

EFFECTS OF ADAPTED SELF-REGULATED STRATEGY DEVELOPMENT AND
FOCUSED VOCABULARY INSTRUCTION FOR SECOND LANGUAGE
ADOLESCENTS

by

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This work is dedicated to my husband Stephen, and our children, Parker and Ellie.
I could not have completed this journey without your constant love, support, and
encouragement.

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ABSTRACT

Writing is a skill that has increased in significance for both researchers and classroom teachers due to changes in recent standards. Currently, many high school English Language Learners (ELLs) are struggling to master this priority skill. A strategy that has been shown to be effective for adolescent writers is Self-Regulated Strategy Development (SRSD). Although this strategy has been researched with a variety of populations, it has yet to be studied in ELL high school students. An additional effective practice for ELL older student writers is providing feedback during the writing process. However, the most effective method of instruction is uncertain. This study sought to investigate the effectiveness of an adapted SRSD method as compared to business as usual method on quality and accuracy measures among ELL adolescents. This study used an experimental, randomized control design using both researcher created and standardized measures. Results indicated that students in the treatment group statistically significantly improved over the business as usual control group on all quality measures. For accuracy (i.e., grammar, punctuation, sentence level errors), a small effect ($g = 0.35$) was reported when using researcher created near-transfer measures.

Educators have several concerns when teaching ELL adolescents, but two main issues are the lack of time between students entering school and graduation and the ability to teach students the complex skill of writing in a second language.

Therefore, results suggesting an improvement in writing quality using adapted SRSD in a short period of time is promising. However, research will need to continue to be conducted to identify the most effective accuracy level (i.e., grammar, punctuation, sentence level error) for this diverse population.

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LIST OF ABBREVIATIONS

ADHD:	Attention-Deficit Hyperactivity Disorder
E/BD:	Emotional/Behavioral Disability (E/BD)
ESL:	English as a Second Language
ELL:	English Language Learners
ESSA:	Every Student Succeeds Act
LD:	Learning Disabled
LEP:	Limited English Proficient
NAEP:	National Assessment of Educational Progress
NELB:	Non-English Background Student
SRSD:	Self-Regulated Strategy Development

CHAPTER I

INTRODUCTION

Statement of Problem and Purpose of Study

ELL students struggle to become proficient writers in English. The 2011 NAEP scores revealed over 80% of eighth and twelfth grade students are considered at or above basic writers, with 31% of those students being proficient or advanced (US Department of Education, 2012). However, this trend did not hold true for ELL students, as less than 65% of eighth grade ELL students scored below basic on the writing portion of this assessment. As defined by the NAEP, below basic writing contains grammatical errors and does not show the ability to critically and analytically reflect on a given prompt. It is expected that students would show improvement as they progress in age. Unfortunately, students in grade twelve continued to show a decline in scores with 80% of ELL students writing at the below basic level (US Department of Education, 2012).

New legislation (ESSA, 2015) has called for educational supports in an attempt to standardize requirements and provide ELL students the education they need to be successful. In addition to providing supports, educators are required to meet stringent “college and career ready” (CCSS, 2010) standards for this population of students. Universities have added remedial writing classes to their curriculum in order to prepare students for collegiate life. Even with education remediation in place, businesses are being forced to spend millions of dollars to remediate writing skills, as students are entering the workforce unable to write at an acceptable level (Graham & Perin, 2007b). As a result, both educators and researchers are seeking effective strategies for teaching

high school students to write proficiently, with a focus on ELL students. The purpose of this study is to evaluate the effectiveness of adapted SRSD with high school ELL students.

Background of the Study

The perspective of writing is not distinct; rather, it often falls on the position of the researcher to define it based on the view of the research. Writing research typically falls within two views; sociocultural (e.g., qualitative) and cognitive (quantitative; Graham & Perin; 2007a). Cognitive writing research has witnessed a resurgence in the last fifty years. Flower and Hayes (1981), along with the Conference on College Composition and Communication, the National Council of Teachers of English, English doctoral programs, and the Study of Writing in 1985 (Nystrand, 2006) impacted this research into the writing process.

Cognitive View of Writing

The most influential research was Flower and Hayes (1981), who sought to map writing as a cognitive process. Up until this point two models had been dominant in the field; Rohman's (1965) Stage Process model, which modeled writing as linear process (e.g., pre-write, write, re-write) and the Conception Model (Britton, Burgess, Martin, McLeod, & Rosen, 1975). Similar to the linear process, the Conception Model displayed writing in three distinctive stages (e.g., conception, incubation, and production) in which the writer progressed as they wrote until the final product was completed. Subsequent research (Sommers, 1980) revealed that skilled writers did not write in a linear fashion, but in a recursive one, constantly revising as they wrote.

These findings led Flower and Hayes (1981) to consider the possibility of a cognitive model, demonstrating that writers do not write in linear stages, but in a recursive process. Considering the theorists of their time (Gibson, 1969; Kinneavy, 1971; Moffett, 1968) and previous research (Flower & Hayes, 1981; Sommers, 1980) hypothesized in this model that the cognitive writing process was composed of three major areas; plan, translate (compose), and review. They additionally proposed that writing was influenced by the writer's background knowledge and goals for writing. They believed the ability to set goals, whether based on the content or the process itself, guided the writer through the process.

Flower and Hayes (1981) modeled the writing process using three recursive units; the task itself (e.g., prompt), working memory (i.e., whether innate or outside references) and the process of writing itself. They also believed that the writing process was self-controlled by what they labeled a "monitor". This monitor assisted writers as they made decisions regarding the writing process. Flower and Hayes (1981) believed that less skilled writers lacked this monitor as they did not have the ability to continue in the process, reinforcing the findings of Sommers (1980). This model allowed Flower and Hayes (1981) to account for the individualized nature of writing. As such, a cognitive approach to writing instruction was developed in order to address these differences (Graham, 2006).

Considering a cognitive approach to instruction, researchers and educators are faced with the challenges of how to teach writing using this model. Graham and Perin (2007a, 2007b) completed multiple meta-analysis in order to analyze the most effective instructional practices for adolescent students. Their findings revealed that explicit and

systematic instruction of the writing process is effective for improving the quality of writing. It was also beneficial to students to provide support in the form of peers; clear, manageable, goals; and written models.

In *Writing Next* (Graham & Perin, 2007b), grammar instruction was not effective for improving quality, in subsequent analyses (Graham & Perin, 2007a), they extended their findings to single-subject design and were unable to draw this same conclusion. Though they extended their analysis, Graham and Perin's (2007a) recommendations were unable to be made for some methods (e.g., feedback, increased writing time, instruction of text structure) due to criteria limitations. Further research will need to be completed in this area in order to discover the effectiveness of grammar instruction improving the overall quality of student writing.

Self-regulation in Writing

Additional views of writing are based on socio-cultural theories. One such theory is Bandura's Social Cognitive Theory (1986) which portrays an interactive approach to learning. In his "reciprocal" model, the student, environment, and behavior (including motivation) interact and are influenced by one another. Though Flower and Hayes (1981) believed writing was controlled by what they referred to as a "monitor", others referred to this process as self-regulation (Bandura, 1986; Hidi & Boscolo, 2006; Zimmerman & Risemberg, 1997). Self-regulation in literacy has been described as "self-initiated thoughts, feelings, or actions that writers use to attain various literary goals" (Zimmerman & Risemberg, 1997, p. 76). Rather than the singular cognitive process imagined by Flower and Hayes (1981), additional research suggests that writing may be

metacognitive, behavioral, and environmental in nature (Bandura, 1986; Hidi & Boscolo, 2006; Zimmerman & Risemberg, 1997).

Research suggests that student's literacy outcomes may have positive effects due to the incorporation of self-regulated activities into literacy instruction (Schunk & Zimmerman, 2007). Schunk and Zimmerman's (2007) model of social cognitive development of self-regulation describes the self-regulation process during new learning. They suggest four stages occur (i.e., observation, emulation, self-control, and self-regulation) with self-regulation being the goal of the student. According to their findings, students learn from a model, whether verbal or written, until they are able to reach independence and generalize the skill as needed (Schunk & Zimmerman, 2007). In the writing process, self-regulation has been suggested to be beneficial in areas such as pre-writing, generating text, and revision (Graham & Harris, 2000; Scardamalia & Bereiter, 1985). For example, it has been suggested that a struggling writer who generates text, receives feedback, and successfully revises the draft will become intrinsically motivated to repeat this task (Graham & Harris, 2000). Based on the current research, students who are provided with self-regulation strategy instruction combined with cognitive strategy instruction may have increased benefits in overall literacy outcomes.

Self-Regulated Strategy Development

Based on previous research, one strategy which combines the use of these effective tools (e.g. explicit instruction, modeling, individualized goals) is Self-Regulated Strategy Development (SRSD; Harris & Graham, 1999). SRSD is an explicit writing strategy that has been shown to be effective with multiple populations, genres, and study

designs in several meta-analyses (Ennis, Harris, Lane, & Mason, 2014; Graham, 2006; Graham & Perin, 2007b; Graham, McKeown, Kiuahara, & Harris, 2012; Kaldenberg, Ganzeveld, Hosp, & Rodgers, 2016; Losinski, Cuenca-Carlino, Zablocki, & Teagarden, 2014). This instructional method is not taught in a linear format, but is individualized based on the cognitive writing process, allowing the writer freedom to generate and revise ideas until the process is refined. Teachers are trained to use this strategy within the classroom with fidelity. They are also provided with leniency to add this to their own curriculum as needed.

Effective writing instruction for both adolescents and ELL students includes explicit instruction, goal setting, and modeling (August & Shanahan, 2006; Fields, Gay, Talbert, Elleman, & Olson, 2017; Graham & Perin, 2007b; Sherman and De La Paz, 2015). SRSD explicitly teaches students to set and monitor both process and content goals by providing graphic organizers, which has been noted to be an important element of the writing process (Flower & Hayes, 1981). Self-monitoring, self-talk, and mnemonics are also a part of the SRSD instructional method which may be effective for ELL students. In addition, students are provided with multiple models throughout the writing process (i.e., teachers, peers, think-alouds, self-talk, goal setting) to scaffold student learning. The combination of these methods may provide an effective strategy for improving writing quality in adolescent ELL high school students which has not yet been addressed in the literature.

Stages of SRSD

Activate and develop background knowledge. SRSD is completed using five stages. The first stage, Activate and Develop Background Knowledge links the students

to the text and genre they will be writing. Using text, self-talk, and mnemonics, this stage begins to activate the background knowledge of the genre to appropriately plan lessons for each student. Genre specific vocabulary is also a focus during this stage that is modeled and assessed (e.g., topic sentence, argument, counterargument).

Discuss it. In this stage, students further their knowledge from Stage 1. They use mnemonics and graphic organizers to plan and write, making corrections as needed. Research has found that teachers are concerned with the amount of time that it takes to provide feedback to student writing (Ferris, 1999). Unfortunately, rather than assigning writing tasks which are beneficial to the student, teachers may make assignments which need limited feedback (Semke, 1984). Therefore, peer models become important in this stage as they provide the bulk of the feedback.

Model it. Teachers work in this stage to model their own stream of consciousness as they write. The teachers speak out loud what they are thinking as they model the planning, writing, and graphing stages of each essay. Teachers give metacognitive insights into how they are write as they are performing the task. Graphic organizers and mnemonics are provided in this stage.

Memorize it. Although this stage has no formal lessons, this stage is an important one. This stage is used as a time for teachers to assess if the students have internalized all the mnemonics and strategies. If they have not, coping strategies can be used. Memorization is key to generalizability in this stage.

Support it. Each student sets an individual goal in previous stages, based upon their writing progress and personal goals. In this stage, students continue to monitor and adjust this goal. The goal at this stage is to move students towards independence. Some

students may be ready before others, some may be working with peers, and some students may still be dependent on the teacher for guidance at this point. However, teachers begin to fade using graphic organizers and supports to encourage independence.

Independent performance. At this point in the process, students should be writing independently without the use of graphic organizers or mnemonic devices. Instruction is provided specific to a singular genre in SRSD, however, the ability to generalize the strategy is discussed in this stage. In addition, although students no longer need specific supports and maintenance over time through mini lessons are used in this stage.

Importance of Feedback in Writing

Feedback has been suggested as an effective part of the writing process (Graham & Perin, 2007b). Feedback may be provided to students in verbal or written form. There has been no consensus in the literature as to the most effective strategy to deliver this feedback (i.e., teacher, peer, computer). The literature suggests the majority of feedback provided to students is by teachers (Fields et al., 2017). The goal of providing feedback is dependent upon the type of feedback itself. Some educators provide feedback at the accuracy level. Their feedback is focused on error correction (grammar, punctuation, sentence level errors). Other educators spend their time providing quality (content) feedback. This type of feedback is focused on improving the overall meaning in student writing. Both of these types of feedback have been researched and debated in the literature for decades.

Some researchers make a distinction between how feedback is delivered to students. Feedback is often divided into two categories; direct and indirect. Direct

feedback is defined as indicating the error and providing corrective feedback. This type of feedback has been shown by some researchers to be effective (Bitchener, 2008; Bitchener & Knoch, 2008, 2009a, 2009b; Bitchener, Young, & Cameron, 2005). Bitchener (2008) and Bitchener and Knoch (2008) limited their research to providing direct feedback on targeted linguistic forms (i.e., a, the). They found that students who received direct feedback outperformed students in the control on targeted linguistic forms. In addition, the participants in the treatment groups retained the level of accuracy on the delayed posttest. Although these studies used a variety of direct feedback strategies (i.e., direct feedback alone; direct, written, and oral meta-linguistic explanation; direct and written meta-linguistic explanation), no singular strategy was found to be more effective than another when compared to a no feedback control (Bitchener, 2008; Bitchener & Knoch, 2008).

Other researchers prefer to use indirect feedback, which is defined as indicating the error, but providing no explanation as how to correct it. The hypothesis is that the student will seek out the correction on their own and internalizing the solution. Researchers believe that indirect feedback may be more useful in delayed measures (Bitchener & Knoch, 2008; Lalande, 1982). Kepner (1991) found indirect feedback to be an effective strategy for ELL students.

English Language Learners

English Language Learners (ELLs) are one of the fastest growing populations of students in American Schools; growing from close to 3 million students in 1998 (National Clearinghouse for English Language Acquisition, 2011) to a reported 4.6 million in 2015 (National Center for Education Statistics, 2017). This population of

students has tripled in the last decade (National Council of Teachers of English, 2008). In fact, according to one statistic, by 2025, nearly 25 percent of all public-school students will be English Language Learners (NEA, 2008). Interestingly, not all students are first generation immigrants or refugees, the majority of ELL students are either native born, second, or third generation U.S. citizens (NEA, 2008) indicating that these students are not gaining the proficiency they need using the current educational strategies despite being in the U.S. school system for one or more generations.

Nationally, education is unable to uniformly define these students creating an issue for both educators and researchers. Although the overarching umbrella term ELL (i.e., English Language Learner) is being used in this research, these students may also be referred to as ESL (i.e., English as a Second Language), LEP (i.e., Limited English Proficient), or second language learners in the literature. These terms may be used interchangeably in the literature or may connote distinct meanings, indicating specific instruction for these students (Tennessee State Board of Education, 2005).

