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Program Evaluation of a Writing Strategies Curriculum for High School Students with Disabilities

Lisa J. DeJarnette

Program Evaluation of a Writing Strategies Curriculum
for
High School Students with Disabilities

by

Lisa J. DeJarnette

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Abstract

The many intricacies of written expression are cause for concern for many students, especially for those with disabilities. The literature in this area suggests that students with disabilities, particularly learning disabilities, benefit from direct instruction in using strategies to build written expression skills. The purpose of this study was to evaluate a writing strategies curriculum designed for use with high school students with disabilities. Expected outcomes were improved written expression skills and improved student perceptions of their writing abilities and of themselves as writers. Results of this evaluation indicated that participation in a program using a writing strategies curriculum improved the written expression skills of the students in this study while self-efficacy beliefs remained stable.

This dissertation is dedicated to the memory of my father, Alfred R. DeJarnette, who believed in

the values of education and of hard work. His example of commitment to responsibility and duty

were ever before me during this challenging journey. Thanks, Dad, for the way you always

believed in me, so that I could believe in myself.

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ACKNOWLEDGEMENTS

Chapter 1 Introduction

You say you want a revolution . . . we all want to change the world.
--John Lennon and Paul McCartney

Overview of the Research Problem

In 2003, the National Commission on Writing (NCOW) called for a writing revolution. The call for this revolution came in response to data demonstrating that the writing skills of students in grades kindergarten through 12 and into college are deficient. Subsequent reports from NCOW in 2004 and 2005 further emphasized the need for a revolution in writing by stating that deficits in students' writing can have a negative effect on both their academic and work careers. The National Assessment of Educational Progress (NAEP) (National Center for Education Statistics (NCES), 2011) at Grades 8 and 12, as part of The Nation's Report Card on Writing 2011, found that only 24 percent of students at both grade levels performed at the Proficient level, 54 percent of eighth grade students and 52 percent of 12th grade students scored at the Basic level, and only three percent of eighth and 12th graders performed at the Advanced level. The NAEP studies (NCES, 2011) did not include students with learning disabilities. However, the picture for students with disabilities is even more concerning. Graham and Harris (2011, p. 422) stated that "only 6% of eighth-grade and 5% of 12th-grade students with disabilities perform at or above the 'proficient' level in writing (defined as solid academic performance)."

The Virginia School Report Card (Virginia Department of Education (VDOE), 2010) reported that students with disabilities passed the Standards of Learning (SOL) for writing with a rate of 62 percent in 2009-2010, 62 percent in 2010-2011, and 61 percent in 2011-2012. While these percentages are higher than both those reported for students without disabilities by the NAEP and by Graham and Harris (2011), they did not demonstrate growth in writing

performance for those three years at the state level. At the division level, the Virginia School

Report Card (VDOE, 2012) presents a similar picture for students with disabilities. Table 1

shows the writing SOL passing performance of students with disabilities for selected school

divisions in the Commonwealth of Virginia for three school years. These school divisions are

representative of the study's participants.

Table 1. 1

The Virginia School Report Card: Percentage of Students with Disabilities Writing SOL Performance, Passing			
	2009-2010	2010-2011	2011-2012
Amherst County Public Schools	57%	50%	57%
Appomattox County Public Schools	52%	55%	67%
Bedford County Public Schools	48%	53%	45%
Campbell County Public School	48%	55%	54%
Lynchburg City Public Schools	64%	57%	52%
Rockbridge County Public Schools	35%	39%	45%

Source: Virginia Department of Education

Why the Problem is Worth Exploring

For many students, writing is one of the most complex activities they will encounter and in

which they will engage. According to Shaywitz (2003), written language, unlike spoken

language, "is a relatively recent human accomplishment. . .and not built into our genes" (p. 50).

Much of what makes up the complexity of writing is the need to use several skills

simultaneously. Skills such as drawing on background knowledge to determine a topic,

organizing and structuring those ideas in a logical and sequential fashion, putting those ideas

down on paper with clarity and a style appropriate to a specific audience (Baker, Chard, Ketterlin-Geller, Apichataburta, & Doabler, 2009). For many students, application of these skills in a consistent, cohesive manner is also challenging.

For students with disabilities, the process of writing is especially challenging (Walker, Shippen, Alberto, Houchins, & Cihak, 2005). These students struggle particularly with two areas: activating background knowledge for topic generation and demonstrating planning behaviors (Englert, Zhao, Dunsmore, Collings, & Wolbers, 2007). This struggle appears in students across grade levels. At the college level, Allsopp, Minskoff, and Bolt (2005) found students with disabilities, particularly with learning disabilities, do not demonstrate the use of strategies to assist themselves in the writing process. These authors recommended strategy training occur at the high school level. According to Lienemann and Reid (2006), strategy instruction is one of the most effective methods to improve the writing of students with a learning disability. Graham (2006) defined the strategy instruction approach to writing as teaching students to use "more sophisticated composing processes when writing" (p. 188).

While improving the written expression skills of students with disabilities is important to their academic success, it is also important to their success in the world of work. The private and public sectors both put a high value on the ability to write clearly and well (NCOW, 2003). According to the National Commission on Writing (NCOW) (2004), *Writing: A Ticket to Work . . . Or a Ticket Out,* "people who cannot write and communicate clearly will not be hired and are unlikely to last long enough to be considered for promotion" (p. 3). Within state government positions, "writing is a more significant promotion consideration. . .than in the private sector" (NCOW, 2005, p. 4). Not only is there a financial cost to students who do not write well, in terms of potential losses of earnings, the organizations which employ them face increased

expenditures due to increased training costs to compensate for writing deficits, often upwards of billions of dollars (NCOW, 2004). In order to address both the issues students with disabilities have with writing at the school level and in the workplace, they must be taught writing skills directly and explicitly, as well as be provided with strategies they can apply to writing demands they encounter in any environment (Vail, 1996).While these demands may be similar, they will require students to be flexible with their writing skills to meet varying contexts (Graham & Perin, 2007). Students with deficits in writing skills face the risk of being at a disadvantage in terms of job options and participation in social and community activities.

Improvements in the writing skills of students with disabilities are being demonstrated; however, much of the progress to date has been with elementary students (Asaro-Saddler & Saddler, 2010; De La Paz & Graham, 1997; Englert et al., 2007; Harris, Graham, & Mason, 2003; Troia & Graham, 2002) with adolescent skills remaining stagnant (e.g., Graham & Perin, 2007). This stagnation in older students is cause for concern as these students move into post-secondary education. Up to 50 percent of students, with and without disabilities, are not demonstrating readiness for writing at the college level (Graham & Perin, 2007). Often these same students struggle with completing essays that may be required with college applications (Schumaker & Deshler, 2009).

To help students meet these demands and remediate their deficiencies, the NCOW (2003) challenged states to establish writing policies that place writing at the center of their curriculum. Many states have responded to this challenge by requiring students to learn more complex writing skills in the early grades; however, often students with learning disabilities have not acquired these skills as they move into higher grade levels (Schumaker & Deshler, 2009). Implementation of effective writing programs continues to be a need in many schools.

Purpose of the Study and Research Questions

The purpose of this study was to evaluate a writing curriculum that was designed for use with high school students with disabilities. Specifically, this curriculum incorporates both the cognitive/motivational theory of writing and the social/contextual theory of writing. The curriculum was also partially developed in response to the NCOW's (2003, 2004, 2005) call for a writing revolution and has been revised in accordance with Graham and Perin's (2007) follow up report on effective elements of writing instruction that have been demonstrated to be effective in addressing students' deficits in skill areas such activating prior knowledge and planning before beginning writing tasks.

The research question for this study focused on the effect of this writing curriculum on high school students with disabilities. Specifically, what is the effect of a writing strategies curriculum on the written expression skills of high school students with disabilities? The hypotheses that followed from this question are:

H_1: Participation in a writing strategies curriculum will improve the written expression skills of high school students with disabilities.

H_2: Participation in a writing strategies curriculum will improve students' perceptions of their written expression skills and of themselves as writers.

The remainder of this dissertation is organized in the following way. Chapter two consists of the review of the literature, with the subsections of writing theories and influences, instruction, self-regulated strategy development, cognitive strategy instruction in writing, additional elements related to instruction, and assessment; the third chapter covers the research methodology, to include the research design, the setting and participants, a description of the curriculum, the instruments to be used, and the way in which the data will be organized. The

fourth chapter presents the results gleaned from data collection and analysis. Chapter five

discusses the findings from the study, as well as connections to the literature, limitations of the

study, practical implications, recommendations for future research, and the conclusion.

Chapter 2 Review of the Literature

This literature review begins with an overview of three influences on the development of writing. These influences include the cognitive/motivational theory of writing, the social/contextual theory of writing, and writing self-efficacy. An understanding of these influences serves to establish a framework for understanding writing development and for designing and evaluating writing instruction to assist writers in their development (Graham & Harris, 2011; Shell, Colvin, & Bruning, 1995). This review continues with a discussion of two instructional approaches that have shown to be successful for improving the writing skills of students with disabilities. The two instructional approaches are self-regulated strategy development (SRSD) and cognitive strategy instruction in writing (CSIW). Schumaker and Deshler (2003) noted that "writing strategy instruction can produce positive improvements in the writing performance of students with learning disabilities" (p. 140). Additional elements of effective writing instruction are presented, as are three types of writing assessment.

Writing Theories and Influences

While there have been many influences on writing development, three that have been embraced are the cognitive/motivational theory of writing, the social/contextual theory of writing, and the impact of self-efficacy on writing. These three influences have developed out of cognitive psychology and its application to the act of writing (Graham, 2006). The cognitive/motivational theory of writing deals with the writer as the individual and his or her mental and affective processes, while the social/contextual theory focuses on the social context in which the writing occurs, as well as the interaction between the writer and the context (Graham & Harris, 2011). Although both of these influences pertain to a different aspect of writing and the writer, each one has been instrumental in informing writing development and its

study. In addition to the cognitive/motivational theory and the social/contextual theory, the third

influence on writing is self-efficacy. Based in large part on the work of Bandura (1986), a

general definition of self-efficacy is the belief in one's ability to meet the demands of a particular

task. Writers with high self-efficacy tend to exhibit better writing performance while those with

lower self-efficacy demonstrate weaker writing performance (Shell et al., 1995). This section

will explore these influences and their effect on writing development in more detail.

