measures. Scoring reliability was calculated by taking score agreement and dividing it by the total number of writing samples. Interrater reliability for quality was 86% for exact agreement and 95% for within 1 point agreement. Persuasive parts interrater reliability was 81% for exact agreement and 98% for within 1 point agreement. For disagreements, scores were averaged.

Treatment acceptability. Following instruction, students were asked six questions regarding their impressions of instruction and the POW + TREE writing strategy (Graham, Harris, & Mason, 2005; Harris, Graham, & Mason, 2006): (1) "Has using the POW + TREE strategies helped you to become a better writer? How?" (2) "What have you learned

since working with me?" (3) "How do you think this will help other students?" (4) "If you were the instructor, what would you change in the lessons? Why?" (5) "If you were the instructor, would you add anything to help students learn to write?" (6) "From these lessons, what things have most helped you become a better writer?" Students' oral responses were scripted on the questionnaire form.

Experimental design and analysis. A multiple baseline across participants (Kennedy, 2005) was used to measure the effectiveness of SRSD for POW + TREE quick write instruction across design phases: (a) baseline, writing data collected prior to instruction to establish the stability of each student's baseline performance; (b) intervention, writing data collected during instructional lessons to establish each student's mastery of learning to criterion (i.e., 8 TREE parts written within 10 min); (c) after the intervention, writing data collected immediately after instruction (post-instruction) to determine the effects of the intervention; and (d) maintenance, writing data collected in the weeks following instruction to determine maintenance of learning. Visual analysis of trend and level was used to determine the intervention effects for each student. Percentage of nonoverlapping data (PND) was calculated to gauge the effects of the intervention for individual students and for the group. PND was calculated as the percent of data points in any particular intervention phase that demonstrate an increase over the highest value recorded during the baseline phase of a study. A PND of 90% and above was considered a *large* effect, 70%–90% a *medium* effect, and below 70% indicates a *small* effect (Scruggs et al., 1987). Descriptive statistics (means and standard deviations) were calculated for each student across the three design phases (e.g., baseline, instruction, post-instruction). Treatment acceptability questionnaires were analyzed descriptively.

Results

After receiving a minimum of five SRSD for POW + TREE lessons, all participants showed improvement in response quality, number of parts, and number of words written in a persuasive 10 min quick write. Results are discussed in terms of level and trend of data, means (*M*) and standard deviations (*SD*) (see Table 1), and PND.

Quality

The quality of writing, scored on a 7-point scale, indicated trend and level improvement for all participants at post-instruction and maintenance when compared to baseline performance (see Figure 1). PND for the three students indicated a *medium* effect at post-instruction, 79%, and at maintenance, 83%.

Kevin's trend in each phase of the intervention was marked by moderate variability with an increase in level after instruction. During post-instruction, his quality score remained above baseline throughout the post-instructional phase with the exception of his second post-instructional writing, which matched the lowest baseline point (1 point). During the maintenance phase, Kevin's first writing exceeded baseline, while the second maintenance point matched the highest baseline score (3 points). Kevin's mean performance improved from baseline, $M = 2.20$ ($SD = 1.10$), to $M = 5.17$ ($SD = 1.47$) during instruction but dropped during post-instruction, $M = 3.67$ ($SD = 1.51$), and maintenance, $M = 3.50$ ($SD = .71$). Large variability, as indicated by both trend and standard deviations, did not appear to improve as a result of instruction for quality. Given the large variability, Kevin's PND was 66% at post-instruction and 50% at maintenance, indicating a *small* effect.

Heath scored 7 points in four out of the six post-instructional probes, but two post-instructional probes corresponded to his highest baseline score (5 points). During baseline, Heath had a slightly decreasing trend, and during instruction one data point spiked, but the remaining data show a stable trend with a possible increase in level. In post-instruction four out of six data points remained at the highest level of quality. The other two data points fell within the range of instruction, and overall the trend was stable. His maintenance data remained stable at 7 points. Heath's mean performance for quality indicated steady growth through the phases, $M = 4.00$ ($SD = .63$) at baseline to $M = 7.00$ ($SD = .00$) at maintenance. Variability was greater during instruction, $M = 5.00$ ($SD = 1.14$), and post-instruction, $M = 6.33$ ($SD = 1.03$), when compared to baseline and maintenance.