Identification of ELL students also varies and is based on state regulations. In some states, educators follow a two-step process. For example, students enrolling in schools are first required to complete a home language survey (Hall, n.d.) ensuring that state and federal guidelines for initially identifying all ELL students are followed according to the Bilingual Act of 1988 (Cubillos, 1988). If a parent answers any question on the survey as other than English, the student is classified as a non-English background student (NELB) and the assessment process for the student begins. Once the student has been classified as NELB, the ELL teacher completes an assessment to determine proficiency in English (ESL/Office for Civil Rights Compliance Report, 2015).

Language proficiency in English is determined using the WIDA-APT, but does not account for proficiency in the primary language (Gottlieb, Cranley, & Cammilleri, 2007). The inability to uniformly define, instruct, and assess this increasing population has left the literacy education of these students in “crisis” (Short & Fitzsimmons, 2007).

Instructional Considerations for ELL Students

There are several issues which make instruction of ELL students particularly problematic for educators. One major concern is the length of time students require to obtain proficiency in literacy skills considering the length of time they are in the school system. Although most students are able to achieve proficiency in basic interpersonal skills (BICS; Cummins 1979, 1981) with relative ease, it may take five to seven years to acquire the cognitive academic language proficiency (CALP; Cummins 1979, 1981) necessary to progress to the more complex literacy skills, such as writing (Fernandez & Inserra, 2013).

A second concern for these students is the amount of variability between each student. Overall literacy for these students is defined using four domains: speaking, listening, reading, and writing. Students acquire the basic skills first then progress to the more complex, however, proficiency in the primary language may play a role in the acquisition of any or all of these domains (August, McCardle, & Shanahan, 2014). Each of these domains may vary from student to student. Short and Fitzsimmons (2007) noted that background knowledge, native language, home environment, and culture play a part in influencing the overall literacy of adolescent ELL students, making assessment difficult. An additional concern for these students is that though these domains are distinct, they are interrelated; listening and reading are receptive skills, while speaking

and writing are expressive skills. Students struggling with one domain may struggle with a similar domain. Teachers lacking in professional development with ELL students area may not recognize this distinction and may mislabel students (Fernandez & Inserra, 2013).

There have been suggested instructional practices for these students that may be beneficial (August et al., 2014). Using updated research, August et al. (2014) made several recommendations. Although these strategies may vary in their implementation, they may assist ELL learners in the classroom. According to August et al. (2014) ELL learners may benefit from explicit instruction in decoding, oral reading fluency, vocabulary, reading comprehension, and writing. They suggest that ELL learners, by definition, have not met the criteria to fluently read or write, however, other strategies such as differentiated instruction, scaffolding, and reinforcement all may offer benefits to these students in acquiring literacy skills (August et al., 2014).

As for ELL adolescents, instructional strategies are comparable for both English speaking adolescents and struggling writers alike, however, these strategies must be adapted to be effective for ELL adolescents (Short & Fitzsimmons, 2007). Research has suggested that ELL students may benefit from explicit instruction when learning to write (Sherman & De La Paz, 2015). Instructions should be clear, direct, and concise for these students to be successful. Teachers and researchers must bear in mind that these students are not only learning a complex skill that native English speakers find difficult, but they are also constantly making the transition from their primary language to English as they read and write.

Similar to their English-speaking peers, ELL students benefit from setting clear, achievable individualized instructional goals (August & Shanahan, 2006). One strategy for implementing these goals for struggling writers is self-talk. Students “talk” to themselves, giving themselves positive feedback, self-goal reminders, and overall task goals (Harris & Graham, 1999). This practice may have added benefits for ELL adolescents. Garfield and Brockman (2000) advocate for this positive atmosphere in order to assist students in finding their voice as writers. In addition, using positive self-talk, ELL students may not only find their own voice, but may increase their oral language skills.

Though small, the effects of modeling have been found to be effective for all adolescents for improving the quality of student writing ($d = 0.25$; Graham & Perin, 2007b). A previous meta-analysis found modeling to be effective for improving accuracy (i.e., grammar, punctuation, capitalization, sentence structure) with post-secondary ELL writers ($g = 0.61$; Fields et al., 2017). However, in the adolescent ELL classroom, researchers do not know what type of modeling (e.g., teacher, peer) is most effective for improving the overall quality of student writing. One instructional strategy that may be useful in this area is practices which combine modeling with supports for oral language development. Oral language has been found to be a predictor of writing proficiency in ELL students (August & Shanahan, 2006). In the ELL classroom, teachers may model their own writing, including talking through their own cognitive process while they write, using self-talk, or oral retells. Combining these tasks may provide support for overall writing quality and vocabulary development for ELL learners.

The Purpose of the Study

SRSD has been researched for over thirty years, however, adolescent ELL's have yet to be the focus of a study. One goal of this study is to extend the research of SRSD (Harris & Graham, 1999) to determine its effectiveness with high school ELL students. However, SRSD was not developed with the special needs of ELL students in mind. ELL students naturally have difficulties learning and writing in a second language due to factors related to learning a new language. One area that has been shown to be a limiting factor for ELL writing is their limited English vocabulary. To address this issue, focused vocabulary instruction was added into SRSD to adapt for this population of students. Additional practice opportunities and explicit feedback were also added because previous research revealed that ELL students have been shown to respond to direct, explicit instruction during writing instruction (De La Paz & Graham, 2002). In addition, since multiple meta-analyses revealed better effects for direct feedback than indirect feedback with ELL students (Biber, Nekrasova, & Horn, 2011; Fields et al., 2017; Kao & Wible, 2014), direct feedback was chosen over indirect feedback as a part of this strategy. Therefore, an enhanced version of SRSD called 'adapted SRSD' was investigated in this study.

Significance of the Study

In sum, the data of this study will be used to further the limited field of adolescent ELL writing. For this study, we adapted SRSD to include focused vocabulary instruction and direct writing feedback. To our knowledge, no SRSD studies implemented accuracy instruction using direct feedback. This study investigated the adapted SRSD intervention's effectiveness with ELL students. In addition, this study sought to further

examine the findings of previous meta-analyses (Biber et al., 2011; Fields et al., 2017; Kao & Wible, 2014) in order to determine the effectiveness of using direct feedback to improve accuracy and overall writing quality with high school ELL students.

Specifically, the following research questions were asked:

Research Questions

1. Is there a difference in the writing quality for ELL adolescents who receive the adapted SRSD method as an instructional intervention than those who receive business as usual methods?
2. Is there a difference in writing accuracy for ELL adolescents who receive the adapted SRSD method as an instructional intervention than those who receive business as usual methods?

Delimitations

1. Only high school students currently classified as English Learners (ELs) as defined by the Tennessee Department of Education were used in this study.

CHAPTER II

LITERATURE REVIEW

Writing is the second of education's three essential "R's", however, it has been called the "Neglected R" for its lack of research, funding, and professional development (National Commission on Writing, 2003). One specific area of research that has been pointed out as a promising field of study is English Language Learner writing research (Graham & Perin, 2007b; National Commission on Writing, 2003). ELLs made up almost 9.5 % of the student population of the public-school system in 2015, and that number only continues to rise (National Center for Education Statistics, 2017). The ability to teach these students to write has been a challenge for educators due to the previously noted issues, as well as language barriers. The National Commission on Writing has compiled a series of essays from ELLs regarding the importance of writing instruction, in which one student wrote of the "bridge" that reading and writing created for them, opening the doors to friendships and giving them the ability to express themselves through text (National Commission on Writing, 2009). Writing not only allows these students the ability to gain college and career pathways post-graduation, but it gives students the ability to express their thoughts and feelings to those around them.

Systematic Search of the Literature

A systematic search of the literature was conducted in order to locate all prior research regarding the research questions (i.e., writing, ELL, SRSD, feedback). Previous research (see Tables F1, F2) assisted in making informed decisions regarding methodology and data analysis of the current research. A search of the primary literature, online databases, primary researchers, previous meta-analyses, and reviews (Biber,

Nekrasova, & Horn, 2011; Cook & Bennet, 2014; Ennis et al., 2014; Graham et al., 2012; Graham & Perin, 2007b; Kaldenberg et al., 2016; Kang & Han, 2015; Kao & Wible, 2014; Losinski et al., 2014; Truscott, 2007) was conducted in order to locate all research related to SRSD and high school ELL writers. A search of the database PsychInfo was completed using the search terms (a) self-regulated strategy development, (b) writing, and (c) adolescence. The search yielded 32 results. Two articles (Jacobson, & Reid, 2010; Kiuahara, O'Neill, Graham, & Hawken, 2012) were found to be publications of dissertations (Jacobson, 2009; Kiuahara, 2009). Only one article was coded which met the search criteria. After review, seven articles remained from the database search. In order to further ensure that all articles were located that met the search criteria, an additional search was completed using the online database PsychInfo with the search terms: (a) self-regulated strategy development, (b) English language learners or ELL or ESL and (c) writing. This search yielded five articles and all were eliminated. The primary researchers of SRSD (Harris & Graham, 1999) were contacted to inquire of any ongoing research using SRSD with adolescent ELL students. It was revealed that high school SRSD research was limited, with only two studies having been completed, neither of which included high school students (Bakry & Alsamadani, 2015; De La Paz & Sherman, 2013, see Table F2). In sum, eleven articles were located which met the initial search criteria (see Tables F1 and F2).

Self-Regulated Strategy Development

Educators are seeking effective strategies to improve writing for adolescent students (Graham & Perin, 2007b). One strategy which has been shown to be effective in both middle and high school students is Self-Regulated Strategy Development (SRSD;

Graham & Perin, 2007b). Although this strategy has a large research base, its effectiveness has not been studied with high school ELLs. However, researchers have identified other at-risk populations such as students with learning disabilities (LD), students identified with emotional or behavioral disorders (E/BD), and/or students identified with attention deficit hyperactivity disorder (ADHD) which may share similar difficulties as ELL students when writing.

Effectiveness of SRSD in Older Adolescent Writers

High school students who have been identified as at-risk (i.e. ELL, LD, E/BD, ADHD) have similar difficulties when writing. Most of these students have been found to struggle throughout the writing process at each stage (i.e., planning, writing, revising, and organizing their ideas; Chalk, Hagan-Burke, Burke, 2005). Interestingly, this population of students varies widely in the student type (e.g., ELL, LD, E/BD, ADHD). Additionally, various types of genres and mnemonic strategies have been utilized in the SRSD research for high school adolescents. Although the implementation varies in the research, the reviewed studies did show SRSD to be effective with multiple populations in which SRSD was used as a writing intervention (see Table F1).

SRSD has been used in several high school studies with students that have been diagnosed with emotional and behavioral disorders (E/BD; Ennis, 2016; Ennis & Jolivet, 2014; Mason, Kubina, & Hoover, 2011). Similar to ELL students, the NAEP found that students that have been identified with a disability fall well below their peers in writing (U.S. Department of Education, 2012). In addition, similar to their ELL counterparts, in both eighth and twelfth grades these students do not seem to show improvement as they progress through the grades with the majority of these students

scoring below proficient on the NAEP. Scores reveal that these students score an average of 113 in eighth grade and 112 in twelfth grade, both of which are considered below basic (U.S. Department of Education, 2012).

Ennis and Jolivette (2014) looked at pairs of ninth grade E/BD students in order to measure in improvement of writing quality, essay elements, and correct word sequences when using SRSD compared to typical classroom writing instruction in a health class. Teachers implemented SRSD strategies along with STOP and DARE (i.e., Suspend judgement, Take a position, Organize ideas; see Table 3) mnemonics. Using a single-subject design, they found that pairs of students made improvements in all areas measured when writing a persuasive text.

Mason et al. (2011) extended this research using persuasive quick writes. Quick writes were described by the researcher as essays in which writing time was limited to ten minutes. Similarly, they used a single-subject design, but this time with high school students with only ED. A special education teacher that was a researcher on the project implemented SRSD POW+TREE (i.e., Pick my idea, Organize, Write) strategies with these students (see Table 1). Although results varied, all students showed improvement in each area of writing which was assessed (i.e., quality, number of written words, number of response parts, number of words written), both at posttest and at maintenance when compared to baseline. Effects were small when taken across the student sample, however, when examined individually, students performed as expected, according to their individual needs.

Table 1

POW+TREE mnemonic

<u>P</u> ick my idea	<u>T</u> opic sentence
<u>O</u> rganize my notes	<u>R</u> easons-Three or more
<u>W</u> rite and say more	<u>E</u> xamine
	<u>E</u> nding

Note. SRSD mnemonic utilized by Hoover, Kubina, and Mason (2012)

Research for high school students with E/BD continues to be a priority. Some researchers have sought to extend their research outside the language arts classroom and into the content areas, in order to generalize the learning. Ennis (2016) used informational text in a social studies classroom. This researcher delivered instruction used TWA+PLANS (i.e., think before reading, think while reading, think after reading) to investigate if students could make improvements in quality, add summary elements to their text, and improve in total written words (see Table 2). Although large effects were found for each element tested, the researcher did note that these students were tested in a controlled environment, rather than in a classroom. Therefore, a small group setting with behavioral supports may be beneficial to this population of students.

Table 2

TWA + PLANS mnemonic

<u>T</u> hink before reading	<u>P</u> ick goals
think <u>W</u> hile reading	<u>L</u> ist ways to meet goals
think <u>A</u> fter reading	<u>A</u> nd make <u>N</u> otes
	<u>S</u> equence notes

Note. SRSD mnemonic utilized by Ennis (2016)

In addition to issues of other at-risk writers, students with LD demonstrate issues at the accuracy level, tend to use fragmented sentences and have an elevated estimation of their own ability to write (Harris, Graham, & Mason, 2003). In an effort to improve quality and length, Chalk et al. (2005) used a repeated measures design with fifteen, tenth grade students, identified as LD. Using the DARE strategy, students improved their essays both over time and quality of writing. There was a significant relationship between the conditions and number of words written with time accounting for 92% of the variance. Improvements were made, however, there was no control group and improvement was made in total words, rather than in quality.

Using a similar design from Mason et al. (2011), research was extended to students with LD (Hoover, Kubina, & Mason, 2012). Student quick writes were assessed per the TREE strategy (i.e., topic sentence, three or more reasons for your belief, explanation for your reasoning, ending or concluding statement) and number of words. Similar to previous quick writes, students were given ten minutes to complete the essay. Seventy-five percent of the students showed an increase in response parts at post. Response parts included topic sentence, three reasons, explanations for reasons, counter

reason, explanation for counter reason, and a conclusion. This increase was in line with the students' view of writing as revealed on a qualitative survey provided by the researcher. No student showed a great deal of increase in total words written. Although these students varied in their increase of total words, the authors suggest that these students may have had a larger amount of words written at baseline than in previous studies. In addition, the students may have been able to generate ideas with succinctness during a quick write at posttest. Although the researchers' studies are similar in design, the authors chose to report the outcomes differently, so it is difficult to compare the effects.

SRSD may be an effective intervention for students with ADHD as they have been found to have issues with self-regulation, working memory, and goal-setting (Jacobson & Reid, 2010). In her dissertation, Jacobson (2009) attempted to examine some of these issues using a single-subject design with four high school students. The SRSD mnemonics DARE and STOP (i.e., Develop a topic sentence, Reject arguments, Suspend judgement, Organize ideas) were adapted to write persuasive texts (see Table 3). In order to be scored, the prompts were transcribed into a word processing program. Essays were corrected for punctuation and spelling prior to being scored for essay parts, number of words, number of transition words, and holistic quality. A time for planning and writing was also recorded. Students showed a 100% PND (percent non-overlapping data) for each dependent measure. Specifically, students showed no planning at baseline. However, after the intervention, they were able to plan, increase the length of their writing, and produce overall higher quality essays.