Cognitive/Motivational Theory

The cognitive/motivational theory of writing was developed and refined by Hayes (1996)

and takes into account both the writer and the task environment. Specifically, Hayes (1996)

defined aspects of the writer as including cognition, affect, motivation, and working memory; the

task environment is composed of the physical environment, the text itself, and includes a social

component. Each of these aspects affects writing and the writer in a specific way. According to

Hayes (1996), "writing depends on an appropriate combination of cognitive, affective, social,

and physical conditions if it is to happen at all" (p. 5).   Because so many processes must happen

simultaneously, and because these processes are so intertwined with the task environment and

social factors, the task of writing is itself very complex.

Graham and Harris (2011) supported Hayes's model by asserting that part of cognition

and motivation include knowledge and application of strategies and mastery of skills. Troia,

Shankland, and Wolbers (2012) continued by stating the motivation to write is strongly

influenced by context and that positive motivation stems directly from the use of strategies, such

as Self-Regulated Strategy Development (SRSD) (Graham & Harris, 1989). Hayes's model and

the additional contributions from Graham and Harris (2011), as well as Troia et al (2012),

provide a firm starting point for developing the type of writing curriculum called for by the

National Commission on Writing's (2003) report, a curriculum in which students use effective

practices to formulate their own thoughts, organize them, and create a tangible product.

Social/Contextual Theory

The social/contextual theory of writing focuses more closely on the social nature of

writing, including the interactions between and influences of the writing community, culture,

society, history, and political systems.   Russell's (1997) model of writing best exemplifies this

theory by demonstrating the importance of the relationship between the student and the teacher

in writing development through genre and activity systems. Russell (1997) defined genre as

"typified ways of purposefully interacting in and among some activity systems" (p. 507), with

activity systems defined as "any ongoing, object-directed, historically conditioned, dialectically

structured, tool-mediated human interaction" (p. 506).

Human interactions, then, are those actions that take place in a writing classroom in

which the student works collaboratively with other students and the teacher on varying writing

tasks for different purposes. The tools students use include the more concrete implements, such

as paper and pencil or a word processor, as well as more abstract tools, such as specific

vocabulary and strategies. The teacher facilitates the students' use of these tools through

dialogue between the teacher and student and through encouraging and structuring student-to-

student dialogue (Englert et al., 2007).   Writing development, then, is shaped through these

social interactions and the context surrounding them (Graham & Harris, 2011).

Self-Efficacy

Self-efficacy, as described by Bandura (1986), is the belief in one's capabilities to

complete a task and the accompanying factors that influence that belief. Writers' beliefs in their

ability to meet writing tasks have been directly linked in research to their writing performance

(e.g., Bruning, Dempsey, Kauffman, McKim, & Zumbrunn, 2012; Pajares & Johnson, 1996; Prat-Sala & Redford, 2010; Shell et al., 1995).

Shell et al. (1995) conducted a study with fourth, seventh, and tenth grade students that examined the relationships between grade- and achievement-level differences and the students' beliefs regarding their reading and writing achievement. The students were administered a self-efficacy instrument that contained subscales of reading and writing tasks of varying difficulties and of component skills needed for reading and writing. Scores from the self-efficacy instrument were compared to the students' scores from a standardized test of reading and writing achievement. Students were administered both assessments during the first semester of that school year. Results from each of the assessments were analyzed using multivariate analyses of variance (MANOVA) and canonical correlation analyses. Across all grade levels, the authors discovered that "higher reading and writing achievement were related to higher self-efficacy for both tasks and skill" (Shell et al., 1995, p. 393). Further results indicated that the elementary students had tended to attribute success in writing more to external factors, like luck, while the high school students tended to attribute success in writing to more internal factors, such as intelligence and effort. This pattern of belief also appeared to hold between lower achieving writers across grade levels and higher achieving writers across grade levels. In addition, Shell et al. (1995) found that self-efficacy promotes motivational influences on students' reading and writing.

Pajares and Johnson (1996) completed a study involving ninth graders and the effects of writing self-efficacy and writing apprehension on essay writing performance. Students wrote a 30-minute essay and completed a writing self-efficacy scale. Additional evaluations included a writing apprehension scale and scores from a statewide writing assessment. The data were

analyzed using path analysis to demonstrate causal inferences between variables. Results of this

study showed that students' prior writing accomplishments had an impact on their self-efficacy

regarding new writing tasks. Prior success contributed directly to higher self-efficacy and

achievement, while prior failure had the opposite effect on self-efficacy and achievement. Based

on these results, Pajares and Johnson (1996) recommended that writing instruction should take

into consideration students' beliefs about their writing abilities as well as their actual abilities.

In a two-part study with middle school and high school students, Bruning et al. (2012)

explored a relationship between writing self-efficacy and four assumptions about writing that

provide a framework for a model of writing based on ideation (generating ideas), conventions

(expressing ideas in an accepted standard), and self-regulation (writers' self-direction through a

task). Bruning et al. (2012) described the four assumptions about writing as the following:

"writing is a complex cognitive act generating high demands on working memory. . .writing

development advances slowly. . .writers form strong impressions of their own writing

experiences. . . [and] writers group their writing-related experiences into psychologically

meaningful categories" (p. 3-4).   The authors selected this framework and model as being

representative of the way in which writers categorize themselves and writing tasks.

In the first part of this study, Bruning et al. (2012) initially administered a writing beliefs

survey and self-efficacy for writing scale to a group of middle school students to assess their

writing self-efficacy beliefs within this framework and model. The results of this section were

analyzed using a comparative fit index (CFI) and confirmatory factor analysis (CFA). Using the

CFI, the authors reported that correlations between the three areas of the model ranged from

moderate to strong. These results also revealed that the middle school students reported their

strongest beliefs in their ability to use writing conventions and their weakest beliefs in their

ability to employ writing self-regulation. Based on these results, the authors then applied CFA to

the next section of the study to determine if the results from the middle school students would

generalize to the high school students.

        For the second part of Bruning et al.'s (2012) study, high school students completed a

writing behavior scale, a self-efficacy writing scale, a scale to measure their liking of writing,

and a statewide writing assessment.   Similar results were achieved with the high school students

as with the middle school students, with moderate to stronger correlations between self-efficacy

for writing ideation and self-regulation than between writing conventions and ideation and self-

regulation. Additional results with the high school students demonstrated that liking writing was

more strongly linked to self-efficacy for ideation and for self-regulation. This relationship

between liking writing and self-efficacy for ideation and self-regulation may provide a link

between how confident writers feel about generating ideas for writing and maneuvering through

the writing process versus how confident they feel using writing conventions.

        Bruning et al. (2012) noted three major limitations in their study. The first was that the

framework and model used in the study represent two of many that could be used to discuss

writing self-efficacy and writing complexities. The second limitation was that this study did not

take into consideration specific genres or contextual factors of writing self-efficacy.   The third

limitation was the fact that the study focused on only a small part of what constitutes the source

of students' writing self-efficacy, that of students' beliefs as they related to liking writing. Other

factors that Bruning et al. (2012) suggested for consideration included differences related to

gender and students' developmental readiness for writing. Despite these limitations, Bruning et

al. (2012) noted that "the present study points to the possibility of advances in self-efficacy

research through improved alignment of self-efficacy measures with theory-based models of

student learning and performance" (p.12).

Theories such as the cognitive/motivational theory and the social/contextual theory can

be used to shape writing instruction to draw on students' writing self-efficacy to build confidence

and competence, as well as to address both the internal and external factors that influence

students' writing. In addition, Shell et al. (1995) suggested that understanding self-efficacy is

essential in creating effective writing instruction.

Instruction

As evidenced by the NAEP (NCES, 2011), many students struggle with writing. This

struggle may be particularly pronounced for students with disabilities, particularly for students

with learning disabilities (Polloway, Miller, & Smith, 2012). The areas of writing students with

learning disabilities find most challenging include planning, content generation, revising, and

text transcription (Troia, 2006). Students with learning disabilities often by-pass the planning

stage, write shorter compositions based mostly on limited knowledge and what can be most

easily accessed from memory, revise mostly for spelling and mechanical errors, and have

difficulty moving ideas into text (Santangelo, Harris, & Graham, 2007). Writing instruction that

focuses on providing strategies for addressing these challenges can be beneficial for students

with learning disabilities.

In this section two instructional approaches for developing writing skills that have been

used successfully with students with learning disabilities, as well as with other types of

disabilities, will be discussed. The first is self-regulated strategy development (SRSD). The

second approach is Cognitive Strategies in Writing (CSIW). Both of these approaches involve

teaching students to use strategies to address their writing difficulties and have been shaped by

the cognitive/motivational theory of writing and the social/contextual theory of writing, as well as impacting writing self-efficacy. In addition to these two instructional approaches, additional elements of effective instruction will also be presented.

Self-Regulated Strategy Development

Self-regulated strategy development is a specific writing strategy developed by Graham, Harris, and Sawyers (1987) that focuses on the students' cognition, behavior, and affective needs, and is characterized by six stages: 1. developing and activating background knowledge, 2. discussion, 3. teacher modeling of the strategy, 4. memorizing the strategy, 5. supporting the strategy (scaffolding), and 6. students' independent performances of the strategy (Harris, Graham, & Mason, 2003). Teachers and students can spend as much time as needed at each stage and can return to any stage as necessary. Research has shown SRSD to be effective with students in elementary school through college (e.g., Allsopp, Minskoff, & Bolt, 2005; Graham & Harris, 1989; Mason & Graham, 2008). SRSD addresses internal student processes (cognition and motivation) as well as external student processes (social interaction and text production), thus incorporating both the cognitive/motivational and the social/contextual theories of writing.

Self-regulated strategy development has been especially successful with students with learning disabilities (Baker et al., 2009; Graham & Harris, 2007; Graham & Harris, 1989; Harris Graham, & Mason, 2003; Lienemann & Reid, 2006). Additionally, writing instruction that responds to these students' particular needs delivers the most benefit when presented consistently from year to year and across curricular areas (Graham & Harris, 2011). Troia and Graham (2002) found that using an "explicit and highly teacher-directed approach had a positive . . . impact on . . . writing performance" (p. 299). Hoover (2010) reported similar success using SRSD in her work with high school students. Based on the results from these studies, instruction

in a specialized writing program, then, becomes a necessity (Polloway et al., 2012). Measurable

improvements in writing production and quality can be a result of explicitly teaching writing

strategies to students with learning disabilities (Baker et al., 2009). Directly teaching writing

strategies to students with learning disabilities can also improve production, quality, and writing

achievement scores (Walker et al., 2005).