Table 1. Means and Standard Deviations (*SD*) for Students Across Phases

Student and Phase	Quality *M* (*SD*)	Number of Parts *M* (*SD*)	Number of Words *M* (*SD*)
Kevin			
Baseline	2.20 (1.10)	3.60 (1.14)	78.00 (12.31)
Instruction	5.17 (1.47)	7.50 (1.76)	141.00 (29.05)
Post-instruction	3.67 (1.51)	6.17 (0.75)	112.17 (7.22)
Maintenance	3.50 (0.71)	5.50 (2.12)	134.50 (47.38)
Heath			
Baseline	4.00 (0.63)	6.67 (2.16)	95.33 (34.85)
Instruction	5.00 (1.41)	8.75 (0.96)	120.50 (31.86)
Post-instruction	6.33 (1.03)	8.83 (0.75)	136.60 (30.04)
Maintenance	7.00 (0.00)	9.00 (0.00)	143.50 (2.12)
David			
Baseline	2.86 (0.38)	3.71 (0.49)	41.86 (9.30)
Instruction	6.00 (1.00)	8.40 (0.55)	91.40 (7.33)
Post-instruction	5.14 (1.21)	7.43 (1.13)	80.71 (24.70)
Maintenance	6.50 (0.71)	8.50 (0.71)	100.50 (19.09)

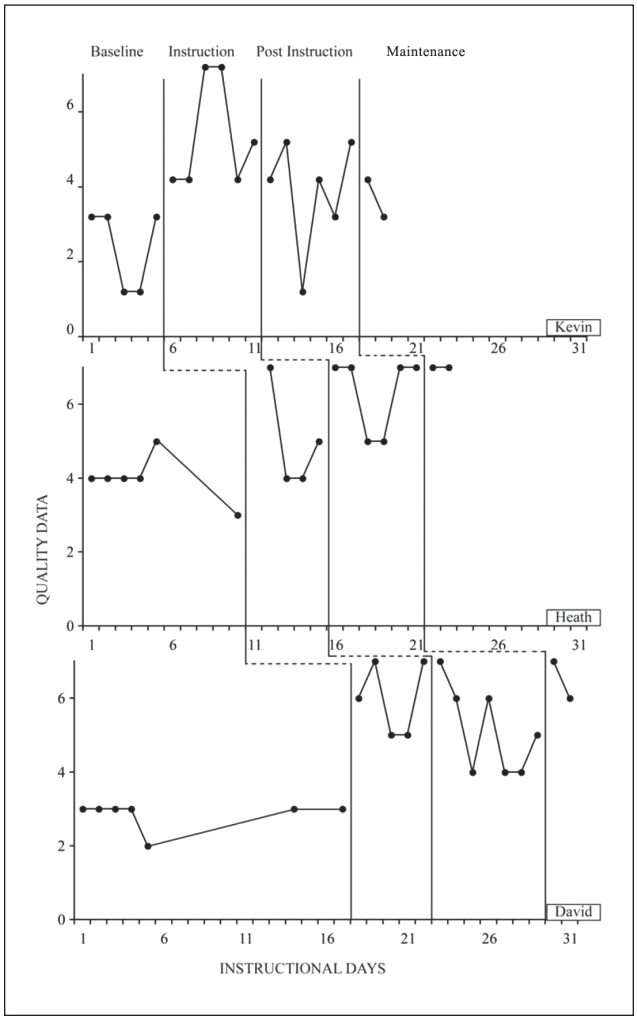

Figure 1. Trend and Level Analysis for the Quality of the Students' Quick Write Responses Across Baseline, Instruction, Post-Instruction, and Maintenance Phases for the Multiple Baseline Across the Three Participating Students