Jacobson and Reid (2010) continued this research using the same design with three high school males identified with ADHD. As in the previous study, students showed improvements in quality length, ability to plan, and ability to add transition words and parts to their essays. Researchers did note a concern that although improvement was made in quality, two students did not improve to a within normal level on the quality rubric. The ability to adapt SRSD to individual needs has allowed these researchers to find effectiveness with ADHD students on several measures. The researchers used graphing on number of words and number of essay parts in order to teach these students self-regulation strategies. Students were provided with explicit instruction on goal setting, specifically related to essay parts and word count. Overall, students were successful in reaching these goals using SRSD strategies.

Kiuhara et al. (2012) used a single-subject design with struggling tenth grade writers in order to improve persuasive writing. Although they used the STOP and DARE (i.e., suspend judgement, take a position, organize ideas) found in similar studies, they added an additional mnemonic, AIMS (i.e., attract the reader's attention, identify and map the problem; see Table 3). AIMS provided additional assistance to these students with audience and introduction. In addition, they used the STOP mnemonic to emphasize planning as students continued to write. Planning has been suggested as an element associated with positive effects in writing with struggling writers; the longer they spend planning, the higher quality their text (Flower & Hayes, 1981). Though some of the previously reviewed studies had chosen to limit the writing time to ten minutes by using quick writes (Hoover et al. 2012; Mason et al., 2011) with small effects, Kiuhara et al. (2012) allowed time to both plan and write. The additions to this study showed positive

effects on all measures; including quality, addition of planning and writing time; and addition of essential and functional elements.

Table 3

STOP+AIMS+DARE mnemonic

<u>S</u> suspend judgement by listing reasons for each side of a position before deciding on a premise	<u>A</u> tract the reader's attention	<u>D</u> velop a topic sentence
<u>T</u> ake a position after evaluating the listed ideas	<u>I</u> dentify the problem of the topic so the reader understands the issues	<u>A</u> dd supporting ideas
<u>O</u> rganize ideas from strongest to weakest	<u>M</u> ap the context of the problem or provide background information needed to understand the problem	<u>R</u> eject possible arguments for the other side
<u>P</u> lan and write more while writing the essay	<u>S</u> tate the thesis so the premise is clear	<u>E</u> nd with a conclusion

Note. SRSD mnemonic utilized by Jacobson (2009); Kihara, O'Neill, Hawken, and Graham (2012)

Scott (2009) researched SRSD persuasive writing strategies with Tier 2 ninth and tenth graders. This dissertation research included 56 students using a combination of a pretest posttest control group design and a time series design. Unlike previous research, Scott utilized both standardized and weekly essays. She also applied the POW+TREE mnemonic to the persuasive genre without a time limit. In addition, a combination of analytic and holistic scoring rubrics were employed. Although progress was made by the treatment group, no statistically significant effects were found, with the exception of the holistic scores on the standardized test. Scott (2009) did not find SRSD to be more effective than the control when using the POW+TREE mnemonic with a persuasive writing task.

Effectiveness of SRSD in ELL Students

Limited research has been completed using SRSD and ELL adolescents (see Table F2). De La Paz and Sherman (2013) chose to focus on revision when using SRSD with sixth graders including ELL and students with learning disabilities (LD). They contend that skilled writers should be able to revise beyond the surface level of text (i.e., spelling, punctuation, grammar), instead of making changes to their text at the quality level (i.e., the deeper level of meaning). Using the SRSD framework, they added the FIX mnemonic to Stage 1. In this mnemonic, students a) Focus on essay elements; b) Identify problems; and c) Execute changes (De La Paz & Sherman, 2013). Students were pretested using a standardized test and then grouped according to low, average, or high writing abilities. Thirty-three percent of the students in the study were labeled as ELL, as they were either native Spanish or French speakers. Using an expository essay with a single-subject design, all students made gains when measuring the meaning of the text. All students increased their number of revisions on their post-test essay. In addition, all students, except those with LD, were able to increase revisions at the word level. ELL students, including those who were also LD, made positive gains on all measures.

Bakry and Alsamadani (2015) researched SRSD with second semester students of Arabic as a foreign language. As in many foreign language writing studies, these researchers were concerned that Arabic writing was still a product-centered model, rather than a process-centered model. They believed the explicit strategies used in SRSD would be beneficial with their population group when teaching persuasive essays.

The experiment consisted of one group using the SRSD POW and TREE + E mnemonics. The control group was taught with the teacher-centered based model. After

completing all five stages, Bakry and Alsamadani (2015) found that SRSD was effective with this population of students. In addition, students showed the most improvement in overall quality, ideas skill, organization, and paragraph writing skills.

Effectiveness of Feedback for English Language Learners

An additional approach that has been shown to be effective in the writing process for ELL writers is feedback. Although feedback on ELL writing has been the subject of intense debate in the literature for decades, a recent meta-analysis (Fields et al., 2017) found that providing feedback was effective for post-secondary students. Although no high school studies could be located for this analysis, this study and a previous meta-analysis (Kang & Han, 2015) with older students suggest that feedback may be effective for high school students.

Accuracy feedback

Accuracy feedback is that which is provided on surface errors. These errors may include grammar, punctuation, or sentence level errors. Often, accuracy feedback research is completed examining the impact on accuracy measures, but does not employ quality measures as outcomes. The lack of these measures makes it difficult to decipher if accuracy feedback improved the quality of student writing (Fields et al., 2017).

Accuracy feedback, specifically grammar correction, has been the topic of an intense debate in the literature. Some believe that feedback should be provided on each grammar mistake, lest students continue to make them (Lalande, 1982). Others claim that this is a time-consuming task and unrealistic task that may or may not be effective (Ferris, 1999). Truscott (1996) argued that grammar correction should not be used in the ELL classroom, going so far as to say it was “ineffective or harmful” (p. 328). Truscott

founded his claims on the extraordinary amount of time grammar correction takes and the concern for student self-esteem when receiving poor feedback.

Notably, Ferris (1999) in her response to Truscott did not dismiss his statements. Ferris also agreed that teachers may not have the necessary expertise or the time to make needed grammar corrections. However, she did not accept that grammar correction should be removed from curriculum. Ferris found issues with Truscott's methods, including his inability to identify "effective" grammar correction. She also pointed that students have an expectation to have feedback provided on these errors. Research has continued in this area to establish if accuracy feedback is effective for this population of students (Bitchener, 2008; Bitchener & Knoch, 2008, 2009a, 2009b, 2010; Bitchener et al., 2005). One area of accuracy feedback which must be extended in order to settle this debate, is the effectiveness of accuracy feedback on the quality of student writing.

The ability to define and establish effective accuracy feedback has been studied in a variety of ways by several researchers. In her response to Truscott, Ferris (1999) voiced a concern that possibly accuracy feedback needed to be provided in a "selective, prioritized, and clear" (p.4) way. The methodology of current accuracy research (Bitchener, 2008; Bitchener & Knoch, 2008, 2009a, 2009b, 2010; Bitchener et al., 2005; Ellis, Sheen, Murakami, & Takashima, 2008; Sheen, Wright, & Moldawa, 2009) reflects this focused approach. These studies provided feedback on targeted linguistic features known to be problematic for second language learners (i.e., "a", "the", "be", past tense "ed", irregular past tense, temporal and locative prepositions). Although the methodology varied greatly within each of these studies, each of them was found to be

effective for older adolescent ELL writers when using accuracy measures (Fields et al., 2017).

Effectiveness of Accuracy Feedback

In order to determine the overall effectiveness of feedback for adolescent ELL students, we conducted a meta-analysis (Fields et al., 2017; see Table A1). Due to limitations in the literature, the participants in this meta-analysis were university students, rather than high school students. Using 21 studies, findings using a random effects model revealed a random mean effect for feedback on all measures of adolescent writing ($g = 0.68$). In addition, studies were analyzed based on types of outcome (accuracy or quality). Researchers using accuracy outcomes were providing accuracy (surface level) feedback. Findings using a random effects model revealed a random mean effect ($g = 0.62$) on measures of accuracy. Although accuracy feedback was found to have a moderate to large effect on accuracy measures, there was also moderate to large amount of variance ($I^2 = 64.55$; see Table A3) associated with this model.

Direct and Indirect Feedback

One moderator that was found to be more effective in accuracy feedback was type of feedback (i.e., either direct or indirect). Using the ELL population, multiple meta-analyses (Biber et al., 2011; Fields et al., 2017; Kao & Wible, 2014) have concluded that direct feedback was more effective than indirect feedback for ELL learners (see Table A3). It is important to note that a singular primary researcher, using similar methods made up a majority of this body of research (Bitchener, 2008; Bitchener & Knoch, 2008, 2009a, 2009b, 2010; Bitchener et al., 2005).

Kepner (1991) believed indirect feedback should make more difference in the long-term retention of students. Limited research was found showing positive effects for indirect feedback. Future research needs to be completed with this population in order to see if indirect feedback is more effective than a focused direct feedback approach.

A viable concern in the application of accuracy feedback is the amount of time which teachers must spend in correcting student texts. Truscott (1996) and Ferris (1999) both acknowledged the provision and application of corrective feedback was time consuming for teachers and students alike. Rather than using targeted direct feedback, another possible solution to this issue is to provide indirect feedback.

Hartshorn et al. (2010) used indirect feedback in combination with a dynamic corrective feedback approach. The dynamic approach focuses on three core areas of feedback: meaning, timeliness, and manageability. Students are provided indirect feedback using codes each class period, however, the writing pieces are limited in length to be manageable for teachers to provide timely feedback. The researchers found that using this approach the treatment group improved significantly more than the control group. They further stated that in order for students to acquire and retain accuracy in writing, students must both practice skills in an authentic setting and be provided explicit instruction based on the student's specific needs.

Limited research has been completed comparing both direct and indirect feedback in the field of accuracy correction. Using revisions with indirect feedback, Fathman and Whalley (1990) found that indirect feedback positively improved writing on both grammar and content measures. Mubarak (2013) researched the difference between direct and indirect feedback on both accuracy and quality measures. Although student

quality did improve, no difference was found between the types of feedback which were received.

Feedback to Improve Overall Writing Quality

Feedback can be used to provide students with the tools to write to the deeper level of meaning or improve overall quality (Fathman & Whalley, 1990). Quality is measured in the literature using both holistic and analytic measures. An adaptation of the *ESL Composition Profile* (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981) has been used as the basis of several ESL quasi-experimental studies using holistic measures (Ashwell, 2000; Birjandi & Tamjid, 2012; Fathman & Whalley, 1990; Purnawarman, 2011). It is most often operationalized as content, total, and total quality when using analytic measures.

Feedback has been shown to be effective for improving the overall quality of ELL writing in older students (Fields et al., 2017). However, there is an additional recommendation in the literature that a combination of quality and accuracy feedback may also be effective in improving the content of student text (Biber et al., 2011). Fathman and Whalley (1990) found improvement in quality scores in all conditions when using accuracy, quality, and combined accuracy and quality feedback conditions with university ELL students. Conversely, only students who received accuracy feedback showed improvement in accuracy (i.e., grammar) scores.

Effectiveness of Quality Feedback

A recent meta-analysis also looked at the effectiveness of quality feedback in ELL university students (Fields et al., 2017; see Table A2). Using quality outcome measures, the overall impact of feedback on writing effect sizes ($n = 7$) ranged from 0.15 to 1.35 for

an overall random weighted mean effect size ($g = 0.75$). In order to determine if quality was influenced by method of assignment, prewriting, type of drafting, type of feedback (i.e., direct or indirect), modeling, type of control, and training of scorers on quality measures, a meta-regression was calculated. Although a large amount of variance was found ($I^2 = 84.18$; see Table A3), no variables were identified which significantly predicted any variance in the model.

Study Purpose Based on Literature

Across the writing literature, both SRSD and feedback, there is an overwhelming lack of research for ELL high school students. SRSD has been studied with a number of struggling high school students (e.g., LD, E/BD, ADHD) but only two studies have been published thus far for ELL students (Bakry & Alsamadani, 2015; De La Paz & Sherman, 2013); neither of which included high school students in the population. Similarly, the meta-analysis, Fields et al. (2017), revealed that only university studies have been completed on feedback for ELL students. Additionally, previous meta-analyses (Biber et al., 2011; Fields et al., 2017; Kao & Wible, 2014) have concluded that direct feedback is effective for ELL students. Therefore, this sought to identify if SRSD, which has been shown to be effective with other struggling writers, combined with direct feedback and focused vocabulary instruction was an effective strategy for high school ELL writers.

CHAPTER III

METHODOLOGY

Research Design

To examine the effects of an adapted SRSD method on accuracy and quality outcomes an experimental, randomized control design was used. Data were collected using a pretest, post-test, control-group design. This design was chosen as the most sensitive to controlling for internal validity and most likely to attribute effects to the intervention (Gall, Gall, & Borg, 2007).

Two conditions (i.e., one experimental and one control) were used to address the following research questions, 1) Is there a difference in the writing quality for ELL adolescents who receive the adapted SRSD method 2) Is there a difference in writing accuracy for ELL adolescents who receive the adapted SRSD method as an instructional intervention than those who receive business as usual methods?

The intervention took place in a small group setting with trained researchers leading the instruction. The teachers received training prior to the intervention. The training was provided by online SRSD researchers and the primary researcher. Instruction took place 4 times per week for three weeks, for 40 minutes, during homeroom time. All lessons were recorded and closely monitored for fidelity using checklists (see Appendix E).

Participants

This study took place in a suburban high school in the mid-South. This school had approximately 1,800 students enrolled. As of 2015, over 40% of the school was

made up of minority students; Hispanic and African American combined. There were more females than males in this high school, which serves grades 9-12.

The participants ($N = 49$) in this study were students who were currently classified as English Learners (ELs) as defined by the Tennessee Department of Education (Tennessee Department of Education, Consolidated Planning and Monitoring, 2017). This classification is determined by scores on the WIDA-ACCESS placement test. Students must score higher than a 5.0 out of 6.0 on both the overall composite and literacy portions of the test in order to be reclassified as Transition 1 status. If students score below 3.6, they qualify for a full hour of services, five days a week.

In order to be considered for this study, teachers were asked to nominate EL students who were struggling with writing proficiency in the classroom. Additionally, students whose composite overall writing proficiency score on the WIDA-ACCESS fell between a 3.0 and 5.0 were asked to participate in this study as they were the most likely to benefit from the treatment. No further exclusions applied. Consent forms for parents and students were given to the students by the researcher. Only students who brought both consent forms indicating that they consented and had permission from their parents were eligible for participation in the study.

Students completed a confidential survey prior to the study in order to provide qualitative information such as native language and length of time in the U.S. school system. Additional survey questions regarding demographic data (i.e., gender, ethnicity, socio-economic status, language, years in US, years in school) were also including in the survey in order to describe the characteristics of the sample used in this study. This information was used to provide a descriptive summary of the sample (see Table 4).

Procedures

Following pretesting, students were individually randomly assigned. Students were assigned to one of two types of treatment groups; adapted Self-Regulated Strategy Development or a business as usual control group using process writing. Students were posttested following the completion of the intervention. Two trained researchers instructed the experimental groups. The training was provided through an online training course and was funded by the researchers at SRSD. The findings will be reported to them to add to their body of research.