Six research studies that will be discussed in the remainder of this section of the chapter

illustrate the benefits of SRSD. As part of their earlier research, Graham and Harris (1989)

completed a quasi-experimental study with three sixth-grade students with learning disabilities

using a strategy they called self-instructional strategy training (SIST), later known as self-

regulated strategy development (SRSD). The question associated with this study asked if

providing students with a specific writing strategy would increase their ability to generate,

organize, and elaborate when given writing tasks. Students' writing showed an increase in the

areas of essay elements, coherence, number of words written, and prewriting time. Post-study

interviews with the students and the instructor provided information regarding efficacy of the

writing strategies.

In 1997, De La Paz and Graham conducted a study of fifth grade students with learning

disabilities. After baseline data were collected, students were taught writing strategies using

SRSD.   Students were assessed using a multiple-probe design across subjects. All assessment

procedures were the same for baseline collection, post-treatment, and maintenance phases.

Results of this study showed an increase in students' writing skills, particularly in the areas of

the number of elements included in the students' essays, overall length of the essays, and actual

time spent writing.   Maintenance probes taken six weeks later showed the students were

maintaining the gains achieved during the course of the study. The sample size for this study

involved only three students. While the students demonstrated gains, it would be beneficial to have a larger sample size and a longer instructional period to determine greater validity and generalizability of their results.

Troia and Graham (2002) completed a study with fourth and fifth graders with learning disabilities. The students were taught planning strategies for writing. Prior to instruction, students were assessed for their familiarity with the essential elements of stories and persuasive essays. After the pre-instruction, students completed writing probes as a pretest, and then for post-test and maintenance. Students received between nine to 10 hours of strategy instruction. Students' writing was evaluated on length and overall quality. Results of the study demonstrated students' essay quality and length increased between pretest and maintenance probes.   However, generalization and application of the strategies post-treatment were inconsistent. While this study had a larger sample size, instructional time was limited. A lengthier instructional time may have increased the potential for greater generalizability.

Santangelo, Harris, and Graham (2007) reported on the use of SRSD for writing persuasive essays with a group of six fifth and sixth grade students. Students were taught strategies as part of a writing workshop class. While not a formal study, the students' writing demonstrated improvement and students reported they felt the strategies helped them to manage the writing process more effectively and become better writers.

Asaro-Saddler and Saddler (2010) completed a study with second and fourth graders with autism spectrum disorders. In this study, the students were taught strategies for narrative and story writing over a period of six lessons using SRSD. Initial baselines were collected and multiple probes were performed over the course of the lessons. By the completion of the study, the students were able to generalize the strategies to other writing tasks during post-treatment

and maintenance probes. While the students demonstrated success using SRSD, there were two

major limitations. The first limitation was the small sample size; only three students were

involved in the study. Secondly, because the maintenance probes were only taken four weeks

after the completion of the study, it was not known if the students' gains were maintained over a

longer time.

Chalk, Hagan-Burke, and Burke (2005) replicated Graham and Harris's (1989) study

involving the use of SRSD to improve the writing skills of students with learning disabilities, but

at the high school level, instead of the elementary level. While Graham and Harris worked with

three sixth grade students, Chalk et al.'s participants were 15 tenth grade students. The Chalk et

al. study was quasi-experimental and used a repeated measures design. The two primary

variables in the study were "number of words written and quality scores based on a scoring

rubric used by the school district" (Chalk et al., 2005, p. 80). The basis of this study was that

students with learning disabilities struggle with all parts of the writing process, and that given the

large amount of writing expected, this struggle will be especially pronounced for high school

students with learning disabilities.

The 15 students in the Chalk et al. study (2005) participated in lessons in self-regulated

strategy development during five sessions of 20-25 minutes duration. The students learned a

specific mnemonic device for essay writing to use as part of the SRSD. Probes taken as a

baseline were measured against probes taken during the intervention and generalization phases.

At the completion of the study, the students demonstrated an increase in the number of words

written and an improvement in the quality of their writing. While these results were positive, the

study's outcomes should be considered in the light of two major limitations. The first was the

study did not have a control group and was not able to use random sampling or random

assignment. Because some of the students' writings were used both during the intervention

phase, and then again during the evaluation phase, there were some variances in scoring which

may have given an inaccurate picture of student progress, as students may have made changes in

their writings that improved the final product. In terms of writing theories, this study fits the

cognitive/motivational theory of writing.

Cognitive Strategy Instruction in Writing

A second instructional strategy that has been effective in helping struggling student

writers, particularly those with learning problems, is the Cognitive Strategy Instruction Writing

Program (CSIW) developed by Englert, Raphael, Anderson, Anthony, Stevens, and Fear (1991).

CSIW, like self-regulated strategy development, addresses those areas with which students

struggle, particularly planning, organizing, content generation, and revising. The CSIW strategy

also has four distinct stages: text structure instruction, teacher modeling, guided practice, and

independent student performance (Guzel-Ozmen, 2009). These stages can also be introduced as

students become ready for each one, as well as revisited as necessary. Also central to CSIW is

the dialogue that occurs between the teacher and the student(s) and between students. These

dialogues assist the student(s) in more fully taking ownership of writing processes (Englert &

Mariage, 1991).

In an initial study using CSIW, Englert et al. (1991) successfully used this approach

through the course of a school year with fourth and fifth grade students, with and without

learning disabilities. The students were placed into the following groups: students with learning

disabilities (LD), low achieving students without disabilities (LA), and high achieving students

without disabilities (HA). The purpose of this study was to assess the effectiveness of using a

writing strategy that integrated instructional features such as on-going dialogue between the

students and the teacher as well as between the students themselves, use of scaffolding to learn

new skills, and creating a collaborative writing environment.

The students were administered pre- and post-test measures in reading comprehension

(producing a written recall after reading a passage) and writing (comparison/contrast,

explanation, and expert essays) as well as a metacognitive questionnaire about the writing

process. Between the pre- and posttest measures, students were split into an experimental group,

consisting of students with LD, LA students without LD, and HA students without LD who

received writing instructions using CSIW. The control group also consisted of the same

categories of students who received "writing lessons related to a district process writing program,

and lessons related to the district-adopted language arts textbooks" (Englert et al., 1991, p. 352).

The data from the pre- and post-test measures, as well as the metacognitive questionnaire were

analyzed using multivariate analysis of covariance and analysis of covariance. *T*-tests were also

run "to indicate whether performance gaps existed prior to intervention and, if so, whether the

intervention program could successfully diminish the gap between LD students and a

heterogeneous group of control students" (Englert et al., 1991, p. 360). While pretest scores

showed large differences between the students with LD and the students without LD, posttest

results demonstrated very little difference between the two groups of students. These results

suggested that students with LD made significant improvements in their writing performance.

Hallenbeck (1997) had similar success using CSIW with a resource class of four seventh

grade students, two girls and two boys, with learning disabilities. Based on key code tabulations

for individual contributions over three writing tasks, the benefits his students received from the

use of CSIW included the improvement in the quality of their writing, an increase in taking

responsibility for their own work, increased development in the ability to use scaffolding with

each other, as well as the use of collaborative skills in working with their peers, greater connections between reading and writing, and an increase in thinking about their own writing and themselves as writers. Use of CSIW encompasses both the cognitive/motivational and social/contextual theories of writing simultaneously through the use of a cognitive strategy that can be implemented within a collaborative group setting. CSIW becomes an essential part of an effective writing program when used as part of direct instruction (Troia & Graham, 2002).

Additional Elements Related to Instruction. While strategy instruction has been shown to be an effective technique to use with students who struggle with writing, there are several other elements that also have been recommended as having a positive effect on developing students' writing skills. These recommendations included increasing the time and frequency devoted to writing, use of evidence-based components of writing instruction, and improved teacher training in the teaching of writing.

NCOW (2003) recommended simply increasing the time and frequency spent on writing. Schumaker and Deshler (2009) had particular success with high school students who received strategy instruction through the course of an entire school year. The National Council of Teachers of English (NCTE) (2012) suggested that "writing instruction must include ample in-class and out-of-class opportunities for writing and should include writing for a variety of purposes and audiences" (p. 1). Graves (1994) as cited by Polloway et al. (2012), "recommended that students write at least four days per week; irregular instruction merely reminds students of their inability to write" (p. 456). Unfortunately, with the current emphasis on high-stakes testing in reading and mathematics, time devoted to explicit writing instruction, as well as opportunities for meaningful writing experiences often decreases (Graham & Harris, 2011).

In their report to the Carnegie Corporation, *Writing Next*, Graham and Perin (2007) identified 11 components of effective writing instruction: "use of writing strategies, summarizing, use of collaborative writing, having specific product goals, word processing, sentence combining, prewriting, use of inquiry activities, using a process writing approach, studying models of good writing, and use of writing for content learning" (p. 4). Graham and Perin (2007) cautioned that while these elements are effective, they do not constitute a complete writing curriculum. In a follow-up to that 2007 report, three additional practices that Graham and Harris (2011) recommended are those of combining writing and reading instruction, students' monitoring of their own writing performance, and reinforcing positive aspects of students' writing. Again, these practices, while effective, are not a full writing curriculum and may need to be presented in varying combinations and frequencies to provide maximum benefit to meet the unique needs of struggling writers.

All of the recommended elements, however, are only as beneficial as the quality of the instruction by which they are delivered. NCOW (2003) stated that "all prospective teachers, no matter their discipline, should be provided with courses in how to teach writing" (p. 3). If students with disabilities receive poor quality writing instruction, they are either likely to become poor writers themselves or their existing writing problems stand to worsen (Graham & Harris, 2011). Unfortunately, writing instruction for teachers continues to receive limited emphasis in many teacher education programs (Graham & Harris, 2011). At a minimum, writing teachers should have a solid grasp of theory and research as well as knowledge of how to translate that theory and research into practice (NCTE, 2012). Unless teacher preparation receives the necessary attention it needs to produce competent and confident writing teachers, student outcomes will continue to suffer (Schumaker & Deshler, 2009).

SRSD and CSIW are two instructional approaches that have been demonstrated to be successful with improving the writing skills of students with disabilities. These approaches have also had a positive effect on students' writing self-efficacy. These approaches were informed by the cognitive/motivational theory of writing and the social/contextual theory of writing, thus addressing both internal and external writing processes. Additional elements of effective, evidence-based elements of instruction, when used in tandem with these approaches, have demonstrated improvement in students' writing skills.