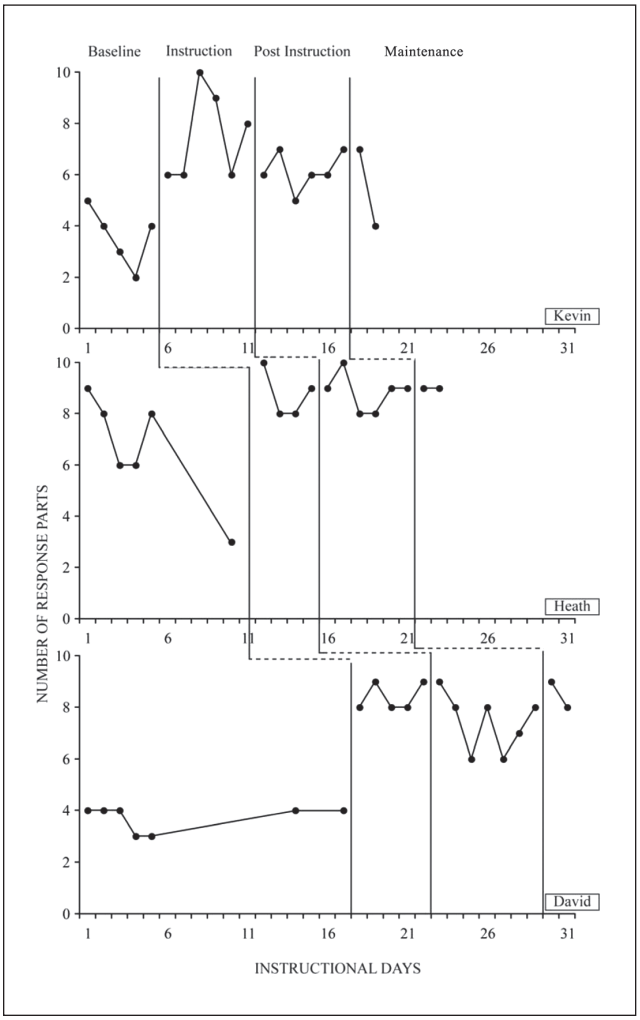

Figure 2. Trend and Level Analysis for the Number of Parts Written in Students' Quick Write Responses Across Baseline, Instruction, Post-Instruction, and Maintenance Phases for the Multiple Baseline Across the Three Participating Students

PND indicated a *small* effect, 66%, at post-instruction but a *large* effect, 100%, at maintenance. Interestingly, Heath's performance was consistent for the final four probes, indicating improvement in performance level and performance stability.

In baseline, David had a stable trend with little variability. When instruction started, there was an immediate increase in level with a more variable trend. David's quality scores were consistently above baseline during post-instruction and maintenance phases; however, during post-instruction, scores showed a declining trend. After his first data point, his performance stabilized at a lower level when compared to instruction but at a higher level when compared to baseline. During maintenance, David's quality demonstrated a 3- and 4-point improvement from baseline, with more variability during instruction and post-instruction. David's mean performance at baseline, $M = 2.86$ ($SD = .38$), indicated similar effects after instruction, $M = 5.14$ ($SD = 1.21$) to $M = 6.50$ ($SD = .71$) at maintenance. David's PND was 100% for both post-instruction and maintenance.

Number of Response Parts

For each response, an 8 response part criterion was established; however, students could write above the criteria, and therefore, there was no ceiling for this measure. All participants demonstrated trend or level improvement during instruction and maintenance with the number of response parts written (see Figure 2). Group PND indicated a *small* effect for number of parts written, 68% at post-instruction and 50% at maintenance.

During baseline, Kevin had a decreasing trend. Upon introduction of instruction, Kevin had a positive change in level, and his trend became variable. Kevin's response parts indicated more stability during post-instruction. During maintenance, Kevin gained two response parts from his highest baseline score in his first maintenance probe but declined to baseline level in the second maintenance probe. Kevin's mean performance indicated improved performance from baseline, $M = 3.60$ ($SD = 1.14$), during instruction; however, this performance was variable, $M = 7.50$ ($SD = 1.76$). Both mean performance and variability decreased during post-instruction, $M = 6.17$ ($SD = .75$). Kevin's PND for number of parts indicated a *medium* effect, 83%, at post-instruction, and a *small* effect, 50%, at maintenance.

Heath, who had one nine-part and one eight-part written response at baseline, demonstrated a decline in number of response parts throughout baseline. During instruction, Heath's written response parts were less variable. His performance level stabilized during post-instruction. Heath maintained his written response parts within the level of instruction and post-instruction. Heath's mean performance and variability indicated improvement and stability in all phases—instruction, $M = 8.75$ ($SD = .96$); post-instruction, $M = 8.83$ ($SD = .75$); maintenance, $M = 9.00$ ($SD = .00$)—compared to baseline, $M = 6.67$ ($SD = 2.16$). Heath's PND indicated *small* or no effect at post-instruction and maintenance, 17% and 0%, respectively.