SRSD is an explicit writing strategy that blends reading, model texts, self-efficacy, and goal setting in order for students to become better writers. The SRSD lessons were modified to add direct feedback and vocabulary for ELL students. The strategy was taught across five stages; Activate and develop background knowledge, Discuss it, Model it, Memorize it, and Support it (see Appendix B). Teachers used text, self-talk, and mnemonics at each stage to individually plan lessons according to student need. During SRSD instruction, students completed journal essays and in-class writing prompts.

Students were additionally provided direct feedback on accuracy errors using a rubric which has been adapted for this study (see Appendix D; Ferris & Roberts, 2001). This feedback was provided to students individually and in mini-lessons, as time allowed. Since a comprehensive list of high frequency vocabulary words could not be taught in the limited time provided, a focused corpus of terms which pertained to the argument genre were taught in each lesson (i.e., argument, persuade, evidence, counter reason).

High school students are expected to proficiently write argumentative texts, which includes reasons and counterarguments including explanations for all ideas. Based on the literature review, the mnemonic POW + TR (CR) EE was used for this study, as the STOP+AIMS+DARE mnemonic may be too advanced for the limited vocabulary of ELL students. The POW+TR (CR) EE mnemonic was adapted for argumentative text and used with permission by an ELL researcher (see Appendix C; Cuenca-Carlino, Jozwik, Krissinger, & Gozur, 2018).

Measures

Wechsler Abbreviated Scale of Intelligence (WASI-II). The WASI was used to provide descriptive information regarding the sample. WASI-II is a measure of intelligence and cognitive ability that was given prior to the intervention. The WASI-II has retest reliabilities that range from .87 to .96. Concurrent validity has been established on measures of intelligence using the WASI-II, WISC-IV, WASI-IV, and KBIT-2 (Maccow, 2011). In addition, concurrent validity has been established on measures of achievement Wechsler Fundamentals Academic Skills subtest (Maccow, 2011). This test is not normed with ELL students; therefore, internal consistency was calculated using Cronbach's alpha. The WASI-II when analyzed with ELL high school students had a high reliability, $\alpha = .84$.

Test of Word Reading Efficiency, Second Edition (TOWRE-2). The TOWRE-2 was also used to provide descriptive information regarding the sample. TOWRE-2 was used to provide a standardized, brief, individual vocabulary measure (Torgesen, Wagner, & Rashotte, 1999). The first subtest, Sight Word Efficiency, was used to assess the ability of students to identify printed words. This test is norm-referenced and has

reported reliabilities ranging from .85-.90. This test is not normed with ELL students; therefore, internal consistency was calculated using Cronbach's alpha. The TOWRE when analyzed with ELL high school students had a high reliability, $\alpha = .91$.

WIDA-ACCESS (W-APT). The WIDA-ACCESS placement test (W-APT) is a screener used specifically for ELL students to determine placement status. All students who have a native language other than English, or whose native language in the home is not English, take this screener. This test covers four domains; speaking, listening, reading, and writing. The overall composite scores from 2016 have been provided by the state (at no cost). These scores were used to provide descriptive information regarding the sample the English proficiency of the sample. Reliability was high for this test, reported for ELL students in grades 9-12 at .94 (MacGregor, Louguit, Ryu, Li, Kenyon, 2008).

Peabody Picture Vocabulary Test, Fourth Edition (PPVT-IV). Vocabulary in English has been suggested as a factor which may influence the overall literacy of ELL students. The PPVT-IV is a standardized measure which provides a measure of receptive vocabulary for individuals 2-90 (Dunn & Dunn, 2007). The PPVT-IV has been norm-referenced and is individually administered. Split-half reliabilities for age groups have been reported as ranging from .89-.97 (Dunn & Dunn, 2007). This test is not normed on ELL students; therefore, internal consistency was calculated using Cronbach's alpha. The PPVT-IV when analyzed with ELL high school students had a high reliability, $\alpha = .97$.

Test of Written Language-Fourth Edition (TOWL-4). Test of Written Language is a comprehensive, diagnostic test of written expression (Hammill & Larsen,

1996). The story composition subtest was used in this research. This subtest presents a model story verbally to the students. Next, students are shown a picture and asked to write a new story about this picture. Students are provided five minutes to plan a story, then are given 15 minutes to write the completed story. TOWL-4 is a norm-referenced test for students ages 7 to 17 years and 11 months and has reported reliabilities ranging between .82-.96. This test was not normed on ELL students, however, internal consistency could not be calculated using Cronbach's alpha as this measure is a writing measure and did not provide individual answers to calculate Cronbach's alpha. However, reliability of scoring was calculated for overall quality and accuracy using interrater reliability. The TOWL-4 was used to provide a standardized measure of writing quality and accuracy.

Writing sample. A researcher created argumentative writing sample was used as a near transfer measure to assess the overall improvement of student writing using the adapted SRSD method. The adapted SRSD treatment taught students how to incorporate self-regulation strategies into writing using the argumentative genre (Harris & Graham, 1999). Although the since the TOWL-4 was a standardized measure that has known reliability and validity, some researchers suggest that it is necessary to include multiple assessments across genres with more than one rater in order to produce valid and reliable results (Bouwer, Beguin, Sanders, & van den Bergh, 2015).

Methods for scoring accuracy. All measures (i.e., TOWL-4, Argument Writing Sample, Informative Writing Sample) were scored for accuracy using the standardized rubric required by the TOWL-4. Students in the treatment group had opportunities during the course of the intervention to free-write in their journals and complete in-class

writing prompts. They received direct feedback at the accuracy level using an adapted rubric (see Appendix D; Ferris & Roberts, 2001). The criteria on this rubric included punctuation, capitalization, sentence structure, spelling, and sentence composition and provided a range of scores from 1 – 21.

Methods for scoring quality. Quality measures utilized two rubrics for scoring. The standardized rubric required by the TOWL-4 was used to score this measure. This rubric included strength of story, beginning and ending, organization, ability to write to the prompt, vocabulary usage, specific vocabulary usage, plot, character emotion, story action, overall content, and writing style. This rubric provided a range of scores from 1 – 11. The researcher created writing prompts (i.e., argument, informative) rubrics used an adapted form of the TOWL-4 scoring rubric and the ESL Composition Profile (Jacobs et al., 1981). The indicators on this profile included essay beginning and ending, organization, ability to write to the prompt, vocabulary usage, overall content, and writing style. This rubric provided a range of scores from 1 – 7. Interrater reliability was calculated for scoring on all measures.

Analysis Plan

As noted, there are a number of factors which may influence the overall literacy of adolescent English language learners (i.e., background knowledge, vocabulary, native language, home environment, and culture; Short & Fitzsimmons, 2007). Therefore, tests of cognitive ability (WASI matrix reasoning; Wechsler, 2011), receptive vocabulary (PPVT-IV; Dunn & Dunn, 2007), and reading ability (TOWRE-2; Torgesen et al., 1999) were administered and used to ensure the equivalency between groups. In addition, data about the students' English proficiency (W-APT; MacGregor, et al., 2008) and

demographic data (i.e., gender, ethnicity, socio-economic status, language, years in US, years in school) were gathered in order to describe the characteristics of the sample used in this study and to establish that randomization was successful in creating equivalent groups at pretest.

The data were analyzed using ANCOVA in order to test the effects of adapted SRSD on writing quality and accuracy for ELL students compared to ELL students in the business as usual control group. Levene's test was used to check for homogeneity of variances between groups. Hedges g was calculated to examine the effects of SRSD to correct for the small sample size (Hedges, 1981).

In order to address questions number one and two regarding differences in quality and accuracy, students receiving adapted SRSD were compared to the business as usual control group on both outcomes. This comparison was examined using an ANCOVA in order to test the effects of adapted SRSD on quality measures at posttest (i.e., TOWL-4, measures of quality outcomes for argument writing, measures of quality outcomes for informative writing) and on accuracy measures at posttest (i.e., TOWL-4, measures of accuracy outcomes for argument writing, measures of accuracy outcomes for informative writing) For both analyses, pretest measures of the related outcome variables were entered as covariates.

CHAPTER IV

RESULTS

This experimental, randomized control study investigated the effects of an adapted SRSD method on accuracy and quality outcomes. This pretest, posttest, control-group design addressed three main research questions. The questions were: (1) Is there a difference in the writing quality for ELL adolescents who receive the adapted SRSD method as an instructional intervention than those who receive business as usual methods? and (2) Is there a difference in writing accuracy for ELL adolescents who receive the adapted SRSD method as an instructional intervention than those who receive business as usual methods?.

Descriptive Data and Pretest Differences

The demographic and descriptive data are provided in Table 4. Independent samples *t*-tests were conducted to test for pretest differences among conditions on age, and proficiency levels (see Table 4). Additionally, differences in gender were analyzed using Chi-square test. There was not a significant difference at pretest for age ($t(47) = 1.47, p = .15$) or English proficiency using the WIDA-APT composite scores ($t(43) = -.64, p = .53$). Finally, there was not a statistically significant difference for gender at pretest $\chi^2(1, N = 49) = .023, p = .88$.

To ensure groups were equivalent, an independent samples *t*-test was conducted to test for pretest differences between conditions on academic and cognitive related factors. There were no significant difference at pretest on any standardized measures

including the TOWRE ($t(47) = .02, p = .98$), the PPVT-IV ($t(47) = .03, p = .97$), the WASI ($t(47) = .46, p = .65$), nor on the standardized TOWL-4 for accuracy ($t(41) = -0.76, p = .45$) or quality ($t(41) = -0.18, p = .86$). On researcher created argument writing measures, there was not a significant difference at pretest for accuracy ($t(47) = .24, p = .73$) or quality ($t(47) = .77, p = .26$). For the informative writing measures, there was not a significant difference at pretest for accuracy ($t(47) = .88, p = .98$) or quality ($t(47) = -1.81, p = .08$).

Table 4

Participant Characteristics by Condition

Characteristic	<u>Treatment</u>		<u>Control</u>	
	<i>n</i>	%	<i>n</i>	%
<u>Age</u>				
15	0	0%	1	4%
16	9	36%	4	17%
17	7	28%	4	17%
18	6	24%	8	33%
19	1	4%	5	21%
20	2	8%	2	8%
<u>Gender</u>				
Male	13	52%	13	54%
Female	12	48%	11	46%
<u>Grade</u>				
Freshman	6	24%	3	13%
Sophomore	8	32%	9	38%
Junior	5	20%	5	21%
Senior	6	24%	7	29%
<u>Primary Language</u>				
Arabic	5	20%	5	21%
Burmese	0	0%	1	4%
S'gaw Karen	5	20%	3	13%
Persian	1	4%	0	0%
Spanish	14	56%	15	63%
<u>Years Enrolled in US schools</u>				
1-2	12	48%	13	54%
3-4	9	36%	5	21%
5+	4	16%	6	25%
<u>Time Enrolled in ELL services</u>				
0-1	10	40%	12	50%
2-3	10	40%	7	29%
4+	5	20%	5	21%

Data Analysis Results

Data was collected on four standardized pretest measures (i.e., WASI-II, TOWRE-2, W-APT, PPVT-IV) to ensure equivalency between groups as there is a large variability reported in this population of students. In addition, students pretested and posttested on three writing measures (i.e., TOWL-4, measure of argument writing, and measure of informative writing). Table 5 presents the means and standard deviations of each of the writing measures at both pretest and posttest. This data is presented separately for the treatment and control groups. The measure of argument writing was analyzed as a near transfer measure, while the TOWL-4 and measure of informative writing were analyzed as measures of far transfer writing. Across analyses, the alpha level was set at .05. In order to control for multiple comparisons, the Benjamini-Hochberg (Benjamini & Hochberg, 1995) method was employed.

Table 5
Means and standard deviations by condition

Variable	Treatment group						Comparison group					
	n	Pretest		n	Posttest		n	Pretest		n	Posttest	
		M	SD		M	SD		M	SD		M	SD
TOWRE	25	54.44	7.79	–	–	–	24	54.50	10.00	–	–	–
PPVT	25	102.92	34.69	–	–	–	24	103.25	34.05	–	–	–
WASI	25	12.84	4.53	–	–	–	24	13.42	4.16	–	–	–
W-APT	23	2.47	0.65	–	–	–	22	2.36	0.55	–	–	–
TOWL-4 Quality	22	7.95	3.70	22	9.27	4.12	21	7.76	3.16	20	7.30	3.01
TOWL-4 Accuracy	22	10.14	4.73	22	8.27	3.57	21	9.14	3.73	20	8.50	3.00
Argument Quality	25	3.96	2.52	25	6.40	2.71	24	4.46	1.98	23	4.91	1.56
Argument Accuracy	25	10.28	4.31	25	9.76	3.64	24	10.58	4.55	23	8.83	2.29
Informative Quality	25	4.80	2.53	25	6.92	2.22	24	3.63	1.95	23	4.96	2.03
Informative Accuracy	25	9.40	3.39	25	9.32	3.46	24	10.25	3.38	23	10.35	2.72

Note. TOWL-4 Quality = Test of Written Language-Fourth Edition scored for quality. TOWL-4 Accuracy = Test of Written Language-Fourth Edition scored for accuracy. Argument Quality = Researcher created argumentative writing sample scored for quality. Argument Accuracy = Researcher created argumentative writing sample scored for accuracy. Informative Quality = Researcher created informative writing sample scored for quality. Informative Accuracy = Researcher created informative writing sample scored for accuracy.

Test of Written Language-Fourth Edition (TOWL-4). The TOWL-4 was used to answer both research questions. Levene's Test of Equality revealed that the

assumptions of homogeneity were met. Results for the one-way ANOVA revealed a significant effect of adapted SRSD on narrative quality writing after controlling for the pretest quality scores on the same measure, $F(1, 39) = 5.94, p = .019, g = 0.56$. Effect sizes were calculated using Hedges g to correct for a small sample size bias (Hedges, 1981). In relation to accuracy, results for the one-way ANOVA did not reveal a significant effect of adapted SRSD on narrative accuracy writing after controlling for the pretest accuracy scores on the same measure, $F(1, 39) = .781, p = .382, g = -0.21$.

Argumentative writing sample. The argumentative writing sample was used to answer both research questions. Levene's Test of Equality revealed that the assumptions of homogeneity were met. Results for the one-way ANOVA revealed a significant effect of adapted SRSD on argumentative quality writing after controlling for the pretest quality scores on the same measure, $F(1, 45) = 9.62, p = .00, g = 0.85$. In relation to accuracy, results for the one-way ANOVA did not reveal a significant effect of adapted SRSD on argumentative accuracy writing after controlling for the pretest accuracy scores on the same measure, $F(1,45) = 1.83, p = .18, g = 0.35$.

Informative Writing Sample. The Informative Writing Sample was used to answer both research questions. Levene's Test of Equality revealed that the assumptions of homogeneity were met. Results for the one-way ANOVA revealed a significant effect of adapted SRSD on informative quality writing after controlling for the pretest quality scores on the same measure, $F(1, 45) = 6.63, p = .013, g = 0.61$. In relation to accuracy, results for the one-way ANOVA did not reveal a significant effect of adapted SRSD on informative accuracy writing after controlling for the pretest accuracy scores on the same measure, $F(1,45) = .61, p = .44, g = -0.19$. It should be noted that the negative value for

Hedge's *g* indicates that the business as usual condition outperformed the treatment condition on posttest accuracy as measured by the Informative Writing Sample.