Assessment

Assessing students' writing is as much of a skill as writing itself. According to the NCTE (2012) writing assessment occurs for a variety of purposes.   Those purposes include determining what a student has learned and then using that information to plan subsequent instruction, as well as making a determination as to whether a student can proceed to a higher or different educational level. Camp (2012) recommended that "as our goals for students change . . ., so too, should our assessment practices" (p. 93). With any of these purposes and goals, judgments are made that can affect a student's success, and those judgments should be made by teachers who are informed about writing, writing development and literacy education, and programming in general (NCTE, 2012; Polloway et al., 2012). Two types of writing assessments that will be considered are standardized testing and rubrics.

Standardized Testing. Standardized testing represents one of the least subjective forms of writing assessment. In looking at standardized tests, it is important to distinguish between achievement-type tests and diagnostic tests. Polloway et al. (2012) recommended diagnostic tests over achievement tests in terms of usable information gained from the results of those particular tests. Additionally, the NCOW (2003) cautioned against using standardized tests as

the only form of assessment as they only measure limited aspects of students' writing. The

NCOW (2003) also recommended that writing assessments, including standardized tests, be

aligned with the standards and curriculum against which students' writing is being evaluated.

Graham, Herbert, and Harris (2011) suggested balancing the use of these types of tests, with

additional and alternate assessments to avoid the appearance of teaching to the test and/or

reducing the curriculum, as well as to get a more robust picture of what students are actually

producing and capable of producing. While standardized tests are useful for global instructional

planning, they are not as relevant for day-to-day instructional changes (Deno, 1985).

      Rubrics. Rubrics are a type of informal assessment. They, too, have been informed by

the cognitive/motivational theory of writing. Typically, rubrics are developed by the teacher to

assess specific areas of instruction. Polloway et al. (2012) stated that rubrics "provide a

summative way to evaluate both the craft and the content of writing" (p. 426). Rubrics can be

used for summative or formative evaluations. McLeod, Brown, McDaniels, and Sledge (2009)

recommended using rubrics as a way to clearly define expectations for writing assignments.

Rubrics are not only useful for teachers to evaluate students' writing, but for students to evaluate

and monitor their own writing. De La Paz (2009) demonstrated the use of rubrics to not only

evaluate students' writing but also to teach writing processes. She particularly advocated for the

use of rubrics in combination with writing programs that use SRSD, as each component of SRSD

can be correlated to a specific part of a rubric.

      When using a rubric, it is important to give attention to how the rubric was developed and

that those using the rubric to assess students' writing have been trained in its use. DiPardo,

Storms, and Selland (2011) recommended that rubric development go through a recursive

process that allows for multiple opportunities for refining and testing a rubric to ensure that the

criteria it uses is applicable to several types of student writing across grade levels with consistent

criteria.

   Rubrics can be developed to assess very local forms of writing, such as individual

classroom assignments, as well as globally to assess a school-wide or even district- wide writing

program. Rezaei and Lovorn (2010) cautioned, however, that creating a rubric that is good

quality and used effectively is often not very easy. They recommended using local rubrics which

are more classroom and student specific, as well as contextually specific and analytical.

   Rezaei and Lovorn's (2010) recommendation of an analytic rubric stands in direct

contrast to Spence (2010) who recommended a holistic rubric, or one that looks at the entire

process or product, not the individual steps to achieve the final product, as does an analytic

rubric. Spence (2010) further suggested thoroughly reviewing the rubric before implementing it,

considering how well the teacher knows his or students (the sociocultural context), and

considering the task environment (the cognitive/motivational context). Each set of authors

recognized that while rubrics can be used as a means of assessing student writing that is more

objective than traditional grading practices, care should be taken to ensure that rubric has been

designed to focus on the writing with adequate training given to how to implement it consistently

and effectively.

   Standardized testing and rubrics are two forms of assessment used to evaluate students'

writing. Standardized testing is a formal assessment that provides a global view of students

writing achievement (Deno, 1985), while rubrics are informal measures that can be used to

assess students on writing skills and can be tailored to specific criteria (Dipardo et al., 2011). As

both of these assessments focus more on a written product than the actual production of the

product, they may not give a complete picture of students' writing skills (Graham & Harris,

2011). Graham and Harris (2011) have recommended more research be conducted in the area of writing assessment.

Discussion

The purpose of this study was a program evaluation that uses a writing curriculum developed for high school students with disabilities. The primary influences on the development of this curriculum stemmed from the cognitive/motivational theory (Hayes, 1996; Troia et al., 2012) and the social/contextual theory (Russell, 1997; Englert et al.. 2007). The curriculum was evaluated in terms of the effects on the students' writing skills and on their perceptions of themselves as writers. According to the literature reviewed, strategies such as SRSD and CSIW have been shown to be beneficial in improving the writing skills of students with disabilities (e. g., Allsopp et al.2005; Englert et al., 1991; Hallenbeck, 1997; Graham & Harris, 1987; Graham & Harris, 1989; Guzel-Ozmen, 2009; Mason & Graham, 2008). These strategies have also been demonstrated to be effective in improving students' self-efficacy regarding writing achievement and performance (e. g., Bruning et al., 2012; Pajares & Johnson, 1996; Prat-Sala & Redford, 2012; Shell et al., 1995).

Central to the development of the curriculum evaluated were the recommendations from the National Commission on Writing (2003, 2004, 2005), and from Graham and Perin's (2007) follow up to those reports that outlined evidence-based practices that should be included in an effective writing curriculum. In addition to those practices, other elements that informed the development of this curriculum included increased time and frequency devoted to writing (Schumaker & Deshler, 2009) and combining reading and writing instruction (Graham & Harris, 2011).

The assessments used to evaluate students' work and progress as they moved through this curriculum include standardized testing and rubrics. Standardized testing provides a more global view of assessing students' writing skills (NCOW, 2003; Polloway et al., 2012), while rubrics can be used to evaluate students' progress and skills in a more curricular-specific way (Dipardo et al., 2011; McLeod et al., 2009). The students also completed a writing self-efficacy scale to assess their perceptions of their writing abilities and of themselves as writers (Bruning et al., 2012).

The expected outcome of this study was that students who participate in a program using a writing course with a curriculum particularly designed for high school students with disabilities will demonstrate improvement in their writing skills as well as improve their perceptions of themselves as writers. The following chapter will discuss the study's research methodology. The study design will be explained as well the setting and participant selection. In addition, the curriculum that was evaluated will be described as will the instruments used and the manner in which the data was analyzed.

Chapter 3 Research Methodology

The purpose of this study was to evaluate a writing strategies curriculum designed for and implemented with high school students (9th-12th grades) with disabilities. Previous researchers have suggested that the use of strategy instruction can be successful in improving the written language skills of students with disabilities (e.g., Graham & Harris, 1989; Lienemann & Reid, 2006; Schumaker & Deshler, 2009). However, data have demonstrated that many students still continue to struggle with writing (NCES, 2011), and additional research has confirmed that this struggle is particularly heightened for students with disabilities (Graham & Harris, 2011). This chapter will discuss the method, including the research design, used to evaluate a program in which a writing strategies curriculum was implemented with high school students with disabilities, the curriculum itself, the participants and setting, the measurement instruments, and the plan for analyzing the data.

Research Design

The research design for this study was a two-group pretest-posttest design. Because this study was an evaluation of a particular writing curriculum in a specific setting, there was no control group or random assignment. Despite this weakness, Rudestam and Newton (2007) noted the strength of this type of design is that it is "appropriate in developing or refining novel interventions" (p. 50). As a program evaluation, this study's purpose was to assist in refining a writing strategies curriculum for high school students with disabilities. As with many studies, the potential for certain threats existed; therefore, controls were put in place. Those threats included history, testing, and regression artifact; each is discussed below.

The history threat occurs "(a) when something in addition to the treatment occurs between the pretest and the posttest measurements of the dependent variable and (b) when the time interval between the pretest and posttest measurement is lengthy" (Johnson & Christensen, 2012, p. 251). To determine if events other than the writing curriculum affected the participants writing skills, the participants and their instructional program were monitored. None of the participants received tutoring in addition to their regular school day, nor were the participants enrolled in any additional classes in which writing skills were the primary focus. There was a span of about five months between the pretest and posttest measures, which test authors Hammill and Larsen (2009) have recommended as an appropriate period of time between test administrations for participants to receive a valid score.

The testing threat involves the potential of changes in participants' scores as a result of having previously taken the test. The measure that was administered to the participants was one that the participants have not taken previously. This test also used an A and B version for pre- and post-testing purposes. However, it was similar to an assessment the participants have previously taken, so they were familiar with the format. This familiarity helped control for the testing threat (Johnson & Christensen, 2012).

A third potential threat is regression artifact, or "the tendency of very high pretest scores to become lower and very low pretest scores to become higher on posttesting" (Johnson & Christensen, 2012, p. 253). Because the participants have a deficit in writing, it was expected that they would have low to very low scores on the pretest assessment. However, they were selected for the study not solely because of their low scores, but because they are enrolled in the course as part of their educational program. Therefore, the likelihood of an artificially low score was reduced.

According to Rossi, Lipsey, and Freeman (2004), "a good evaluation design is one that fits the circumstances while yielding credible and useful answers to the questions that motivate it" (p. 32). Therefore, while the two-group pretest-posttest design does have several weaknesses, it was appropriate to use in this study given the small sample size and the purpose of the study as a program evaluation of a writing strategies curriculum used with high school students with disabilities.

Setting and Participants

This study was conducted in a small private special education day school in a mid-sized city in the southeastern United States. The high school unit of this school, which includes ninth through twelfth grades, has 19 students. All of the high school students (n=19) have been found eligible for special education services according to state and local education agency eligibility criteria. Four of these students are identified as learning disabled, three have emotional disabilities, two are multiply disabled, five are identified as having other health impairments, four students have Autism Spectrum Disorder, and one student is identified as intellectually disabled.

The eight students who participated in this study were identified as having some type of disability. These students represented a convenience sample because they are enrolled in the course as part of the completion of their course requirements for attendance at and graduation from the school. Five of the students have previously completed a year of the course. The students have below average to low average intelligence (score of between 50-95) as documented by psychological testing and have been found eligible for special education services as students with a disability through their local education agencies (Tables 3.1 and 3.2). Because

of the small sample size, differences in gender and ethnicity were not factors that were

considered.