In the baseline phase, David showed a stable, maintaining trend. David's performance indicated improvement in trend and level during the instructional phase. Post-instruction for David was marked by more variability, but his level still remained higher than baseline. David's two data points in maintenance indicate a performance comparable to instruction and post-instruction. David's mean performance and variability indicated similar findings, with a baseline of $M = 3.71$ ($SD = .49$) improving to a range of $M = 7.43$ ($SD = 1.13$) to 8.50 ($SD = .71$) across phases. PND indicated a *large* effect, 100% at both post-instruction and baseline.

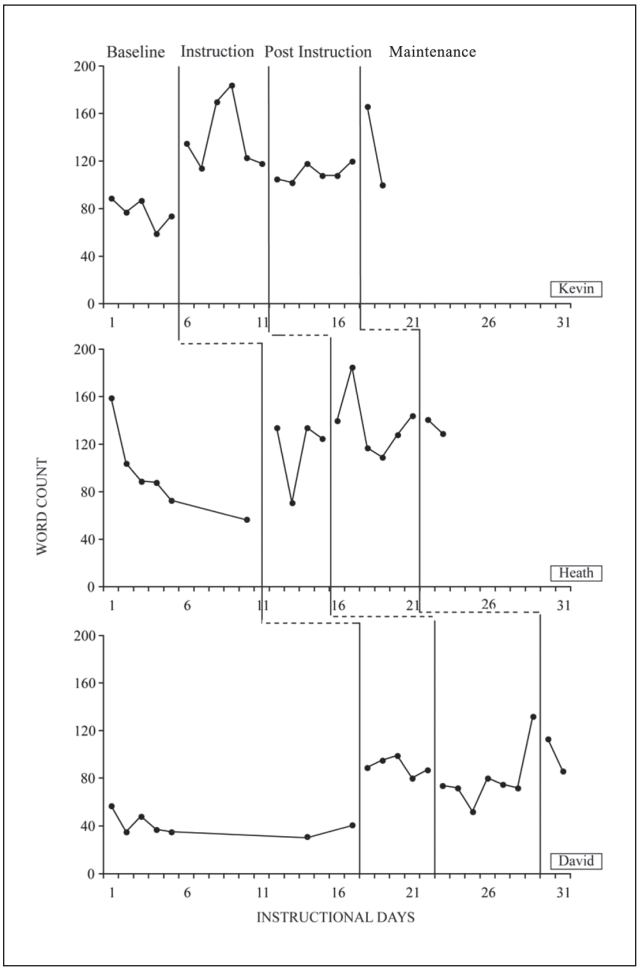

Figure 3. Trend and Level Analysis for the Number of Words Written in Students' Quick Write Responses Across Baseline, Instruction, Post-Instruction, and Maintenance Phases for the Multiple Baseline Across the Three Participating Students

Number of Words

The number of words was calculated using the word count feature of Microsoft Word program (see Figure 3). The overall results indicated mixed effects for the number of words written. PND for the three students indicated a *small* effect of 68% at post-instruction and 66% at maintenance.

During baseline, Kevin had a stable and decreasing trend. Throughout instruction, Kevin increased in the number of words written. Following instruction, his word count decreased, but the level remained above baseline. The two maintenance data points were within the range of his two previous phases. Kevin's mean number of words written at baseline, $M = 78.00$ ($SD = 12.31$), improved, with a range of $M = 141.00$ ($SD = 29.05$) to 12.17 ($SD = 7.22$). His PND indicated a *large* effect, with 100% at both post-instruction and maintenance.

Heath wrote 159 words in his first baseline data point, then rapidly declined. During instruction, Heath increased in level, but the numbers of words written fell within the overall word count range of baseline. His post-instruction word count indicated a high degree of variability, with an upward trend ranging from 109 to 185 words. Heath's maintenance indicated a similar pattern with regard to word count when compared to his instruction and post-instruction phases. Mean data indicated a similar pattern from baseline, $M = 95.33$ ($SD = 34.85$) to maintenance, $M = 143.50$ ($SD = 2.12$). PND indicated a *small* or no effect, 17% at post-instruction and 0% at maintenance.