Fidelity Checks

One issue that has been noted in previous writing studies (Bitchener, 2008; Truscott, 1996) is the lack of fidelity checks. In this study, it was decided to check for fidelity in multiple ways. First, fidelity of instruction was checked. A trained graduate student listened to 25 percent of the recorded lessons. Using a pre-determined checklist, the graduate student calculated the reliability of the lessons between the two instructors. A measure of interrater reliability of instruction was scored as a percentage of agreement. Reliability was calculated as 100% between instructors.

As an additional check of interrater reliability, a trained graduate student calculated reliability of the pretest measures. This student listened to 25 percent of the recordings and scored each measure. These scores were then compared to the originals and a measure of interrater reliability was calculated. A percentage of agreement of 95 % was reached on the TOWRE. Since the PPVT-IV and the WASI required the students to silently point to the pictures, a trained graduate student listened to a 25 percent of the recordings, ensuring that the standardized instructions were followed. Reliability was calculated as 100 % on both pretest measures.

Finally, similar to other writing studies, the interrater reliabilities were evaluated on the scoring of each outcome measure (TOWL-4, Argument Writing Sample, Informative Writing Sample). Each test was double-blind scored by two trained graduate students. The tests were scored in groups of five until a score of 80% interrater could be reached. The quality rubric was clarified in order to ensure all scorers were clear on the

rubric. For example, one item (essay sequence) was removed as it was considered to be repetitive with the item essay organization. After all items and rubrics were clarified 25 % of each measure were scored. All disagreements were discussed and resolved. If any item could not be resolved a third trained scorer was consulted and the item was scored based on a consensus reached by all parties. Interrater reliability for scoring was calculated as percent agreement. Interrater reliability for quality scoring prior to resolving disagreements was 80 %, for accuracy scoring was 84 %. After all scores were resolved, interrater for all scores was 100 %.

CHAPTER V

DISCUSSION

This study was conducted to investigate the effectiveness of adapted SRSD method as compared to business as usual method on quality and accuracy measures among ELL adolescents. Although research in this field is limited, research suggests that ELL students may benefit from some of the instructional strategies included in the SRSD approach. This study utilized the adapted SRSD approach which included the instructional strategies that have been shown to be effective in SRSD (i.e., explicit instruction, goal-setting, and modeling) and combined the strategy with two teaching strategies which may be effective with ELL students (i.e., direct feedback, focused vocabulary instruction). Although only eight hours of instructional time was provided for strategy instruction, students were able to improve the overall quality of their writing.

Overall Effectiveness of Adapted SRSD

When contextualizing this intervention within the body of SRSD literature, there are many distinctions to be made (see Tables F1 and F2). The current study is one of the few studies to consider the effects of SRSD on ELL students. The majority studies on SRSD have been conducted with high school struggling writers (i.e., E/BD, LD, ADHD) rather than ELL high school students. The current study was also different in that it used a pre-post control group design to test the effectiveness of SRSD. Most of the other studies in this line of research have been single-subject designs using a multiple baseline across participants approach. Fidelity of implementation has been noted as a repeated issue in writing literature (Bitchener, 2008; Truscott, 1996). The majority of the studies

on feedback did not include information on the fidelity of treatment. In this study, fidelity was closely monitored to ensure proper implementation of the treatment.

This study was also unique in that it adapted SRSD to include a heavy emphasis on vocabulary and it include more opportunities for the students to receive direct feedback than in previous studies. An additional distinction of this study was the utilization of the POW + TR (CR) EE. The majority of the previous mnemonics either did not apply to the argumentative genre or were deemed too difficult for this population of students by ELL experts that were consulted (Cuenca-Carlino et al., 2018). The present study adapted the POW + TREE mnemonic to include counter-reasons (CR) as this is a high school requirement for the argument genre.

Effectiveness of adapted SRSD on writing quality. The first goal of this study was to investigate the effectiveness of adapted SRSD on writing when using quality measures. Research has suggested some instructional strategies which may benefit struggling writers in improving overall writing quality (i.e., explicit instruction, goal-setting, and modeling). Sherman and De La Paz (2015) have suggested that explicit, direct instructions may be beneficial as these students are facing the challenge of learning to write in a secondary language. In addition, goal-setting has been suggested as beneficial. Setting goals may create a positive environment in which the students work. There may be an additional benefit of boosting oral language skills as students use self-talk as they create these goals. Finally, modeling may be beneficial to ELL students not only in improving writing quality, but in improving overall vocabulary and oral language development (August & Shanahan, 2006).

Although no research had been completed with high school ELL students, this present study included all of these strategies in order to improve overall writing quality in ELL adolescent learners. Findings revealed the students in the treatment group significantly improved over the business as usual group on all measures of quality writing. Throughout the intervention, the students were specifically instructed on the argument genre, therefore it was particularly interesting that the students were able to transfer this method to both informative and narrative writing. The improvement in narrative writing quality was of particular interest as the prompt that was provided was only an image and did not include any supporting vocabulary. For quality measures, the overall impact of the adapted SRSD method for these students was moderate to large.

Effectiveness of adapted SRSD on writing accuracy. The second goal was to investigate the effectiveness of adapted SRSD on writing when using accuracy measures. Graham, Harris, and Hebert (2011) discuss the concern of “presentation effects” when scoring. This means, writing is perceived (or presented) by a reader poorly if a student suffers at the accuracy level. This creates a need for accuracy level writing instruction in addition to overall quality writing instruction. Research on accuracy level feedback, however, has yet to come to a consensus on the best way to deliver this type of instruction. Some researchers have found that direct feedback is beneficial (Biber et al., 2011; Fields et al., 2017; Kao & Wible, 2014) while on other researchers have stated that providing accuracy level feedback is “ineffective or harmful” (Truscott, 1996, p. 328).

In this study, students were provided with direct feedback on their journal writing and in-class prompts using pre-determined criteria. These criteria were reflective of the final rubric that was used for accuracy scoring (i.e., spelling, sentence structure,

capitalization, punctuation). Errors were addressed both individually and as a whole group with students. For accuracy measures, the overall impact of the adapted SRSD method on ELL adolescents who received the intervention than those who received the business as usual method ranged from negative (meaning the control outperformed treatment) to small effects on accuracy outcomes. The lack of a substantial effect in this area suggests that this version was not very effective at improving accuracy and that future adaptations may want to be added to the intervention to address this aspect of writing.

In this present study, accuracy scores were higher at pretest on all measures with one exception (see Table 5). Although both groups decreased their performance on the posttest prompt for accuracy, the consistent and non-negligible negative effect for the intervention group indicates that the intervention may negatively impact students' writing accuracy. One possible explanation for this occurrence is that students may have shifted their attention to the quality of their writing rather than the grammatical features, which were not directly taught. Many researchers disagree on the most effective focal point of instruction (e.g., content, grammar). VanPatten (1990) found that students in the early stages of acquiring a new language had difficulty in focusing on both the accuracy level and overall content of a passage. However, other researchers found that using a more balanced approach (e.g., focus on grammar and meaning in context) was beneficial to these students (Saeidi, Zaferanieh, & Shatery, 2012). Future research will need to be completed using the adapted SRSD method including direct grammar instruction in order to find a more effective strategy for these students.

Length of Intervention

Adolescent ELL students are faced with a two-fold dilemma when it comes to instructional time. It is a time-consuming process to reach proficiency in literacy skills, however, there is a limited amount of instructional time prior to exiting the school system. Basic skills can be mastered easily for these students, but the more complicated literacy processes may take much longer (Cummins, 1979, 1981). For many of these students, since writing is the most difficult literacy skill to learn, they simply run out of time before they are able to become proficient. Therefore, it is of utmost importance for researchers to create a strategy that will enable these students to learn how to write in a short amount of time.

Previous studies have been completed using various amounts of time. However, the majority of these studies used a multiple baseline across participants design, so it is difficult to discern how much time was spent with each student. Research was reviewed in two ways, SRSD with struggling high school writers and SRSD with ELL students. On average, studies that used SRSD with struggling high school writers reported spending 12 hours on the intervention (see Table F1). Studies using SRSD with ELL Learners reported spending 14 hours on average (see Table F2). The current study was the first to combine high school and ELL students as participants. In addition, the length of the intervention was shortened to eight hours of treatment. The positive findings for writing quality within this condensed time frame is encouraging as ELL students often have a limited time frame to acquire the complex skill of writing once they enter the school system.

Limitations

Lack of Standardized Measures

A second limitation to this study is the lack of standardized measures available for this population. Two studies were found in the review of the literature (De La Paz & Sherman, 2013; Scott, 2009) which used standardized measures with struggling adolescent writers. Similar to De La Paz and Sherman (2013) this study used the TOWL as a standardized measure. However, De La Paz and Sherman (2013) used it as a screener rather than a pretest/posttest measure as was used in the present study.

A second concern for the lack of standardized measures is the abundance of researcher created measures that are used in writing research. This may create an issue of bias in effects. Studies using researcher created measures may inflate the effect size as these measures are more likely to assess what is being taught in the intervention, which prevents generalization.

Implementation

As noted, SRSD was adapted for this study. Although this research was found to be effective, there were several aspects of the implementation that were limitations of the study. The students noted that prompts needed to be more difficult in order to more closely relate to their classwork. In addition, students were unable to use all of the prepared materials. Though SRSD materials were used as a basis for the intervention and many experts had been consulted, the variability in the SAMPLE still made it difficult to adequately prepare.

A second limitation that was noted was the inability for students to relate the prompts to other coursework. Several students stayed after class to meet with the

researchers to get assistance with their writing classwork. The students stated that the level of vocabulary in their non-ELL courses was much more difficult than the prompts we provided. Though the prompts had been discussed and approved by their ELL teachers, the students suggested that future prompts mimic their classwork.

Conclusion

Two main questions were posed in this study, one regarding the improvement of student quality and one regarding the improvement of student accuracy. For educators, the overall quality of student writing is essential. Rubrics are designed to measure content, organization, vocabulary usage, and writing style. However, if students cannot spell, capitalize, and use punctuation correctly, it creates bias with the scorer. For those students who are writing essays for the purpose of college entrance exams or job applications, quality and accuracy go hand in hand. The ability to improve student quality in a short period of time for high school ELL students is positive. However, more research will have to be done on how accuracy can also be improved at the same time. These students need both the ability to write at the quality level and to write with accuracy in order to be successful in the classroom and post-graduation.

Vocabulary will also need to continue to be studied with this population of students. One area that was discussed at length during the course of this study was measurement, both expressive and receptive. The variety of ELL students creates an endless continuum in which to study this area alone. In addition, intervention studies need to be continued with the goal of producing instructional materials for educators.

Future Studies

This is the first study with this population of students using SRSD to improve writing quality. For researchers, this is of great interest, as the initial outcomes were favorable. There is much research left to be completed in this area in order for us to identify specifically what elements are beneficial for which population of these students.

Educators and researchers alike have been seeking effective strategies to instruct ELL high school students with the objective of increasing writing proficiency. This study utilized the strategies of explicit instruction, goal-setting, and modeling combined with directed feedback and focused vocabulary to construct adapted SRSD strategy. It was effective in increasing writing quality for adolescent writers in a short period of time and may therefore be a stepping stone for future research in this area. Research will need to continue in order to find the most effective instructional model to benefit these students. One adaptation which may need to be made to the existing strategy of adapted SRSD is to use informational models and prompts so that the genre that is being taught reflects what the students are learning in the content area classrooms.

Previous literature revealed that direct feedback may be more effective than indirect feedback (Biber, Nekrasova, & Horn, 2011; Fields et al., 2017; Kao & Wible, 2014). However, the majority of this research is based on university ELL students and is debated in the literature. Although accuracy was not a primary focus of instruction, this study did measure the effectiveness of direct feedback based on the premise of this research. Although not statistically significant, students in the treatment group performed consistently worse than the business as usual control group on all accuracy measures. Future studies will need to consider whether adding direct instruction for

accuracy may be beneficial for students. Studies may also want to consider if indirect feedback for accuracy errors would be more effective for ELL students as some of the literature suggests for university level ELL students (Kepner, 1991). One future study may be to contrast the effects of direct and indirect feedback with ELL high school students in order improve accuracy scores.

Finally, one limitation that was noted in this study was the variability of the study sample. As future research continues in this area, studies will need to address the specific needs of this student population. Considerations may need to be made for factors such as the amount of time students have been in the United States, primary language, socioeconomic status, and parental education level and how this affects instruction. In addition, due to the amount of primary languages that students bring to the classroom, research will need to be completed on the generalization of these instructional strategies to these students.

ELL research is a growing field. The students and educators who benefit from this research are seeking assistance for effective strategies in the classroom. Researchers will continue to pursue the goal for ELL students to become successful not only in the classroom but to ensure their ongoing success.

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APPENDIX A: Tables

Table A1

Accuracy Intervention and Methodology Characteristics by Study

	Overall effect size	Treatment <i>N</i>	Control <i>N</i>	Control group strength	Treatment hours	Method of assignment	Scorers trained	Direct feedback	Indirect feedback	Revision of draft	New writing produced	Modeling
Bitchener, J. (2008)	1.48	17	20	NTC		QSI	+	+			+	+
Bitchener, J., & Knoch, U. (2008)	1.18	34	39	NTC		RDM	+	+			+	+
Bitchener, J., & Knoch, U. (2009a)	0.84	13	13	LT		RDM	+	+			+	+
Bitchener, J., & Knoch, U. (2009b)	1.32	13	13	NTC		RDM	+	+			+	+
Bitchener, J., & Knoch, U. (2010)	1.14	12	12	NTC		QSI	+	+			+	
Bitchener, J., Young, S., & Cameron, D. (2005)	0.22	19	17	NTC		RDM		+			+	
Chandler, J. (2003)	0.50	15	16	LT	24	QSI		+		+		
Ellis, R., Sheen, Y., Murakami, M., & Takashima, H. (2008)	0.41	11	11	NTC	9	QSI		+			+	
Ferris, D., & Roberts, B. (2001)	0.64	28	14	NTC	1.83	QSI		+		+		
Hartshorn, K.J., Evans, N.W., Merrill, P.F., Sudweeks, R.R., Strong-Krause, D., & Anderson, N. J. (2010)	0.61	28	19	LT	17.3	QSI	+		+	+		
Jhowry, K. (2010)	-0.34	10	10	NTC	17.5	QSI			+		+	
Polio, C., Fleck, C., & Leder, N. (1998)	-0.13	34	31	NTC		RDM		+		+		
Sheen, Y., Wright, D., Moldawa, A. (2009)	0.85	22	19	NTC	12	QSI		+			+	
Truscott, J., & Hsu, A. Y. (2008)	0.00	21	26	NTC	54	RDM			+	+		

Note. LT=Limited Treatment; NTC=No Treatment Control; QSI=Quasi-experiment; RDM=Random assignment; *Information was not reported. **Two studies included multiple intervention strategies.