Table 3. 1

Year One Participant Characteristics

Student	Grade	Age	IQ Score	Achievement Score	Years in the Writing Program	Identified Disability
A	9	15	85*	77	1	Attention Deficit Disorder
B	9	15	88*	73	1	Emotional Disability
C	9	14	84*	83	1	Specific Learning Disability

*Standard Scores for intelligence from *Weschler Intelligence Scale for Children-Fourth Edition*
Standard Scores for achievement from *Weschler Individualized Achievement Test-III, Spring 2013, Essay Composition*

Table 3. 2

Year Two Participant Characteristics

Student	Grade	Age	IQ Score	Achievement Score	Years in the Writing Program	Identified Disability
D	10	18	73**	75	2	Multiple Disabilities
E	10	16	47**	84	2	Intellectual Disability
F	10	17	59*	77	2	Specific Learning Disability
G	10	16	91*	79	2	Specific Learning Disability
H	10	16	56*	75	2	Autism Spectrum Disorder

**Standard Scores for intelligence from *Reynolds Intellectual Assessment Scales*
Standard Scores for achievement from *Weschler Individualized Achievement Test-III, Spring 2013, Essay Composition*

The Curriculum

The writing course curriculum evaluated in this study is based on a writing curriculum developed by Morgan (2004), which already contained many of the recommended 11 key elements of effective writing instruction that were later outlined in Graham and Perin's (2007), *Writing Next*, report to the Carnegie Corporation of New York. These 11 elements included writing strategies (which ranks as having the most effect on students' writing skills), summarization, collaborative writing, specific product goals, word processing, sentence-combining, prewriting, inquiry activities, process writing approach, study of models, and writing for content learning. Through incorporation of those elements in the production of simple narratives, explanations, and research reports to well-documented research papers, correspondence and in-depth expository documents, the school's faculty sought to develop the skills which will enable students to write clearly, effectively, and independently. The curriculum was developed for implementation with high school students with disabilities, grades nine through twelve (see Appendix A). In addition to their regular English class, students are required, at some point during their four years of high school, to take the writing strategies course, which typically is taught in two years. Of the eight participants in this study, three are completing the first year of the course, while five are completing the second year. The current program has been in place for six years.

By implementing a direct, explicit writing strategies curriculum, the faculty and administration of the school have expected to see an increase in students' written expression skills as a result of exposure to this curriculum. Specifically, this evaluation sought to answer the following question: Will students with a disability show improvement in written expression skills after receiving direct strategy instruction in writing? While Graham and Perin (2007) cautioned that "no single approach to writing instruction will meet the needs of all

students" (p. 11), it was expected that there would be an increase in these skills. The program

and curriculum will be discussed in further detail below.

The Program

      This study was a program evaluation of a writing strategies curriculum used with high

school students with disabilities. The curriculum used with the students is typically presented

over two years. The curriculum moves in a sequential fashion to provide students with a

framework and structure for thinking about writing, evaluating and approaching writing tasks,

and applying writing strategies to varying writing tasks (Morgan, 2004). The writing strategies

presented through this curriculum "involves explicitly and systematically teaching steps

necessary for planning, revising, and/or editing text" (Graham & Perin, 2007, p. 15).

      The first year of the curriculum focuses on basic writing components, such as identifying

and correctly using nouns and action words, building sentences, and forming paragraphs. The

second year of the curriculum builds on the first year with an increased focus on strategies for

the writing process. This part of the curriculum also moves students beyond simple paragraphs

to various forms of writing, including personal anecdotes, letters, essays, and a research paper.

Each year of the curriculum is described in greater detail in the following sections.

      Year one.   The first year of the program in which the writing curriculum is presented is

framed by six basic guidelines. According to Morgan (1987), these guidelines include the need

for students with disabilities to understand that writing is an essential form of communication, to

be "stimulated intellectually and creatively" (p. 9), to have structure, to have an opportunity

to write and revise, to write on a daily basis, and to receive individual feedback and evaluation.

These six guidelines encompass both the basic tenets of the social/contextual theory, such as

"procedural facilitators and tools . . . and participation in communities of practice" (Englert et al.,

2006, p. 209) as well as those of the cognitive/motivational theory, including "the internal factors

. . . of text interpretation, reflection, and text production" (Graham and Harris, 2011, p. 423).

These guidelines and theories provide the framework around which the curriculum is structured.

   Year one of the curriculum begins with sentence writing. Students are introduced to two

elemental items of a sentence: nouns and action words. They are taught definitions for each and

spend time working with categories and examples of each before putting these items together to

form a basic two-word sentence, consisting of a noun plus an action word. This sentence pattern

is referred to as Pattern #1. Students practice with Pattern #1 until they can independently

generate a basic two-word sentence that makes sense, is correctly punctuated, and demonstrates

correct verb endings and subject-verb agreement. At this point, students are limited to using

only action words; therefore the term "verb" is not used to identify these words. According to

Graham and Harris (2007), the teaching of grammar and grammatical terms is one of the least

effective strategies in improving the writing skills of students with learning disabilities. For this

reason, terms like "verb" and "adjective" are introduced further into the curriculum and other

terms, such as "preposition", "adverb", and "conjunction", are not used at all. Instead, these

terms are put under the umbrella of "details" as students learn to expand Pattern #1 and move

into more complex sentence patterns. During this first year of the curriculum, students learn a

total of five basic sentence patterns, as well as how to write series sentences, how to answer

questions in a sentence, and how to use words , such as "because", "since", and "so", that signal

a change in a sentence. Each of the sentence patterns and types of sentences are introduced

separately. Students work with the particular pattern or sentence type until they have achieved

mastery before moving on to the next sentence pattern or type.

From sentences, the students move into paragraph writing. Students are taught strategies

for describing objects, people, and feelings. For describing objects, students learn the "S-O-S"

strategy. S-O-S stands for "senses-observation-selection" (Morgan, 1987, p. 113). After

working with objects, students move to describing people. For this type of description, students

learn V-I-P (visual/appearance, interests, personality) (Morgan, 1987.) From describing objects

and people, students then move to describing feelings. Students use the "OH" strategy to

describe feelings. OH can be used to describe other people's feelings ("observation and hunch")

or the students' own feelings ("own experience and how I felt") (Morgan, 1987). Students are

given multiple opportunities to practice using each method. Part of this practice includes sharing

their descriptions with their classmates.   The use of these strategies individually and the use of

group sharing and feedback encompasses both aspects of the cognitive/motivational and

social/contextual theories.   The use of these strategies also provides an instructional sequence

for writing tasks and skills (Graham & Harris, 1989).

From descriptions of objects, people, and feelings, students move to longer forms of

writing. Students work with writing personal anecdotes, friendly letters, and news stories. These

types of writing provide opportunities for students to practice using the sentence patterns they

learned earlier in the curriculum as well as develop fluency (Morgan, 1987). This step in the

curriculum allows students ample opportunities to put sentences together to "convey some wider

relationship of ideas" (Morgan, 1987, p. 110). Arranging sentences in this way prepares students

for writing an academic paragraph, which is the final stage in the first year of the program.

In this curriculum, an academic paragraph is defined as "an organized group of

interrelated sentences that develops a single point on a given topic. Generally, it includes a topic

sentence, evidence or explanations, and a concluding or summary sentence" (Morgan, 1987, p.

147). The academic paragraph provides the foundation for the more formal types of writing

students will be required to do as they progress through high school and college. In addition to

being taught what goes into an academic paragraph, students are also taught a process for how to

write this type of paragraph. While the process is presented in its entirety, each step is taught

separately with multiple opportunities for practice until students have mastered the steps.

Students then work with using the steps all together to produce academic paragraphs. Revising

and editing are reviewed throughout the process. Year one of the program ends at this point.

In summary, the first year of the program begins with working with the basic elements of

a sentence, through constructing different types of sentences, and ending with writing academic

paragraphs. Students are given multiple opportunities to practice each type of writing and are

taught strategies to use for each type of writing. The combination of activities that address both

the individual, such as using strategies, including, VIP, S-O-S, and OH, and the group, including

peer review, encompasses both the cognitive/motivational and social/contextual theories of

writing.

Year Two. The second year of the program begins with a review of some the key

elements presented during the first year. Students review the anecdote, the personal letter, the

news story, and the academic paragraph. In addition to review, students complete a writing

profile and a writing sample to provide an overview of their skills and to give a clearer sense of

their writing styles and writing needs. Spending this time on review reinforces concepts and

skills learned during the first year of the program and helps build students' confidence as they

prepare to move into newer and more difficult material (Morgan, 2004).

A primary focus of year two of the program is on using a paradigm for writing that can be

applied across disciplines and assignments. This paradigm provides a frame for students to use

"to analyze what is expected from writing task to writing task" (Morgan, 2004, p. 44). This

paradigm is called the "Four Squares for Expressive Success" (Morgan, 2004). Students use the

four squares to analyze writing assignments as well as to evaluate their own writing and that of

their peers. Each square correlates to an aspect of writing; those aspects are content, expression,

format and mechanics (Figure 3.1). While the four squares are initially presented as a whole,

students spend time working with each item in order to master what is meant by and required for

each square. This paradigm provides the basis for the analysis and evaluation of subsequent

forms of writing that will be covered in the remainder of the program.

Figure 3. 1 Four Squares for Expressive Success

Content	Expression
Format	Mechanics

In addition to learning to apply the four squares to writing tasks for analysis and

evaluation, students are also taught how the paradigm relates to the writing process. According

to Morgan (2004), teaching a process approach to writing is essential to providing students with

"a context for asking the questions, answering them, and applying the skills appropriate to an

ever-changing audience, context, and purpose" (p. 61). Again, while students are presented with

the four squares for process as a whole (Fig. 3.2), they spend time working with each square

before applying the complete paradigm to a particular writing assignment. These practice

opportunities allow for the students to work individually (cognitive/motivational) and in pairs

and groups (social/contextual). A process approach to writing is one of the 11 recommended

elements for effective writing instruction with adolescents (Graham & Harris, 2007). Additional

elements included in this part of the program are writing strategies, summarization, collaborative

writing, specific product goals, and prewriting. Several of these elements carry over to the

remaining sections of the program.

Figure 3. 2 Four Squares plus Writing Process

Content (pre-writing) (mixing it/revising)	Expression (planning) (drafting) (mixing it/revising)
Format (second draft) (fixing it/editing)	Mechanics (fixing it/editing)

Once the students have learned to identify and have demonstrated an understanding of the

four squares, they are introduced to the next type of writing in the program, that of writing multi-

paragraph essays. As with other types of writing presented in the program, the students are

presented with the essay as a whole and then work with each part of the essay (five-paragraph

structure) before writing complete compositions. Students then move through a variety of

essays, including narratives, descriptive essays, process essays, comparison/contrast essays, and

essays that argue a point. For each essay, students use the four squares to both analyze what it is

they must do for each essay, as well as to complete both peer- and self-evaluations. This use of

both individual and peer work directly stems from both the cognitive/motivational and

social/contextual theories of writing. Effective elements of writing instruction used during this

part of the program include prewriting, strategies, collaborative writing, specific product goals,

and summarization. Use of the four squares allows students to self-monitor their own writing,

which is an essential part of SRSD (Graham & Harris, 2011).