During baseline, David's word count was stable and had a maintaining trend. During instruction, David had an immediate increase in trend and a stable word count. During post-instruction, his word count became more variable but

remained above the baseline level. David's maintenance word count fell, 86 and 113 words written, within the range of his post-instruction performance. David's mean word account indicated improvement from baseline, $M = 41.86$ ($SD = 9.30$), with the greatest improvement at maintenance, $M = 100.50$ ($SD = 19.09$). PND indicated a *medium* effect of 85% at post-instruction and a *large* effect of 100% at maintenance.

Treatment Acceptability

At the conclusion of the study, students were asked questions to determine the acceptability of treatment. All three participants stated that the POW + TREE strategy helped them become better writers. David said, "It has helped me become a better writer. It is easier for me to write. Before I would just think of something and write about it, but now I have a strategy." The participants believed the strategy helped them to organize their thoughts before writing. Kevin and Heath reported feeling more confident in their writing. Heath indicated his feelings by stating, "It has helped me become more organized and get my thoughts organized." Additionally, Kevin said, "I can organize my thoughts and think better." All three participants thought other students in their classes would benefit from learning the strategy in order to organize thoughts prior to writing. Both David and Heath indicated that other students who have writing problems would benefit from the strategy. Kevin stated that POW + TREE would help other students organize their thoughts in different and/or better ways.

Discussion

Although students with ED perform at a lower academic level than their general education peers or peers with disabilities, these students are educated in the general education setting more than students with any other category of disability at the secondary level (Lane, 2007; Wagner, 1995). Consequently, it is imperative to develop interventions that improve the academic performance of high school students with ED (Ruhl & Berlinghoff, 1992; Trout et al., 2003). The purpose of this study was to replicate and extend the research base for the SRSD intervention approach by focusing on improving writing for a commonly used secondary classroom practice, quick writing.

The results of this study indicated that SRSD for quick writing with the POW + TREE strategies improved the persuasive quick writing of the three high school participants with ED. It was expected that the participants would score low during the baseline phase as students with ED struggle with written tasks (Reid et al., 2004). However, as in the Mason and Shriner (2008) and Mason et al. (2010) studies for students with ED, occasional low and high spikes in performance across baseline, post-instruction, and maintenance were noted for the different writing measures. Given the complexity of written measurement (Kulikowich, Mason, & Brown, 2008) and the difficulty that students with ED present in self-regulating the social and/or behavioral skills needed for academic success (Trout et al., 2003), it is critical not to dismiss student performance based on any one writing occasion, one measure, or one method of analysis.

The participants in this study, as in the Mason et al. (Mason et al., 2010; Mason, Kubina et al., 2011) studies, generally maintained a positive effect for post-intervention performance for measures when compared to baseline, thus supporting the effectiveness of the strategy intervention. However, in the current study, within-student performance for quality, number of parts written, and number of words written were mixed. All three students, for example, showed improvement in the quality of their responses in post-instruction and maintenance with *medium* effects. Heath and David demonstrated the largest gains in quality (range 4 to 7 quality points) by matching the highest possible quality (7 points) for at least one writing in post-instruction and maintenance, with no return to baseline. Instructional affects for these two students were especially strong at maintenance, indicating that writing quality was beginning to become a learned, stable behavior. Kevin demonstrated the most variability in quality of writing during all phases of the study. Interestingly, Kevin's performance on number of parts written was fairly consistent at post-instruction, with *medium* effects, and on the number of words written, with *large* effects at both post-instruction and maintenance.

Although Heath demonstrated fairly stable quality across phases, with noted improvement following instruction, his performance in number of parts and number of words written was more variable. For this reason, Heath's performance in the number of parts written and number of words written were somewhat suppressed by his strong performance in three out of six baseline probes (e.g., range of 3 to 9 parts). Heath's performance, however, stabilized to a range of 8 to10 parts at post-instruction. His last four probes, two post-instruction and two maintenance probes, each had 9 parts. The number of words written indicated a similar pattern.

David demonstrated the most consistency in effects across all measures, with 100% PND for quality and number of parts at post-instruction and maintenance and for number of words at maintenance. However, it should be noted that his performance was generally stable and below that of Kevin and Heath at baseline across all measures. In other words, Kevin and Heath demonstrated some knowledge of or ability to use persuasive writing components or would occasionally write a good number of words during baseline. David's school testing records indicated an average writing ability; therefore, his baseline performance indicated that prior to instruction, he had either no desire or motivation to write or little knowledge of persuasive writing.