Table A2

Quality Intervention and Methodology Characteristics by Study

	Overall effect size	Treatment <i>N</i>	Control <i>N</i>	Control group strength	Treatment hours	Method of assignment	Scorers trained	Direct feedback	Indirect feedback	Revision of draft	New writing produced	Modeling
Ashwell, T. (2000)	-0.10	12	12	LT	42	QSI	+	+	+	+		+
Berg, C.E. (1999)	1.01	12	12	LT	73.33	QSI		*	*	+		+
Birjandi, P., & Tamjid, N.H. (2012)	0.28	30	30	LT		QSI		+		+		
Mubarak, M. (2013)	0.57	17	13	NTC		RDM		+		+	+	+
Purnawarman, P. (2011)	0.67	30	29	NTC		RDM	+	+	+	+	+	
Salamonson, Y., Koch, J., Weaver, R., Everett, B., & Jackson, D. (2009)	2.62	23	34	LT	1.25	RDM		+		+		
Xiang, W. (2004)	0.3	29	29	LT		QSI		*	*	+		+

Note. LT=Limited Treatment; NTC=No Treatment Control; QSI=Quasi-experiment; RDM=Random assignment; *Information was not reported. **Two studies included multiple intervention strategies.

Table A3

Model for Moderator Outcomes on Feedback

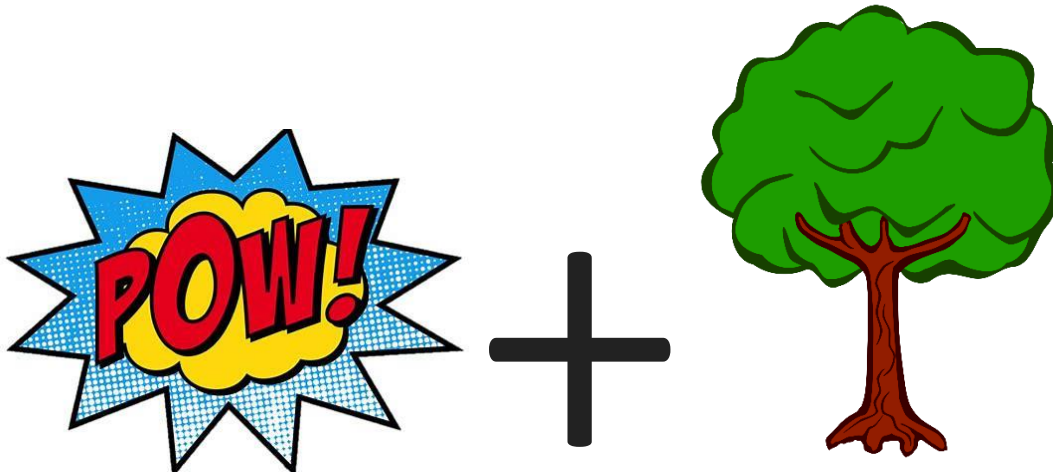
Study	Characteristic	Accuracy (<i>n</i> =14)		Quality (<i>n</i> =7)	
		β	<i>p</i>	β	<i>p</i>
Method	Method of assignment	.14	.64	-.90	.11
	Type of control	-.04	.92	-.19	.80
	Training scorers	.68	.004	.63	.39
Instruction	Type of drafting	.63	.009	-.19	.80
	Type of feedback	.64	.04	.66	.31
	Modeling	.61	.02	-.71	.27

Note. Random effects model

APPENDIX B: Scope and Sequence

Self-Regulated Strategy Development's Stages and Tasks		
Stages	Tasks	Approximate Number of Lessons
<u>Stage 1:</u> Activate and Develop Background Knowledge	<ol style="list-style-type: none"> 1. Build enthusiasm for genre – (hype the genre) 2. Develop background knowledge, pre-skills, vocabulary 3. Read and discuss models 4. Collect Pre-Assessment 5. Provide strategy overview and good writing models 6. Introduce self-regulation (self-talk, goal-setting) 	1 - 2
<u>Stage 2:</u> Discuss It	<ol style="list-style-type: none"> 1. Map models using graphic organizers 2. Review and repair poor models 3. Build collaborative partnership 4. Provide deeper discussion of benefits of strategy use 5. Begin graphing student progress 6. Develop goals and self-talk statements 7. Explore when/where to use strategy (generalization) 	2
<u>Stage 3:</u> Model It	<ol style="list-style-type: none"> 1. Model planning and writing using think-alouds 2. Model collaborative planning and writing activities 3. Model personalization of self-talk statements 4. Model and practice self/peer scoring with rubrics 5. Model and practice graphing routines 6. Model and support goal-setting 	2
<u>Stage 4:</u> Memorize It	<ol style="list-style-type: none"> 1. Ensure strategy is memorized 2. Internalize personalized self-statements 	0
<u>Stage 5:</u> Support It	<ol style="list-style-type: none"> 1. Continue collaborative writing experiences 2. Support students' strategy use, fading support when ready 3. Support self-regulation (self-talk, goal setting, checking off steps in strategies, "notes in corner, etc.), fading support when ready 4. Provide feedback on writing, self-regulation, and scoring guidelines, fading support when ready 	5 - 10
<u>Stage 6:</u> Independent Performance	<ol style="list-style-type: none"> 1. Independent use of strategies and self-regulation 2. Fade overt self-instruction to covert ("in your head") 3. Ensure transfer and buy-in of strategies and self-regulation 	2 - 4

APPENDIX C: Supplementary Materials



P = Pick an idea or Pick apart
the prompt

O = Organize my notes

W = Write

+

T = Topic sentence

R = Reasons

(CR) = Counter Reason

E = Explain

E = Ending

Adapted from Cuenca-Carlino et al., 2018

Words I Would Like to Know

Argument:

Persuade:

Fact:

Evidence:

Text:

Counter Reason:

Brainstorm:

Essential:

Opinion:

Defend: _____

Agree: _____

Disagree: _____

Essay: _____

Details: _____

Specific: _____

Support: _____

Mingle: _____

Violent: _____

Restaurant:

Airplane:

Theater:

Restrict:

Career:

P □ O □ W □ TR (CR) EE

Topic Sentence (Tell what I believe.)

Reasons - 3 or More (Why do I believe this? Will my readers believe this?)

Explain Reasons (Say more about each reason.)

Reason #1: Word(s):	Linking
Explain – Say more about reason #1:	
Reason #2: Word(s):	Linking
Explain – Say more about reason #2:	
Explain – Say more about reason #3:	

Adapted from Graham & Harris, 2017

Linking Words Graphic Organizer

Sample Transition Words	
Basic	
<p>First Second Third Fourth Fifth Another Also Next Finally</p>	<p>To begin After that A different One more One example In addition Firstly My final First of all</p>

Sentence Frame

Name _____ Date _____

Topic Sentence– What do you believe?

I think _____
_____**Reason 1, Why do I believe this? Explain your reasons.**First, _____
_____.For example, _____
_____.**Reason 2, Why do I believe this? Explain your reasons.**Second, _____
_____.I think this because, _____

_____.

Reason 3, Why do I believe this? Explain your reasons.

Finally, _____

_____.

For example, _____

_____.

Counter Reason, Why do I believe this? Explain your reason(s).

A different reason _____

_____.

This may be because, _____

_____.

Ending-Wrap it up right-Repeat your claim using new words

This shows that _____ because _____
_____.

because _____, and because _____
_____.

Self-Statement Example Chart

When	Type of Self-Statement	Examples
Before	Problem Definition: defining the task demands	"What am I supposed to do?" "What should I do first?"
	Focusing of Attention and Planning: attending to task and making plans	"I need to concentrate." "I need to make a plan."
During	Strategy Implementation: engaging with and using a strategy	"I need to write down my POW+TREE reminder."
	Self-Evaluation: error detection and correction	"How am I doing?" "Does this sentence look right?" "Do I have all the parts?"
	Coping and self-control: dealing with difficulties/frustrations	"I know I can do this!" "Hang in there." "Don't worry, I know the steps."
After	Self-Reinforcement: rewarding oneself	"Way to go!" "I like the way this sounds." "I'm getting better at this!" "Hard work pays off!"

Self-Talk Self Planner

Self-Talk Planner for Self-Encouragement	
What Do I Like to Do?	
What Do I Say to Myself in my Mind When I Do Something I Like to Do?	
What Can I Say to Myself to Encourage Myself <i>Before</i> Writing?	
What Can I Say to Myself to Encourage Myself <i>While</i> Writing?	
What Can I Say to Myself to Encourage Myself <i>After</i> Writing?	

Adapted from Adapted from Graham & Harris, 2017

Graphing Essay Rubric for Students

Name:								
	Date							
T	Introduce topic in at least a full sentence							
R	Reasons are clear and support arguments- Gave 3 reasons to support argument							
E	Explained Reasons							
CR	Counter Reason							
E	Ending-Provides a concluding statement or argument Uses linking words or phrases to connect opinion and reasons							
	TOTAL							

Adapted from Adapted from Graham & Harris, 2017

Faded Planner/Graphic Organizer

T _____

- -
- -

R _____

- -
- -
- -

E _____

- -
- -
- -

CR _____

- -
- -

E _____

- -
- -

APPENDIX D: Rubrics

Accuracy Scoring Rubric

1. Sentences begin with a capital letter
0 = 3 or more mistakes
1 = 1-2 mistakes
2 = no mistakes
2. Paragraphs
0 = none, 1
1 = 2
2 = 3-4
3 = 5 or more
3. Uses quotation marks. Must have both opening and closing marks
0 = no
1 = yes
4. Uses comma to set off a direct quotation
0 = no
1 = yes
5. Correctly uses an apostrophe at least once
0 = no
1 = yes
6. Uses a question mark (need not be used correctly)
0 = no
1 = yes
7. Uses an exclamation mark (need not be used correctly)
0 = no
1 = yes
8. Capitalizes proper nouns including those in the story's title
0 = no or uses no proper nouns
1 = sometimes or printed in all capital letters
2 = always clearly indicates upper-case
9. Number of nonduplicated misspelled words
0 = 6 or more
1 = 3-5
2 = 0-2
10. Uses asterisk, ellipse, hyphen, parentheses, brackets (need not be used correctly)
0 = no
1 = yes
11. Fragmentary sentence – Usually a sentence without both a subject and a verb
0 = no
1 = yes
12. Run-on/Rambling sentence
0 = no

- 1 = yes
13. Compound sentences – Two complete sentences connected by a conjunction, colon, or semicolon; both sentences must have a subject and a verb
 0 = none 2 = 2-3
 1 = 1 3 = 4 or more
14. Uses coordination conjunctions other than *and* (*but, or, not, for, yet so*) when forming compound sentences; count each conjunction only once.
 0 = no
 1 = 1-2
 2 = 3 or more
15. Introductory phrases and clauses
 0 = none 2 = 3-5
 1 = 1-2 3 = more than 5
16. Noun-verb disagreements
 0 = more than one error
 1 = 1 error
 2 = perfect, no errors
17. Sentences in paragraph(s)
 0 = 1 paragraph, 1 sentence
 1 = 1 paragraph, 2 or more sentences
 2 = 2 or more paragraphs, 2 or more sentences in at least 1 paragraph
 3 = 2 or more paragraphs, 2 or more sentences in a least 2 paragraphs
18. Sentence composition
 0 = many badly constructed sentences
 1 = mostly simple sentences with some introductory and concluding phrases
 2 = a variety of well-constructed compound and complex sentences
19. Number of correctly spelled words having seven or more letters (count a word only once); an apostrophe counts as a letter
 0 = 0-3 2 = 8-14
 1 = 4-7 3 = 15 or more
20. Number of words with three syllables or more that are spelled correctly (count a word only once)
 0 = 0-2
 1 = 3-4
 2 = 5 or more
21. Uses *a* and *an* appropriately
 0 = uses neither *a* nor *an*
 1 = uses *a* appropriately at least once
 2 = uses *an* appropriately at least once

TOWL-4 Quality Rubric

1. Essay beginning
 - 0=abrupt, weak (begins with “no” or “yes”)
 - 1=serviceable, somewhat interesting (begins with “I agree” or “I disagree” and adds words from the prompt)
 - 2=grabbing, exceptionally engaging
2. Definitely refers to a specific even occurring before or after the picture
 - 0 = no
 - 1 = yes
3. Story sequence
 - 0 = a series of random, disjointed, or rambling statements
 - 1 = has some sequence
 - 2 = moves smoothly and coherently from start to finish
4. Plot (storyline)
 - 0 = uninteresting, dull, flat
 - 1 = interesting, logical, acceptable
 - 2 = intriguing, well-crafted
5. Characters show feelings/emotions
 - 0 = no
 - 1 = some mild or subtle emotion (upset, smiling, excited, happy)
 - 2 = strong emotion evident in at least one character (anger, love terror, ecstasy)
6. Story action or energy level (pace)
 - 0 = plodding, stumbling, none
 - 1 = interesting, sustained
 - 2 = exciting, compelling, exceptional
7. Story ending is
 - 0=abrupt, weak (no ending)
 - 1=logical, definite ending (repeat the topic sentence using other words)
 - 2=clever, inventive
8. Writing style is
 - 0=immature, dull, undistinguished (no explanations, no examples)
 - 1=serviceable, matter-of-fact (gives only facts, subject knowledge)
 - 2=artful, stylish, exceptional
9. Story is
 - 0 = immature; merely describes picture
 - 1 = straightforward, coherent, interesting
 - 2 = engaging, unique, grabbing
10. Story vocabulary – one point for each of the 14 choices
 - 0 = 0-3
 - 1 = 4-7
 - 2 = 8 or more items
11. Overall vocabulary used in story
 - 0 = sparse, immature
 - 1 = serviceable, adequate, competent
 - 2 = rich, mature, figurative

Quality Rubric

1. Essay beginning
 - 0=abrupt, weak (begins with “no” or “yes”)
 - 1=serviceable, somewhat interesting (begins with “I agree” or “I disagree” and adds words from the prompt)
 - 2=grabbing, exceptionally engaging

2. Refers to the prompt
 - 0=no
 - 1=yes

3. Essay content
 - 0=No subject knowledge, no details
 - 1=Some subject knowledge, lacks detail, inadequate development of topic
 - 2=Knowledgeable of subject matter, relative to topic, developed thesis

4. Essay organization
 - 0=Confused or disconnected ideas, lacks logical sequencing (details are out of order)
 - 1=Somewhat choppy, loosely organized (but main idea stands out), limited support, logical but incomplete sequencing (includes 1st, 2nd, 3rd; linking words; or provides a series of reasons)
 - 2=Ideas clearly stated and supported, well-organized, logical sequencing, cohesive

5. Vocabulary usage
 - 0=Limited; frequent errors of word form, choice or usage, meaning is obscured (the majority of the vocabulary used is from the prompt)
 - 1=Adequate; occasional errors of word form, choice or usage, but meaning is retained
 - 2=Effective word choice, sophisticated mastery of the language

6. Story ending is
 - 0=abrupt, weak (no ending)
 - 1=logical, definite ending (repeat the topic sentence using other words)
 - 2=clever, inventive

7. Writing style is
 - 0=immature, dull, undistinguished (no explanations, no examples)
 - 1=serviceable, matter-of-fact (gives only facts, subject knowledge)
 - 2=artful, stylish, exceptional

Feedback Key for Journal Writing:

Spelling = **SP**

Missing Word = **^**

Verb errors = **VE**

Wrong word = **WW**

Sentence Structure = **SS**

Capitalization = **C**

Punctuation = **P**

Article error = **AE**

Example:

My friend was watching her favorite television show when the lights went out.
 She could not believe it? It was at the best part or she was not going to be able to see the
 ending. What was she going to do? She decided to go to her friend's house and see if she
 could watch it there. when she got to her friend's house, she found out that she did not
 have any electricity either! They dedided that they would play a game instead. They had
 a fun day even though they could not watch television.