The final phase of year two of the program deals with completing academic research to

write a research paper. Students begin with an overview of why completing research is

important to them as students. Then, as with other parts of the program, the students spend time

working with each stage of research and the research paper before actually selecting a topic and

beginning their own research. The four squares are used with this section of the program as well

to analyze the research tasks and then to evaluate both the students' own work and their peers as

they work through the research process and produce their final papers. This part of the program

also pulls in the elements of prewriting, strategy usage, collaborative writing, specific product

goals, and summarization.

       The program being evaluated by this study is presented to students over a two-year

period. The first year of the program focuses on basic writing components and skills and builds

through the course of the two years from those simplest skills, such as identifying nouns and

action words, to writing a research paper by the end of the second year. Many of Graham and

Harris's (2007) 11 recommended elements of effective writing instruction are used throughout

both years of the program. The program as a whole is framed by both the cognitive/motivational

and social/contextual theories of writing through its focus on both the individual student and the

writing environment as a whole, including the writing tasks and student to student and student to

teacher interactions.

Measures

       Student progress was measured using three instruments. The first instrument of

measurement was a standardized test. The selected standardized test was the Test of Written

Language, 4th Edition (TOWL-4) (Hammill & Larsen, 2009). The second instrument that was

used was the school-designed rubric used to assess writing progress at the end of each nine-week

grading period. At the beginning and the end of the course, students were given the third

instrument, which was a writing self-efficacy scale to assess how they perceived their progress as writers. These three instruments will be discussed in the following section.

   TOWL-4. The TOWL-4 (Hammill & Larsen, 2009) is a standardized test specifically designed to assess a student's writing skills. It contains the following seven subtests: vocabulary, spelling, punctuation, logical sentences, sentence combining, contextual conventions, and story composition. This most recent edition of the test was normed with both students with and without disabilities which, according to Polloway (1985), was a needed improvement over previous editions. The TOWL-4 was selected for use because, according to Hammill and Larsen (2009), and Graham and Harris (2011), this test is an appropriate test to use to assess a student's writing performance and is commonly used to assess students' writing skills for both diagnostic purposes and to design instruction (Graham & Harris, 2011). Several researchers have used either the complete TOWL-4 test or specific subtests to evaluate students' writing skills (e. g., Asaro-Saddler & Saddler, 2010; Graham & Harris, 1989, 2011; Walker et al., 2005.)

   The first edition of the TOWL was published in 1978, with a subsequent revision in 1983 (Polloway, 1985). These early editions included six subtests that measured vocabulary, thematic maturity, spelling, word usage, style, and handwriting. These early editions also did not include students with disabilities in their standardization sample. An additional concern in earlier editions included not having an alternate form to use for pretest-posttest evaluations (Williams, 1985). The most recent edition, TOWL-4, has addressed both of these concerns by including students with disabilities in its norming samples and by providing alternate test forms.

   The students were given the TOWL-4 in August at the beginning of the school year. Administration at this time provided baseline information for the rubric. The August test

administration also provided a snapshot of students' writing skills without the influence of

additional instruction, since none of the students received any writing instruction beyond the end

of the previous school year.

Rubrics. Rubrics are an informal assessment that can contribute to a more complete

picture of a student's writing progress (Rezaei & Lovorn, 2010). For this study, the rubric was

designed by the school's faculty to evaluate students' progress in writing on a specific set of

components at the end of each nine-week grading period (see Appendix B). Data from the rubric

can be compared to the initial data from the TOWL- 4 to gauge continuous progress and to make

instructional adjustments.

Because this rubric was designed specifically to evaluate the students' writing progress in

a particular curriculum, it can be considered a local rubric. Rezaei and Lovorn (2010) suggested

using a local rubric when assessing specific classroom and student outcomes, as well as when

evaluating the particular steps involved in creating and completing a final product. As the

purpose of this study was to evaluate a writing strategies curriculum in a particular setting with a

specific group of students, use of a local rubric was appropriate. Due to the specific nature of the

rubric to be used, there were no objective data available to confirm its reliability or validity.

However, Rezaei and Lovorn (2010) noted that "no research has been found to show a negative

effect of using rubrics (decreasing the reliability)" (p. 19). Additionally these researchers have

stated that "intra-rater reliability (consistency of grading a given writing by the same rater twice)

is reported to be higher. . .than the inter-rater reliability when a rubric is used" (p. 21).

As part of each student's educational program at the school, s/he has a writing goal that is

measured by the school's writing rubric. This goal is monitored through the writing strategies

curriculum course that each student must complete as part of his or her educational program

while attending the school. At the end of the prior school year, each student is given a writing

prompt to establish his or her goal for the coming school year. In August, at the beginning of the

course, each student is given another writing prompt to establish a baseline. The students then

complete a writing prompt at the end of each quarter to assess how many of the skills on the

rubric he or she has mastered as each student works towards his or her goal.

      Self-Efficacy for Writing Scale. To evaluate how students perceive themselves as

writers and their writing abilities, they completed a survey twice. Pajares and Johnson (1996)

have recommended the use of a writing self-efficacy instrument to complement quantitative data

regarding students' writing skills in order to study "how writing beliefs are developed and how

students perceive that these beliefs influence their writing attainments and the academic paths

they follow" (p. 173).

      The Self-Efficacy for Writing Scale (SEWS) (Bruning et al., 2012; Shell et al., 1989)

 (see Appendix C) was administered to the students at the beginning of the study and at the

completion of the study, with a span of about four months between survey administrations. As

with the TOWL-4, the students completed the SEWS in August to provide a profile of how they

view themselves as writers prior to the influence of immediate instruction. They completed the

survey again in December after about 18 weeks of participation in the program.

      The SEWS is an 16-item survey that is "designed to yield information on students'

writing habits and motivations, writing achievement goals, implicit beliefs about writing and

writing-related activities, habits and attitudes" (Bruning et al., 2012, p. 5). This scale uses a 0-

100 response format, which according to Pajares (2007) is "psychometrically stronger than one

with a traditional Likert format" (p. 3).

Shell et al. (1995) used an early version of the SEWS with college students, and later adapted for use with students across all grades levels. The items in the SEWS correspond to three dimensions of writing. Those dimensions are ideation, conventions, and self-regulation (Bruning et al., 2012). These three dimensions most closely align with the cognitive/motivational theory (Hayes, 1996) and the social/contextual theory (Russell, 1997) that influenced the development of this curriculum.

The ideation, conventions, and self-regulation writing dimensions also align with the sections of the rubric developed by the school and which is used to evaluate students' progress toward the writing goals that are part of their individualized instruction plans, as well as the 11 strategies of effective writing recommended by Graham and Perin (2007). In addition, use of a survey, such as the SEWS, serves as a means for students to provide feedback on their own beliefs of themselves as writers, apart from other data which focused specifically on their skill development, such as that from the TOWL-4 and the rubric (Morgan, 2004). These beliefs may be used to help determine student performance and outcomes on writing tasks (Shell et al., 1995).

Analysis

Because this study used three instruments, three sets of data analysis were performed. All results were reported for the students in terms of their length of participation in the program. First, to determine the effectiveness of the writing curriculum on students' written expression skills, the students' pretest and posttest scaled scores on the TOWL-4 were compared to each other using a paired samples t-test. In addition to the t-test, a split-plot ANOVA was completed to further assess the impact of the writing curriculum on the students' written expression skills.

Variables included in the ANOVA were the students' years in the program and the seven

TOWL-4 subtests.

   A split-plot ANOVA is appropriate because there were two groups of students. One group

consisted of the first year students; the second group consisted of the second year students. The

between subjects variable was the students' year of participation in the program. The within

subjects variable was the writing curriculum. The split-plot ANOVA demonstrated the effect of

the program on the students' writing skills.

   Second, the data from the rubrics were analyzed using a paired samples t-test and a repeated

measures ANOVA. The data from the rubric included the baseline measure taken at the

beginning of the school year and then again at the end of the first two grading periods of the

school year, which were approximately 18 weeks.

   Third, the SEWS data were analyzed using a paired samples t-test and a split-plot ANOVA.

These tests were appropriate to use because of this study's small sample size and because the

measures were repeated over time (Boslaugh, 2013).

   The purpose of this study was to evaluate a writing curriculum that was designed for use with

high school students with disabilities. The research questions associated with this study sought

to determine what the effect of a writing strategies curriculum is on the written expression skills

of high school students with disabilities. It was this researcher's belief that the data would

provide information suggesting that instruction in a writing strategies curriculum would have a

positive effect on high school students' writing skills and writing self-efficacy. In addition, it

was also this researcher's belief that the results from this study would add to the current body of

literature regarding the means and methods for improving the written expression skills of high

school students with disabilities.

Chapter 4 Results

The purpose of this study was to evaluate a writing strategies curriculum that was

designed to be used with high school students with disabilities. This curriculum is presented in a

two-year program. The participants in the study represented a range of disabilities, including

specific learning disability, autism spectrum disorder, attention deficit disorder, intellectual

disability, multiple disabilities, and severe emotional disturbance. Of the eight participants, three

were participating in the program in which the curriculum is delivered for the first year. These

three participants were in the ninth grade. The other five participants were participating in the

second year of the program. These five participants were in the 10th grade. All of the participants

had below average to low average intelligence, as measured by previous psychological testing.

To measure student progress in the curriculum, students were given a standardized test, the Test

of Written Language-4 (TOWL-4). In addition to the TOWL-4, student progress was also

measured using a rubric designed specifically by the school's faculty for use with the program.

The students also completed a self-efficacy for writing scale (SEWS) to measure their writing

self-efficacy. The results of each of these measurements will be discussed in the remainder of

this chapter. The TOWL-4 scores are presented first, followed by the information from the

rubric, and finally the self-efficacy scale survey results.

Test of Written Language-4

All of the participants completed the TOWL-4 at the beginning of the course in which the

curriculum is delivered and again mid-way through the school year. The students completed all

seven of the subtests. Table 4.1 shows the students' scaled scores received from pre- and post-

test administration. The seven subtests were vocabulary (VO), spelling (SP), punctuation (PU),

logical sentences (LS), sentence combining (SC), contextual conventions (CC), and story

composition (SCo).These subtests assessed students' skills in writing convention (using

traditional, accepted rules for writing, particularly spelling and punctuation), linguistics

(grammar and semantics), and cognition (writing logically and coherently in a particular context)

(Hammill & Larsen, 2009). The scaled scores received for both evaluations are standard scores.