Results of each student's performance are congruent with their individual IEP goals and classroom performance. Kevin was the only student who had a consistency and time management goal. His performance, although remaining inconsistent for quality, was more stable for the number of parts and number of words written after instruction. Self-regulation procedures such as goal setting and self-monitoring performance are well-established as effective for improving and stabilizing behaviors (Nelson & Hayes, 1981) and may have assisted Kevin in making progress, in the context of the study, toward achieving his consistency IEP goal. Explicit instruction for writing a timed response may have also positively reinforced Kevin's abilities in time management. Interestingly, indicating generalization of the intervention, Kevin shared during the treatment acceptability interview that he had applied the strategy during the state standardized testing.

Heath's and David's IEP goals primarily addressed specific behavioral issues such as work completion, organization, and seeking assistance when feeling overwhelmed and/or angry. Both students reported that they were better organized in their thoughts prior to writing and described feeling more confident. This student-reported finding is consistent with what students across disability and age groups have noted in other SRSD writing research studies (Graham & Harris, 2009). For the students in this study, the interdependent processes of self-regulation may have enhanced the writers' sense of self-efficacy, which in turn influenced improved writing performance (Harris, Graham, MacArthur, Reid, & Mason, 2011).

Limitations and Future Research

A number of limitations may have impacted the results of this study. First, the instructor, as a teacher in the school, had known the students for their entire high school career. The students' motivation to assist their prior teacher in achieving her research goals may have provided an additional incentive to learn the strategy and do well in their written work. Next, instructional time for David was interrupted by suspensions that prohibited him from coming to school. Additionally, although prompts were randomly assigned in different order for each student, each student's individual interest in his selected writing prompt may have impacted performance. Furthermore, due to the before- and after-school instruction time constraints, actual time in instruction was relatively short. Additional time for distributed practice with feedback may have positively influenced effects.

The results and the limitations of this study replicated those noted in prior SRSD for quick write research for students with ED. As noted in Mason et al. (2010), the instability of baseline performance for students with ED can be a limiting factor when evaluating the effects of an intervention. Results, generally, support previous SRSD for quick write research by demonstrating that students with ED are able to learn and apply the parts of the POW + TREE strategy to writing a timed response. Given the replication of results across studies with adolescents with disabilities, including those with ED, SRSD for persuasive quick writing holds promise for high school students with ED.

Researchers have demonstrated the effectiveness of persuasive writing instruction for participants with ED at the elementary (e.g., Little et al., 2010; Mason & Shriner, 2008) and middle school (e.g., Mastropieri et al., 2010) levels, with one study specifically focusing on quick writing (Mason et al., 2010). Additional research is needed to further determine and support the use of SRSD instruction with all types of writing context and writing genres and for writing fluency for high school students with ED. The generalization of SRSD for quick writing for adolescents with ED to the general education classroom has not been systematically evaluated. Fourth quarter English grades for the students in this study, unfortunately, indicated no generalized effect. In the future, researchers should examine both generalization of the intervention to the classroom as well as implementation by high school English and content area teachers.

Implications for Practice

This study demonstrated the effectiveness of the SRSD instruction for persuasive quick writes with high school students with ED. It should be noted that instructional time implemented was limited to five 30 min full strategy lessons plus one to two 10 min quick write practice lessons. Classroom teachers, especially when delivering instruction to groups of students or to students with low writing skills, should plan for additional time for initial instruction, for booster sessions, and for distributed practice. Lessons should be developed to be repeated to meet student needs, to refresh knowledge, and to develop generalization across settings (Harris et al., 2008).

For students who have the most writing performance difficulties, like the students in this study, Harris et al. (2003) note the importance of using all components of SRSD instruction. It is critical that the six stages of strategy acquisition (develop background knowledge, discuss it, model it, memorize it, guided practice, and independent practice) and the four self-regulation procedures (goal setting, self-monitoring, self-instructions, and self-reinforcement) be implemented with high fidelity. Specific instruction components, such as cognitive modeling by the teacher or by a competent peer, are essential for developing student skills in planning and writing a response as well as writing within a limited time frame. For students with ED, who lack self-regulated learning skills, procedures for goal setting, self-monitoring, self-instructions, and self-regulation should be explicitly taught and practiced.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interests with respect to the authorship and/or publication of this article.