(Note: In the original image, red circles and arrows highlight errors: 'P' points to a missing question mark after 'believe it?'; 'WW' points to 'the' in 'at the best part'; 'SP' points to 'any' in 'have any electricity'.)

Corrected:

My friend was watching her favorite television show when the lights went out. She could not believe it! It was at the best part but she was not going to be able to see the ending. What was she going to do? She decided to go to her friend's house and see if she could watch it there. when she got to her friend's house, she found out that she did not have any electricity either! They decided that they would play a game instead. They had a fun day even though they could not watch television.

APPENDIX E: Fidelity Checklists

Fidelity Checklist

Session 1: Develop Background Knowledge, Discuss It

Instructor _____ Completed by: _____ Date:

Time Started: _____ Time Stopped: _____ Total time:
_____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			I. Introduction <input type="checkbox"/> Introduce students using the game two facts and a lie. Introduce students both to the teacher and the idea that will learn a strategy that good writers use for everything they write.	0 1
2			II. Introduce POW <input type="checkbox"/> Emphasize: POW is a strategy writers use for many things they write. <input type="checkbox"/> Go over parts of POW, discussing each. Emphasize that a good way to remember POW is to remember that it gives them POWER for everything they write. <input type="checkbox"/> Practice POW	0 1
3			III. Practice POW mnemonics	0 1

Fidelity Checklist

Session 2: Develop Background Knowledge, Discuss It

Instructor _____ Completed by: _____ Date: _____

Time Started: _____ Time Stopped: _____ Total time: _____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			Journal Free Write <input type="checkbox"/> Students journal for five minutes	0 1
2			I. Introduction <input type="checkbox"/> Quiz POW	0 1
3			II. Discuss Argument Essays <input type="checkbox"/> Define argument <input type="checkbox"/> Define argument essays <input type="checkbox"/> Define persuading <input type="checkbox"/> Define facts <input type="checkbox"/> Remind students to ask for clarification for vocabulary	0 1
4			III. Introduce TR (CR) EE <input type="checkbox"/> Emphasize: TR (CR) EE is a trick good writer use for organizing their notes to write powerful argument essays <input type="checkbox"/> Go over parts of TR (CR) EE <input type="checkbox"/> Practice TR (CR) EE <input type="checkbox"/> Review TR (CR) EE	0 1
5			IV. Practice POW and TR (CR) EE mnemonics	0 1

Fidelity Checklist

Session 3: Develop Background Knowledge, Discuss It

Instructor _____ Completed by: _____ Date:

Time Started: _____ Time Stopped: _____ Total time:
_____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			Journal Free Write <input type="checkbox"/> Students journal for five minutes	0 1
2			I. Introduction <input type="checkbox"/> Quiz POW and TR(CR)EE	0 1
3			II. Find TR(CR)EE in a Model Essay <input type="checkbox"/> Read model essay while students follow along <input type="checkbox"/> Students identify topic sentence <input type="checkbox"/> Students identify reasons, counter reason, and explanation for each reason <input type="checkbox"/> Introduce linking words <input type="checkbox"/> Students identify ending	0 1
4			III. Practice POW and TR (CR) EE mnemonics with writing prompt <input type="checkbox"/> Students will make notes on graphic organizer using knowledge of POW and TR (CR) EE mnemonics	0 1

Fidelity Checklist

Session 4: Develop Background Knowledge, Discuss It

Instructor _____ Completed by: _____ Date:

Time Started: _____ Time Stopped: _____ Total time:
_____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			I. Introduction <input type="checkbox"/> Quiz POW and TR(CR)EE	0 1
2			II. Find TR(CR)EE in another Model Essay <input type="checkbox"/> Read model essay while students follow along <input type="checkbox"/> Students identify topic sentence <input type="checkbox"/> Students identify reasons, counter reason, and explanation for each reason <input type="checkbox"/> Students identify ending	0 1
3			III. Practice POW and TR (CR) EE mnemonics with writing prompt <input type="checkbox"/> Students will write an essay using notes on graphic organizer and knowledge of POW and TR (CR) EE mnemonics on a writing frame	0 1

Fidelity Checklist

Session 5: Develop Background Knowledge, Discuss It

Instructor _____ Completed by: _____ Date: _____

Time Started: _____ Time Stopped: _____ Total time: _____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			I. Quiz POW and TR (CR) EE <input type="checkbox"/> Quiz POW and TR (CR) EE	0 1
2			II. Find TR(CR)EE in another Model Essay <input type="checkbox"/> Teacher reminds students of the parts needed to make a good essay <input type="checkbox"/> Students identify parts and use the graphic organizer to make notes while the teacher reads the model essay	0 1
3			III. Write a new essay on the board	0 1
4			IV. Provide Corrective Feedback on Student Essay <input type="checkbox"/> Discuss previous writing prompt <input type="checkbox"/> Provide corrective feedback <input type="checkbox"/> Provide next prompt, graphic organizer, and writing frame	0 1

Fidelity Checklist

Session 6: Model It

Instructor _____ Completed by: _____ Date: _____

Time Started: _____ Time Stopped: _____ Total time: _____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			I. Quiz POW and TR (CR) EE <input type="checkbox"/> Quiz POW and TR (CR) EE	0 1
2			II. Find TR(CR)EE in another Model Essay	0 1
3			III. Model Using Self-Statements for "P" in POW <input type="checkbox"/> Explain the process of self-statements <input type="checkbox"/> Write the prompt on the board	0 1
4			IV. Model things you might say to yourself when you want to think of a good idea. <input type="checkbox"/> Students record their own self-statements on the graphic organizer in the student folder	0 1
5			V. Discuss Using "O" in POW, Model Making Notes Using TR (CR) EE <input type="checkbox"/> Model self-statements while making notes using TR (CR) EE graphic organizer	0 1
6			VI. Model writing your argument essay using POW and TR (CR) EE <input type="checkbox"/> Model the process of writing an argument essay using the practice prompt using self-statements	0 1
7			VII. Self-Statements for TR (CR) EE <input type="checkbox"/> Students add self-statements to student folders	0 1
8			VIII. Introduce Graphing Sheet/Graph the Paper <input type="checkbox"/> Introduce student graph in the student folder	0 1

Fidelity Checklist

Session 7: Model It

Instructor _____ Completed by: _____ Date:

Time Started: _____ Time Stopped: _____ Total time:
_____ min.

Step Completed: 1= step completed, 0 = step not completed/partially completed, 7 = not scored;

Group Participation: GP = whole classroom; SG = small group; I = Individual

	Complete	Group		Fidelity
1			I. Quiz POW and TR (CR) EE <input type="checkbox"/> Quiz POW and TR (CR) EE	0 1
2			II. Find TR(CR)EE in another Model Essay (IF NEEDED)	0 1
3			III. Group Collaborative Writing, Teacher Leads <input type="checkbox"/> Write collaborate essay using POW+TR(CR)EE Graphic Organizer	0 1
4			V. Graph the Essay <input type="checkbox"/> Identify all the parts in model essay	0 1
5			VI. Individual Student writing <input type="checkbox"/> Provide students with the next prompt, graphic organizer, and sentence frame. <input type="checkbox"/> Remind students to make sure they have all their parts	

Appendix F: Literature Review Tables

Table F1

SRSD + High School Experimental Studies

Study	Intervention	Grade	Student Description	Fidelity Reported	Length	Treatment Delivery	Standardized Measures	Standardized Measure Effect	Researcher Designed Measure	Researcher Designed Effect
Chalk, Hagan-Burke, & Burke (2005)	SRSD using DARE	10	15 tenth grade students identified as LD; 4 female, 11 male; all Caucasian	Yes	2 hours	Researcher	N/A	N/A	TWW (length)	Significant main effect at each point of assessment, $F(10, 140)=19.9$, $p=.000$
									Quality	Quality improved over time, $F(10, 140)=21.5$, $p=.000$
Ennis (2016)	SRSD using TWA + PLANS with Informational writing in Social Studies class	9-11	Three Students identified E/BD- White female-10 th grade; white female-11 th grade; black male-9 th grade	Yes	5 hours	Researcher	N/A	N/A	Summary elements	$g=2.443$
									Quality	$g=4.320$
									Total Written Words	$g=2.540$
Ennis & Jolivette (2014)	SRSD in pairs vs. writing argument essays related to health topics- whole group instruction	9	Six, 15 year old, ninth grade students identified with E/BD	Yes	Average 5.7 hours	SRSD researcher	N/A	N/A	Persuasive writing prompts scored for: Essay elements	Pre ($M=3.04$; $SD=12.21$) Post ($M=12.21$; $SD=2.09$)
									Quality	Pre ($M=10.99$; $SD=1.41$) Post ($M=17.34$; $SD=1.86$)
									CWS	Pre ($M=105.98$; $SD=54.63$) Post ($M=270.07$; $SD=48.03$)
Hoover, Kubina, & Mason (2012)	SRSD using POW+TREE with persuasive quick writes	11-12	Four female students identified as LD; ages 16-19	Yes	71 days	Researcher	N/A	N/A	Number of Response parts	3 students showed an increase in response parts at post
									Number of words	No student showed a great deal of increase in TWW
Jacobson (2009)	SRSD using DARE and STOP to write persuasive texts	10-11	Four students identified as ADHD-2 Caucasian males-10 th grade; African American male-10 th	Yes	Not reported	Researcher	N/A	N/A	Essay parts	Mean percentage increase= 386.9%, 346.7%, 500%, and 1100% across students
									Number of words	PND=100%

			grade; Hispanic female-11 th grade						Number of transition words	PND=100%	
									Holistic quality	Mean percentage increases=200%, 217%, 350%, and 200%- across students PND=100%	
									Planning time	PND=100%	
									Writing time		
Jacobson & Reid (2010)	SRSD using DARE and STOP to write persuasive texts	11-12	Three students identified as ADHD-All Caucasian males-2- 11 th grade; 1-12 th grade	Yes	13 hours	Researcher	N/A	N/A	Essay parts	Mean percentage increase= 257%, 133%, and 189%, Number of words	Mean percentage increase= 343%, 161%, and 240%, Number of transition words
									Holistic quality	Mean percentage increase= 300%, 165%, and 257%.	
									Planning time	Increased to 27.3 min, 26.3 min, and 37.7 min, across students Baseline=3.04 Post=6.45	
Kiuhara, O'Neill, Graham, & Hawken (2012)	SRSD using STOP, AIMS, and DARE to write persuasive texts	10	Six high school struggling writers-4 males; 2 females	Yes	Average of 39 hours	Researcher	N/A	N/A	Total Essential Elements	Baseline=8.38 Post=17.69	
									Total Functional Elements	Baseline=117.88 Post=183.59	
									TWW	Baseline=2.38 Post=4.02	
									Quality	Baseline=00:23 Post=7:17	
									Time planning	Baseline=8:32 Post=20:49	
									Time writing	Baseline=9:01 Post=28:05	
									Total composing time Quality	PND=medium effect, post (79%) and maintenance (83%)	
Mason, Kubina, & Hoover (2011)	SRSD using POW+TREE with persuasive quick writes	9-11	3 high school males with a primary diagnoses of ED	Yes	9.5 hours	Special education teacher/ researcher	N/A	N/A			

									Number of persuasive parts	PND=small effect, post (66%); large effect at maintenance (100%)
									Number of response parts	PND=small effect, post (68%) and maintenance (50%)
									Number of words written	PND=small effect, post (68%) and maintenance (66%)
Scott (2009)	SRSD using POW+TREE with persuasive essays	9-10	56 Tier 2 writers; 29 Caucasian, 22 African American, 5 Hispanic or multi-racial-58.9% male	Not reported	9 hours	Not reported	Iowa Writing Assessment (IWA)	Treatment (M=9.7, SD=3.06)	Persuasive Writing Rubric	Treatment (M=65, SD=15.56)
							Analytic	Control (M=8.82, SD=2.38)		Control (M=59.30, SD=13.9)
							Holistic	Treatment (M=2.38, SD=.76)		
								Control (M=2.12, SD=.60)		

Table F2

SRSD + English Language Learner Experimental Studies

Study	Intervention	Grade	Student Description	Fidelity Reported	Length	Treatment Delivery	Standardized Measures	Standardized Measure Effect	Researcher Designed Measure	Researcher Designed Effect
Bakry & Alsamadani (2015)	Self-Regulated Strategy development vs teacher-centered based model	University students	24 second semester Arabic university students	No	18	University instructor	N/A	N/A	Five paragraph persuasive essay Scored for : Quality	Partial eta squared=.91
									Clarity of position	Partial eta squared=.53
									Ideas skill	Partial eta squared=.81
									Organization	Partial eta squared=.79
									Sentence structure and vocabulary	Partial eta squared=.43
									Paragraph writing skill	Partial eta squared=.89
De La Paz & Sherman (2013)	Self-Regulated Strategy development vs SCM vs Standard curriculum	6th	36 students; 11 boys, 12 girls, 12 EL students (10 Spanish speakers, 2 native French); 43.5 % Hispanic, 78% free and reduced lunch	Yes	9 hours	Teachers	TOWL-3	Used as a screener to identify students as low, average, or high-achieving writers.	Writing prompt scored for: 1.changing the meaning of text 2.number 3. quality 4.synatatic complexity 5.holistic quality	1.all made gains 2.all more than doubled number of revisions 3.all student pairs (except those with LD) made more word-level revisions 4. most common non surface change was addition 5. Students identified as LD improved from 1.85 to 2.9. Low-achieving- from 2.17 to 3.2. Average-achieving from 2.38 to 3.9. High achieving- from 2.71 to 3.6

Appendix G: IRB Approval Letters

IRB

INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129



IRBF010d

RESEARCH WITH MINORS – COMBINED INFORMED CONSENT (Combined Parental Consent and Child Assent form for Minors over 12 years)

A. PARENTAL PERMISSION (Parents' Copy)

Primary Investigator(s)	Stacy Fields	Student <input checked="" type="checkbox"/>
Contact information	stacy.fields@mtsu.edu 615-904-8434	
Department Institution	Literacy Studies, Ph.D. Program	
Faculty Advisor	Amy Elleman	Department Literacy Studies, Ph. D. Program
Study Title	Effects of Self-Regulated Strategy Development and Feedback for Second Language Adolescents	
IRB ID	18-2160	Expiration 03/31/2021

Child's Name (Age 12+) (print)

The following information is provided to you because your child may qualify to participate in the above identified research study. Please read this disclosure document carefully and feel free to ask any questions before you agree to enroll your child. The researcher must adequately answer all of your questions before your child can be enrolled. The researcher MUST NOT enroll your child without an active consent from you. Also, a copy of this consent document, duly signed by the investigator, must be provided to you for future reference.

Your child's participation in this research study is absolutely voluntary. You or your child can withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

For additional information about giving consent or your rights as a participant in this study, please feel free to contact the MTSU Office of Compliance (Tel 615-494-8918 or send your emails to irb_information@mtsu.edu). Please visit www.mtsu.edu/irb for general information and visit <http://www.mtsu.edu/irb/FAQ/WorkinWithMinors.php> for information on MTSU's policies on research with children

Please read this section and sign Section C if you wish to enroll your child. The researcher will not enroll your child without your physical signature.