According to Hammill and Larsen (2009), these scores have a mean of 10 and a standard

deviation of three. Scores are described in the following way: 17-20 very superior, 15-16

superior, 13-14 above average, 8-12 average, 6-7 below average, 4-5 poor, and 1-3 very poor.

Table 4. 1

TOWL-4 Pre-/Posttest Scaled Scores

Student	Years in Program	VOC		SP		PU		LS		SC		CC		SCo	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
A	1	12	12	11	13	11	12	12	11	11	11	13	12	13	14
B	1	8	12	5	6	8	12	13	14	10	11	7	10	13	11
C	1	10	8	9	7	10	11	8	12	12	15	9	9	15	6
D	2	4	5	4	5	6	7	4	9	3	7	7	7	4	4
E	2	3	4	5	5	6	6	5	10	3	6	4	7	7	4
F	2	6	4	7	7	7	9	4	5	7	6	6	7	9	5
G	2	7	6	5	6	8	9	11	11	7	8	8	7	4	6
H	2	8	10	7	8	7	6	9	10	9	14	9	7	4	5

The students' pretest scores fell between a high of 15 (superior) to a low of three (very

poor). The first year students' pretest scores tended to be higher than the second year students'

pretest scores across all subtests. This difference in scores could be attributed to the differences

in the students' cognitive ability and intensity of learning needs. Subtests that appeared to be

more difficult for all of the participants included vocabulary, spelling, punctuation, sentence

combining, and story composition, with the average scores falling in the below average range.

On average, the students scored in the above average range on the logical sentences and contextual conventions subtests.

The students' posttest scores also ranged from a high of 15 (superior) to a low of four (poor). No student received a score in the very poor range in the post-test administration. Both first and second year students' scores did increase across several subtest areas.   Seven out of the eight students' scores decreased in one or two subtest areas while improving in others. Students demonstrated the most improvement in the punctuation, sentence combining, and logical sentences subtest areas.

A one-tailed paired-samples t-test was conducted to evaluate whether a statistically significant difference existed between the mean TOWL-4 scores before and after instruction in which a writing strategies curriculum was delivered. An alpha level of .05 was used for this test. The results of this test are shown in Table 4.2. Significant differences between pretest and posttest administrations were demonstrated for the Punctuation, Logical Sentences, and Sentence Combining subtests. No significant differences were found between pretest and posttest administrations for the other four subtest areas. These results are consistent with the TOWL-4 scaled scores which indicated student improvement in those same subtest areas.

In addition to the paired-samples t-test, a split-plot ANOVA was performed to evaluate the effects of the program on the students' pretest and posttest scores on the TOWL-4. The participants were separated by program year because each year of the program focuses on different aspects of writing. Results are presented for the pretest and posttest administrations of the TOWL-4's seven subtests for the participants' year in the program. An alpha level of .05 was used for this test. The reported results of these tests focused on significant effects for the subtest administrations for each group of students.

Table 4. 2

TOWL-4 T-test Results

TOWL-4 Subtests	Pretest Means (*Standard Deviations*)	Posttest Means (*Standard Deviations*)	Difference	*p*
Vocabulary	7.25 (2.96)	7.62 (3.37)	*t* (7) = .-51	.31
Spelling	6.62 (2.31)	7.12 (2.58)	*t* (7) = -1.18	.13
Punctuation	7.87 (1.80)	9.00 (2.50)	*t* (7) = -2.18	.03*
Logical Sentences	8.25 (3.61)	10.25 (2.60)	*t* (7) = -2.42	.02*
Sentence Combining	7.75 (3.41)	9.75 (3.35)	*t* (7) = -2.73	.01*
Contextual Conventions	8.37 (2.13)	8.25 (1.90)	*t* (7) = .23	.41
Story Composition	7.50 (4.44)	6.87 (3.64)	*t* (7) = .37	.72

*Significant at ≤ 0.05

Table 4.3 shows the main effects and interactions for the TOWL-4's seven subtest areas.

There were significant main effects for the vocabulary, punctuation, sentence combining,

contextual conventions, and story composition subtests between pre- and posttest

administrations. There were no significant interactions for any of the subtest areas. Participation

Table 4. 3

Results of the TOWL-4 Split-Plot ANOVA

TOWL-4 Subtests	Main Effect	Interaction
Vocabulary	$F(1,6) = 10.51, (p = .01)*$	$F(1,6) = .08, p = .78$
Spelling	$F(1,6) = 2.69, (p = .15)$	$F(1,6) = .08, p = .78$
Punctuation	$F(1,6) = 24.39, (p = .03)*$	$F(1,6) = 1.96, p = .21$
Logical Sentences	$F(1,6) = 5.26, (p = .06)$	$F(1,6) = .35, p = .57$
Sentence Combining	$F(1,6) = 6.77, (p = .04)*$	$F(1,6) = .45, p = .52$
Contextual Conventions	$F(1,6) = 7.59, (p = .03)*$	$F(1,6) = 1.30, p = .29$
Story Composition	$F(1,6) = 13.56, (p = .01)*$	$F(1,6) = .01, p = .90$

*Significant at ≤ 0.05

in the program positively impacted the students' written expression skills; however, students in

the first year of the program demonstrated more improvement than second year students, after

approximately 18 weeks of instruction.

For the vocabulary subtest, the effect size indicator eta squared was .63, suggesting that participation in the program explains 63% of the variance in the students' writing performance in this area (see Figure 4.1). An effect size indicator eta squared at .31 for the spelling subtest indicates that only 31% of the variance in the students' performance in this subtest area can be attributed to participation in the program (see Figure 4.2).

Figure 4. 1 TOWL-4 Pre/Post Vocabulary Year One, Year Two
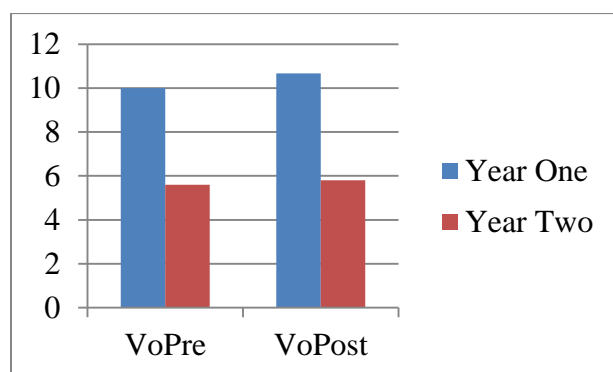
Figure 4. 2 TOWL-4 Pre/Post Spelling Year One, Year Two
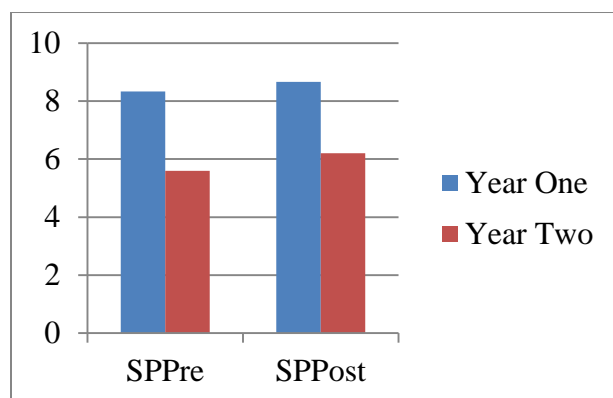
For the punctuation subtest, the effect indicator eta squared of .80, indicates that participation the writing strategies curriculum is responsible for 80% of the variance in the students' performance in the area (see Figure 4.3). For the logical sentences subtest area, the effect size indicator eta squared was .46, indicating that participation in the writing strategies curriculum is responsible for 46% of the variance in the students' performance in this subtest area (see Figure 4.4).

Figure 4. 3TOWL-4 Pre/Post Punctuation Year One, Year Two
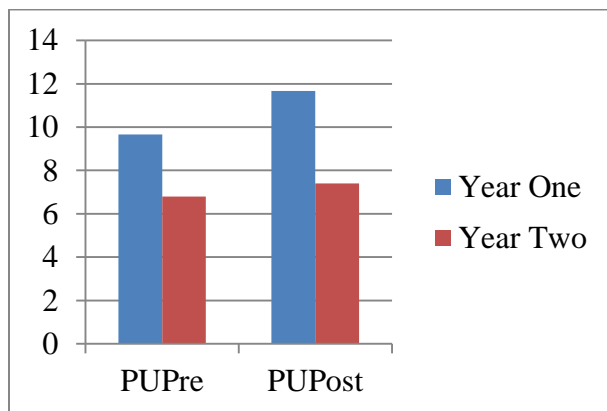
Figure 4. 4 TOWL-4 Pre/Post Logical Sentences Year One, Year Two
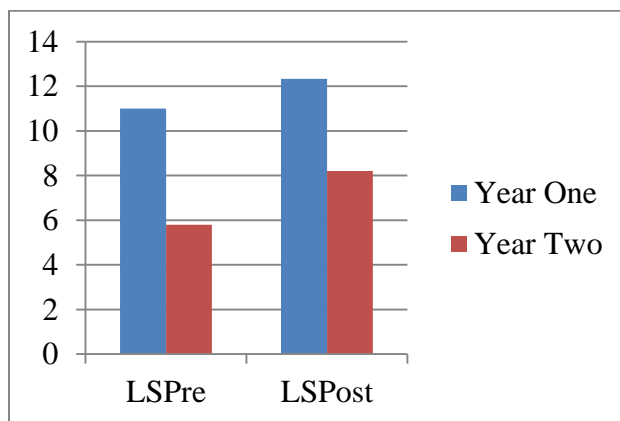
For the sentence combining subtest, the effect size indicator eta squared was .53, suggesting that

participation in the program is responsible for 53% of the variance in the students' performance

in this area (see Figure 4.5). An effect size indicator eta squared at .55 for the contextual

conventions subtest indicates that 55% of the variance of the students' performance in this

subtest area can be attributed to participation in the program (see Figure 4.6).   Finally, for the

story composition subtest, the effect size indicator eta squared was .69, suggesting that