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References

Christenson, S. L., Thurlow, M. L., Ysseldyke, J. E., & McVicar, R. (1989). Written language instruction for students with mild handicaps: Is there enough quantity to ensure quality? *Learning Disabilities Quarterly, 12*, 219-229.

Cook, B. G., Landrum, T. J., Tankersley, M., & Kauffman, J. M. (2003). Bringing research to bear on practice: Effecting evidence-based instruction for students with emotional or behavioral disorders. *Education and Treatment of Children, 26*, 345-361.

Fisher, D., & Frey, N. (2004*). Improving adolescent literacy.* Upper Saddle River, NJ: Pearson Prentice Hall.

Graham, S. (1999). Handwriting and spelling instruction for students with learning disabilities: A review. *Learning Disabilities Quarterly, 22*, 78-98.

Graham, S., & Harris, K. R. (2009). Almost 30 years of writing research: Making sense of it all with the *Wrath of Khan. Learning Disabilities Research & Practice, 24*, 58-68.

Graham, S., Harris, K. R., & Mason, L. H. (2005). Improving the writing performance, knowledge, and self-efficacy of struggling young writers: The effects of self-regulated strategy development. *Contemporary Educational Psychology, 30*, 207-241.

Graham, S., & Leone, P. (1987). Effects of behavioral disability labels, writing performance, and examiner's expertise on the evaluation of written products. *Journal of Experimental Education, 55*, 89-94.

Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology, 99*, 445-476.

Harris, K.R., Graham, S., MacArthur, C., Reid, R, & Mason, L.H. (2011). Self regulated learning processes and children's writing. In B. Zimmerman & D. Schunk (Eds.), *Handbook of self-regulation of learning and performance, pp. 187-2010*. Danvers, MA: Routledge.

Harris, K. R., Graham, S., & Mason, L. H. (2003). Self-regulated strategy development in the classroom: Part of a balanced approach to writing instruction for students with disabilities. *Focus on Exceptional Children, 35*, 1-16.

Harris, K. R., Graham, S., & Mason, L. H. (2006). Improving the writing, knowledge, and motivation of struggling young writers: Effects of self-regulated strategy development with and without peer support. *American Educational Research Journal, 43*, 295-340.

Harris, K. R., Graham, S., Mason, L. H., & Friedlander, B. (2008). *Powerful writing strategies for all students.* Baltimore: Brooks Publishing Co. Inc.

Kennedy, C. H. (2005). *Single-case designs for educational research*. Boston: Allyn & Bacon.

Kulikowich, J. M., Mason, L. H., & Brown, S. W. (2008). Evaluating middle-grade students' expository writing: Prompts, rubrics, and psychometric issues. *Reading and Writing: An Interdisciplinary Journal, 21*, 153-175.

Lane, K. L. (2004). Academic instruction and tutoring interventions for students with emotional/behavioral disorders: 1990 to present. In R. B. Rutherford, M. M. Quinn, & S. R. Mathur (Eds.), *Handbook of research in emotional and behavioral disorders* (pp. 462-486). New York: Guilford Press.

Lane, K. L. (2007). Identifying and supporting students at risk for emotional and behavioral disorders within multi-level models: Data driven approaches to conducting secondary interventions with an academic emphasis. *Education and Treatment of Children, 30*, 135-164.

Lane, K. L., Harris, K. R., Graham, S., Weisenbach, J. L., Brindle, M., & Morphy, P. (2008). The effects of self-regulated strategy development on the writing performance of second-grade students with behavioral and writing difficulties. *The Journal of Special Education, 41*, 234-253.

Little, M. A., Lane, K. L., Harris, K. R., Graham, S., Story, M., & Sandmel, K. (2010). Self-regulated strategy development for persuasive writing in tandem with school wide positive behavioral support: Effects for second-grade students with behavioral and writing difficulties. *Behavioral Disorders, 35*, 157-179.

Mason, L. H., Benedek-Wood, E., Hamm, J., & Farmer, T. E. (2011). *Effects of self-regulated strategy development for rural schools in twelve U.S. states*. Manuscript in preparation.