1. Purpose of the study:

Your child is being asked to participate in a research study because this research will help us understand is using strategy instruction is more effective for teaching high school students whose first language is not English. Your son/daughter is being asked to participate in this study because they are in high school and English is not their first language.

2. General description of procedures to be followed and approximate duration of the study:

The MTSU's classification of this study is

- Educational Tests** – Study involves either standard or novel education practices which consists educational testing and such studies expose the minors to lower than minimal risk
- Psychological and/or Behavioral Evaluation** – Although the study may or may not involve educational tests, the specific aim is to probe the child's behavioral ability.
- Physical Evaluation** – The children will be asked to perform or part-take in physical activities or procedures. Examples of such studies simple physical exercises, medical or clinical intervention, pharmaceutical testing and etc. Due to the nature of these studies, your child may be exposed to more than minimal risk.

Description of procedures to be followed and approximate duration of the study: If you allow your child to participate, they will participate in eight writing lessons that will take place during their study hall. They will not miss any classroom instructional time. Prior to the lessons, they will take some tests. Some tests will be given individually and some be given as a group. The tests include questions about vocabulary, pattern recognition, and writing three essays. The testing will take around a total of 3 hours across multiple days. During each lesson, students will be taught how to write an argument essay. Student lessons will last thirty minutes and will take place two times each week during study hall. After the instruction is completed your child will be asked to complete three short essays over several days. These should take no longer than an hour to complete each essay.

3. What are we planning to do to your child in this study?

Your child will participate in eight writing lessons during their study hall. They will not miss any instructional time.

4. What will your child be asked to do in this study?

Your child will be asked to complete the tests described above and write three writing samples over the course of the instruction

5. What are we planning to do with the data collected using your child?

The data that is collected will be used to see if strategy instruction is an effective way of teaching writing to high school students whose first language is not English. It will be additionally be written up in a journal article and presented at conferences, however, this information will be kept confidential and no identifying information will be shared.

6. What are your expected costs, effort and time commitment:

There will be no cost to you or your child if you choose to participate in this study. There will be a total of eight lessons lasting 30 minutes each and additional testing time that will all be focused on improving required writing skills.

7. What are the potential discomforts, inconveniences, and/or possible risks that can be reasonably expected as a result of participation in this study:

For the Child: There are no expected discomforts or risks involved, however, if at any time your child feels stressed or uncomfortable, they are free to stop participating in the study.

For you the Parent: There are no expected discomforts or risks involved, however, if at any time you feel your child is stressed or uncomfortable, they are free to stop participating in the study.

8. How will you or your child be compensated for enrolling in this study?

There is no compensation for enrolling in this study.

9. What are the anticipated benefits from this study?

We anticipate that this research will benefit others by helping us understand if using strategy instruction is more effective for teaching high school students whose first language is not English. In addition, we anticipate that this research will benefit teachers by helping us understand if strategy instruction combined with feedback is effective for high school students whose first language is not English.

10. Are there any alternatives to this study such that you or/and your child could receive the same benefits?

CURRENT CLASSROOM INSTRUCTION. Your son/daughter does not have to participate in this study if that is your choice.

11. Will you or/and your child be compensated for study-related injuries?

We do not anticipate any study-related injuries

12. Circumstances under which the Principal Investigator may withdraw your child from study participation:

If your child does not want to participate in the writing instruction, they will be removed from the study

13. What happens if you choose to withdraw from study participation?

Your decision to allow your son/daughter to participate does not affect their relationship with their current school or any future relationship with MTSU. Any information you provided prior to your decision to withdraw will be destroyed and will not be used as part of the analysis

14. Can you or/and your child stop the participation any time after initially agreeing to give consent/assent?

You or your child can choose to stop participating at any time. If at any time they wish to discontinue their participation in the research study, they may inform their teacher, the researcher, or their parents and they will return to their regularly scheduled activities.

15. Contact Information. If you should have any questions about this research study or possibly injury, please feel free to contact Stacy Fields by telephone (615-904-8434) or by email (stacy.fields@mtsu.edu) OR my faculty advisor, Dr. Amy Elleman, at (615-898-5688) or e-mail (amy.elleman@mtsu.edu).

16. Confidentiality. All efforts, within reason, will be made to keep the personal information in your child's research record private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, *if* you or someone else is in danger or if we are required to do so by law.

Consent obtained by:

Date

Researcher's Signature

Print Name and Title of the Researcher

B. CHILD ASSENT**(To be retained by the participating child who is over 12 years of age)**

Primary Investigator(s) Stacy Fields **Student**
 Contact information stacy.fields@mtsu.edu 615-904-8434
 Department Institution Literacy Studies, Ph.D. Program
 Faculty Advisor Amy Elleman Department Literacy Studies, Ph. D. Program
 Study Title Effects of Self-Regulated Strategy Development and Feedback for Second Language Adolescents
IRB ID 18-2160 Expiration 03/31/2021
 Child's Name (Age 12+) (print)

The following information is provided to you because your parents/guardians have agreed to enroll in the above identified research study. Please read this sheet carefully and feel free to ask any questions before you agree to enroll. The researcher must answer all of your questions before he/she asks you to do anything. Before you start:

- Make sure this sheet is signed by the researcher.
- Your participation is absolutely voluntary; you can decline anytime and your parents/guardians will not be notified.
- You are entitled to decline or withdraw at any time.
- Any new information on this research will be notified to you and you can decide whether to continue your participation based on the new information.

Please visit <http://www.mtsu.edu/irb/FAQ/WorkinWithMinors.php> or email irb_information@mtsu.edu or call 615 494 8918 more information.

1. Why are you doing this research?

We are doing this research to find effective ways to teach students to who are learning English to write.

2. What will the researcher do and how long will it take?

You will participate in eight writing lessons that will take place during your study hall. You will not miss any classroom instructional time. Prior to the lessons, you will take some tests. Some tests will be given individually and some be given as a group. The tests include questions about vocabulary, pattern recognition, and writing three essays. The testing will take around a total of 3 hours across multiple days. During each lesson, you will be taught how to write an argument essay. Student lessons will last thirty minutes and will take place two times each week during study hall. After the instruction is completed you will be asked to complete three short essays over several days. These should take no longer than an hour to complete each essay.

3. Do I have to be in this research study and can I stop if I want to?

No, you do not have to participate and may stop at any time. If you would like to stop at any time you may inform your teacher, the researcher, or your parents and you will return to your regularly scheduled activities

4. Will anyone know that I am in this research study?

No one will know you are participating in this study. However, information we collect on you may be shared with others ONLY if you or someone else is in danger or if we have to do so by law.

5. How will this research help me or/and other people?

This research may help us to learn better ways to teach writing to other students who are learning English as a second language.

6. Can I do something else instead of this research?

If you do not wish to participate, you will complete your regular writing curriculum.

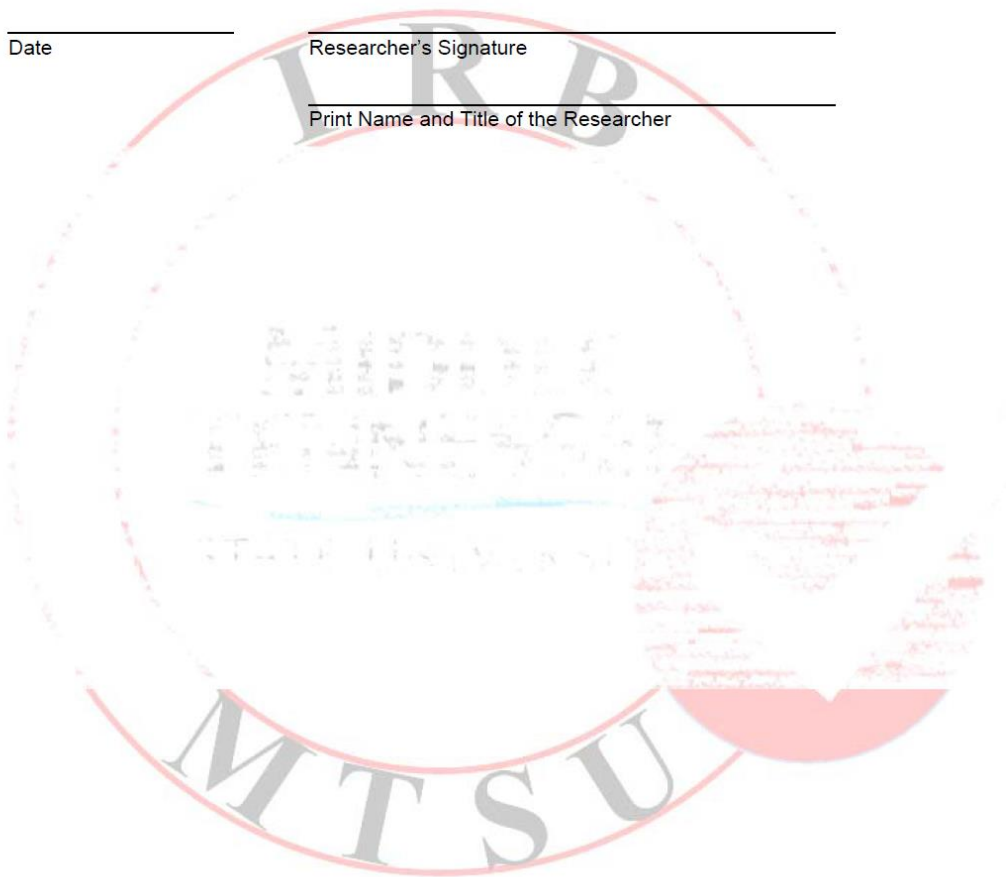
7. Who do I talk to if I have questions?

If you should have any questions about this research study, please feel free to contact Stacy Fields by telephone (615-904-8434) or by email (stacy.fields@mtsu.edu) OR my faculty advisor, Dr. Amy Elleman by phone (615-898-5688) or e-mail (amy.elleman@mtsu.edu).

Date

Researcher's Signature

Print Name and Title of the Researcher



**C. Signature Section
(Researchers' Copy)**

Primary Investigator(s) Stacy Fields Student
 Contact information stacy.fields@mtsu.edu 615-904-8434
 Department Institution Literacy Studies, Ph.D. Program
 Faculty Advisor Amy Elleman Department Literacy Studies, Ph. D. Program
 Study Title Effects of Self-Regulated Strategy Development and Feedback for Second Language Adolescents
IRB ID 18-2160 Expiration 03/31/2021
 Child's Name (Age 12+) (print)

PARENT SECTION

- No Yes I have read the parental consent document pertaining to the above identified research
- No Yes The research procedures to be conducted have been explained to me verbally
- No Yes I understand each part of the interventions and all my questions have been answered
- No Yes I received a signed copy and I am aware of the potential risks of the study

By signing below, I give permission for my child, whose name is identified above, to participate in this study. I understand I can withdraw my child at any time without facing any consequences.

 Date Signature of the Parent

CHILD SECTION
(To be completed in front of the researcher)

- No Yes I have read this child assent document and I received a signed copy
- No Yes The researcher explained what they planned to do and all my questions were answered
- No Yes I understand what I was told
- No Yes I know the risks and I also know I can withdraw at any time

 Date Signature of the Child

RESEARCHER SECTION

Parental Consent obtained by:

 Date Signature Print Name & Title

Child Assent obtained by:

 Date Signature Print Name & Title

Faculty Verification if PI is a student

 Date Signature Print Name & Title

IRB
INSTITUTIONAL REVIEW BOARD
 Office of Research Compliance,
 010A Sam Ingram Building,
 2269 Middle Tennessee Blvd
 Murfreesboro, TN 37129



IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Friday, March 16, 2018

Principal Investigator **Robin Stacy Fields** (Student)
 Faculty Advisor Amy Elleman
 Co-Investigators NONE
 Investigator Email(s) *stacy.fields@mtsu.edu; amy.elleman@mtsu.edu*
 Department Education - Literacy Studies PhD Program

Protocol Title ***Effects of self-regulated strategy development and feedback on second language adolescents***
 Protocol ID **18-2160**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	3/31/2019
Participant Size	50 (FIFTY)
Participant Pool	Minors between the ages 12-18 - Special Population - Students from Smyrna High School, Rutherford County, TN
Exceptions	Parental Consent and Child Assent can be administered in Spanish language in addition to the approved English version (refer to restrictions below).
Restrictions	1. Mandatory active Parental consent; The parents must be clearly notified that enrollment is voluntary and the child can withdraw at anytime without retribution and provide a copy of the informed consent to each participating subject signed by the PI and FA. 2. Mandatory active Child Assent. 3. The inclusion/exclusion criteria as proposed must be implemented. 4. The Spanish documents (parental consent and child assent) must follow the approved English templates as closely as possible. 5. Approved for EDUCATIONAL TESTS ONLY.
Comments	NONE

This protocol can be continued for up to THREE years (**3/31/2021**) by obtaining a continuation approval prior to **3/31/2019**. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Continuing Review Schedule:

Reporting Period	Requisition Deadline	IRB Comments
First year report	2/28/2019	NOT COMPLETED
Second year report	2/28/2020	NOT COMPLETED
Final report	2/28/2021	NOT COMPLETED

Post-approval Protocol Amendments:

Only two procedural amendment requests will be entertained per year in addition to changes allowed during continuing review. Minor changes such as language usage and addition/removal of personnel can be done any number of times.

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website](#). Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

[Click here](#) for a detailed list of the post-approval responsibilities.
More information on expedited procedures can be found [here](#).



RUTHERFORD COUNTY BOARD OF EDUCATION

Marvin D. Odom, Director of Schools

2240 Southpark Drive
 Murfreesboro, Tennessee 37128
 Phone (615) 893-5812 Fax (615) 898-7940

January 30, 2018

Amy Elleman, Assistant Professor
 Middle Tennessee State University
 Literacy Studies, MTSU Box 69
 Murfreesboro, TN 37132

Dr. Elleman,

The request to conduct a research study, "Effects of Self-Regulated Strategy Development and Feedback for Second Language Adolescents" in Rutherford County has been approved.

When research is conducted in the Rutherford County school system, it is standard procedure for the researcher to request the principal's approval, and if approved, data collection will also be subject to the time frame and condition that the principal specifies. I emphasize that the research should not interfere with regular instructional programs and that other school staff members' involvement be subject to the his/her willingness to participate and the demands upon his/her time.

Sincerely,

Richard Zago
 Assistant Superintendent
 Curriculum and Instruction

cc: Rick Powell, Principal
 Smyrna High School

December 20, 2017

James R. Powell
100 Bulldog Dr.
Smyrna, TN 37167

Amy Elleman, Assistant Professor
Middle Tennessee State University
Literacy Studies, MTSU Box 69
Murfreesboro, TN 37132

Dr. Elleman,

I am happy to support a study designed by Middle Tennessee State University faculty to examine if explicit strategy instruction and feedback improves writing among our EL students here at Smyrna High School. Given our large and ever-growing population of EL students, the findings of your research project have the potential to make a significant contribution to our EL program and to raise our students' writing test scores. The majority of our 175 EL students enter school with little or no English ability. Unfortunately, we can only provide four years of instruction for these students, and we have to balance English language instruction with content area classes that are required for graduation. Given these restrictions, any strategies that your research project might develop would be of great use in helping ensure that our EL students leave Smyrna High School with English language proficiency. We will collaborate in any way we are able and permitted in our role as a state agency.

Sincerely,

James R. Powell