Mason, L. H., Benedek-Wood, E., & Valasa, L. (2009). Quick writing for students who struggle with writing. *Journal of Adolescent and Adult Literacy, 53*, 313-322.

Mason, L. H., & Graham, S. (2008). Writing instruction for adolescents with learning disabilities: Programs of intervention research. *Learning Disabilities Research and Practice, 23*, 103-112.

Mason, L.H., & Kubina, R.M. (2011). Developing writing fluency for adolescents with disabilities. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Intervention and assessment: Advances in learning and behavioral disabilities* (vol. 24, p. 295-319). Bingley, UK: Emerald.

Mason, L. H., Kubina, R., & Taft, R. (2011). Developing quick writing skills of middle school students with disabilities. *Journal of Special Education, 44*, 205-220.

Mason, L. H., Kubina, R., Valasa, L. L., & Cramer, A. (2010). Evaluating effective writing instruction of adolescent students in an emotional and/or behavioral support setting. *Behavioral Disorders, 35*, 140-156.

Mason, L. H., & Shriner, J. (2008). Self-regulated strategy development instruction for six elementary students with emotional

behavioral disorders. *Reading and Writing: An Interdisciplinary Journal, 21*, 71-93.

Mastropieri, M. A., Scruggs, R. E., Mills, S., Cerar, N. I., Cuenca-Sanchez, Y., Allen-Bronaugh, D., … Regan, K. (2009). Persuading students with emotional disabilities to write fluently. *Behavioral Disorders, 35*, 19-40.

Mastropieri, M.A., Scruggs, T.E., Cuenca-Sanchez, Y., Irby, N., Mills, S., Mason, L.H., & Kubina, R. (2010). Persuading students with emotional disabilities to write: Findings from a design experiment. In T.E. Scruggs & M.A. Mastropieri (Eds.), *Literacy and learning: Advances in learning and behavioral disabilities* (vol. 23). Bingley, UK: Emerald.

Mooney, P., Epstein, M. H., Reid, R., & Nelson, J. R. (2003). Status of and trends in academic intervention research for students with emotional disturbance. *Remedial and Special Education, 24*, 273-287.

National Commission on Writing. (2004). *Writing: A ticket to work...Or a ticket out: A survey of business leaders.* New York, NY: Author.

The Nation's Report Card. (2007). *2007 reading assessment*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP).

Nelson, R. O., & Hayes, S. C. (1981). Theoretical explanations for reactivity in self-monitoring. *Behavior Modification, 5*, 3-14.

Reid, R., Gonzalez, J. E., Nordness, P. D., Trout, A., & Epstein, M. (2004). A meta-analysis of the academic status of the students with emotional/behavioral disturbance. *Journal of Special Education, 38*, 130-143.

Ruhl, K. L., & Berlinghoff, D. H. (1992). Research on improving behaviorally disordered students' academic performance: A review of the literature. *Behavioral Disorders, 17*, 178-190.

Scruggs, T. E., Mastropieri, M. A., & Casto, G. (1987). The quantitative synthesis of single subject research: Methodology and validation. *Remedial and Special Education, 8*, 24-33.

Sutherland, K. S., & Wehby, J. H. (2001). The effect of self-evaluation on teaching behavior in classrooms for students with emotional and behavioral disorders. *The Journal of Special Education, 35*, 161-171.

Taft, R., & Mason, L.H. (2010). Examining effect of writing interventions: Spotlighting results for students with primary disabilities other than learning disabilities. *Remedial and Special Education*, RASW Online First, February 24, 2010 as doi:10.1177/0741932510362242.

Trout, A. L., Nordness, P. D., Pierce, C. D., & Epstein, M. H. (2003). Research on the academic status of children with emotional and behavioral disorders: A review of the literature from 1961-2000. *Journal of Emotional and Behavioral Disorders, 11*, 198-210.

Wagner, M. M. (1995). Outcomes for youth with serious emotional disturbance in secondary school and early adulthood. *The Future of Children: Critical Issues for Children and Youths, 5*, 90-112.

Wood, K., & Harmon, M. (2001). *Strategies for integrating reading & writing in middle and high school classrooms*. Newark, DE: The International Reading Association.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson III.* Itasca, IL: Riverside.

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