Figure 4. 5 TOWL-4 Pre/Post Sentence Combining Year One, Year Two
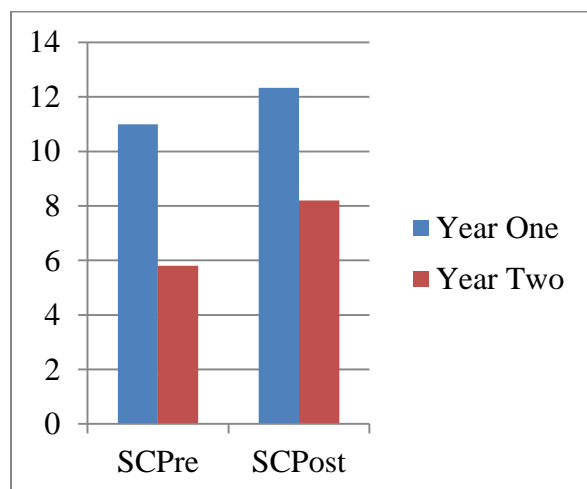
Figure 4. 6 TOWL-4 Pre/Post Contextual Conventions Year One, Year Two
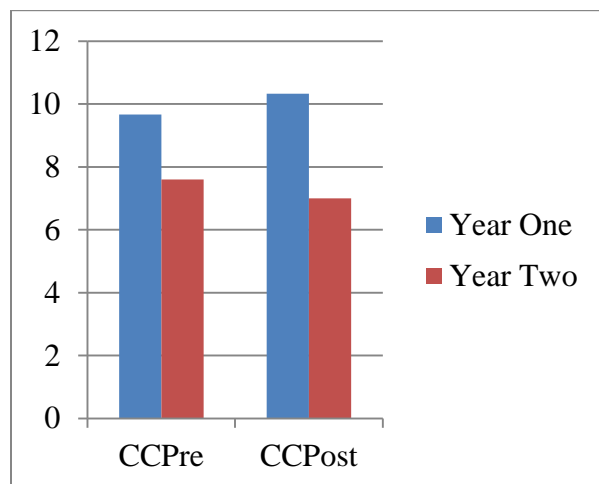
participation in the program is responsible for 69% of the variance of the students' performance in this subtest area (see Figure 4.7).

Results of both the paired samples t-test and the split-plot ANOVA indicate that participation in the program did have a positive impact on the students' written expression skills. First year students demonstrated relatively more growth in the areas of vocabulary, spelling, punctuation, logical sentences, and sentence combining than did the second year students.

Figure 4. 7 TOWL-4 Pre/Post Story Composition Year One, Year Two
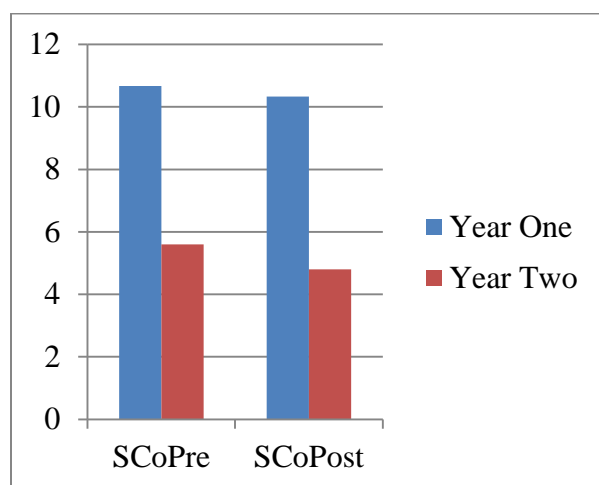
Rubric

Table 4.4 shows the participants' progress toward their writing goals after four and a half months of involvement in the course in which the writing strategies curriculum is delivered. The goal column represents the number of skills out of the 23 total skills on the rubric that the students are expected to reach by the end of the school year. The baseline column shows the number of skills the students demonstrated knowledge of at the beginning of the school year. The first quarter column represents the number of skills the students have acquired between the baseline writing prompt and the prompt given after approximately nine weeks of instruction. The second quarter column displays the number of skills the students demonstrated use of between the first and second writing prompt administrations after approximately 18 weeks of participation in the course. By the end of the second quarter, seven of the eight students demonstrated progress toward their goals.

Year One. A one-tailed paired samples t-test was completed for students in year one of the program. An alpha level of .05 was used for this test. The results of this test revealed that

Table 4. 4

Rubric Data for Students' Writing Goals

Participant	Years in the Program	Disability	Goal	Baseline	First Quarter	Second Quarter
Student A	1	ADHD	17/23	15/23	12/23	15/23
Student B	1	SED	16/23	8/23	11/23	12/23
Student C	1	SLD	18/23	10/23	13/23	16/23
Student D	2	MD	20/23	16/23	14/23	14/23
Student E	2	ID	12/23	6/23	9/23	10/23
Student F	2	SLD	12/23	9/23	13/23	17/23
Student G	2	SLD	10/23	6/23	11/23	16/23
Student H	2	ASD	10/23	6/23	10/23	11/23

ADHD=Attention Deficit/Hyperactive Disorder, SED=Serious Emotional Disturbance,
SLD=Specific Learning Disability, MD=Multiple Disabilities, ID=Intellectual Disability,
ASD=Autism Spectrum Disorder

there was not a significant difference in year one students' progress toward their writing goals

between the writing prompts given at the beginning of the course and at the end of the first

grading period (*M*=11.00, *SD*= 3.6) and (*M* = 12.00, *SD* = 1.00) (*t*(2) =-.50, *p* = .33). Test results

did show a significant difference in year one students' progress toward their writing goals

between the prompts given at the end of the first grading period and at the end of the second

grading period (*M* = 12.00, *SD* = 1.00) and (*M* = 14.33, *SD* = 2.08) (*t*(2) = -3.50, *p*= .03). The

results of this test suggest that students in year one of the program (n=3) made more progress

toward their goal between the first and second grading periods.

In addition to the paired-samples t-test, a repeated measures ANOVA was performed to

evaluate the effects of the program on the students' progress toward their writing goals. Results

are presented for the writing prompt administrations from the beginning of the year, at the end of

the first grading period, and at the end of the second grading period. An alpha level of .05 was

used for this test. A repeated measures ANOVA determined that mean rubric scores did not

differ significantly statistically between writing prompt administrations (*F*(1.163, 2.326) = 2.324,

$p = .25$). However, figure 4.8 demonstrates that the results of this test is consistent with the

results of the paired samples t-test of year one students' which shows improvement toward their

writing goals between the end of the first grading period and the end of the second grading

period.

Year Two. A one-tailed paired samples t-test was also completed for students in year

two of the program. An alpha level of .05 was used for this test. The results of this test revealed

that there was a statistically significant difference in year two students' progress toward their

writing

Figure 4. 8 Rubric Results for Year One Students' Writing Goals

goals between the writing prompts given at the beginning of the course and at the end of the first

grading period ($M=8.60$, $SD= 4.33$) and ($M = 11.40$, $SD = 2.07$) (t(4) =-2.25, $p = .04$). Test

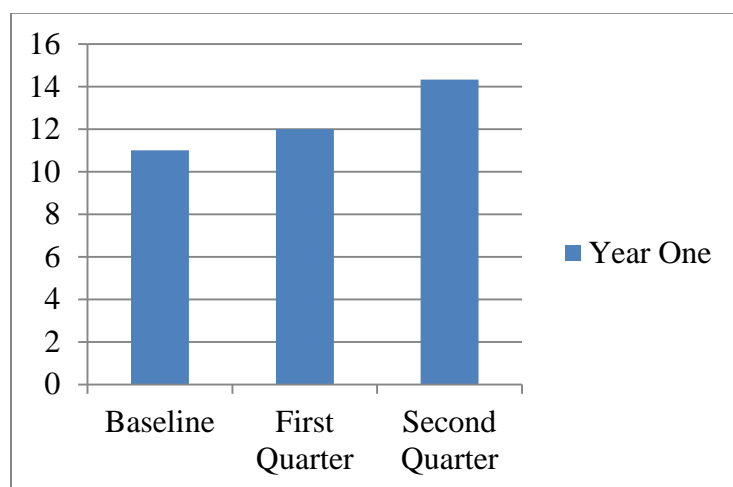results did not show a significant difference in year two students' progress toward their writing

goals between the prompts given at the end of the first grading period and at the end of the

second grading period ($M = 11.40$, $SD = 2.07$) and ($M = 13.40$, $SD = 3.36$) ($t(4) = -1.907$, $p= .06$)

The results demonstrated that students in year two of the program appeared to make more

progress toward their goal between the baseline prompt administration and the end of the first grading period.

A repeated measures ANOVA determined that mean rubric scores did not differ significantly statistically between writing prompt administrations (F(1.163, 4.544) = 4.99, p = .07). Again, while there was not statistical significance between the three writing prompt administrations, the results are consistent with the results of the paired samples t-test indicating that year two students made more progress toward their writing goals between the baseline administration of the writing prompt and the end of the first grading period than between the first and second grading periods (see Fig. 4.9). This result can be attributed to the amount of review of material year students covered during their first year of participation in the course.

Figure 4. 9 Rubric Results for Year Two Students' Writing Goals
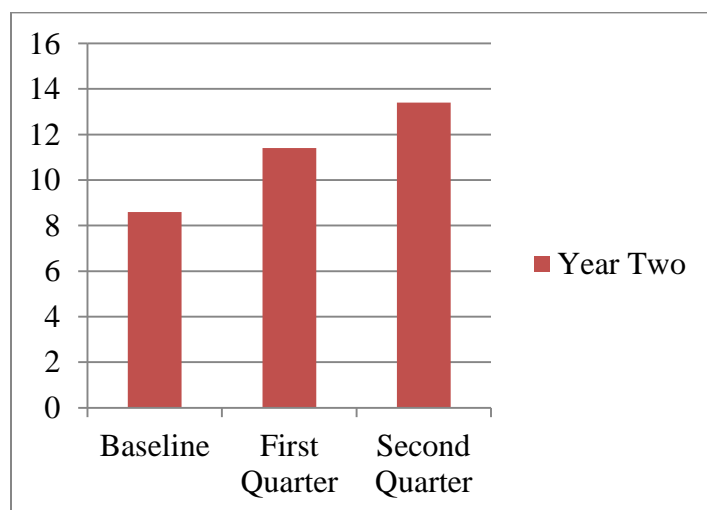
Self-Efficacy for Writing Scale

In addition to completing the TOWL-4, the students also completed the SEWS, a writing self-efficacy scale survey. This administration occurred in August 2013 and then again in January 2014, with approximately 18 weeks of participation in the program between the pre- and post- administrations. The self-efficacy for writing scale was designed to measure how students

perceive themselves as writers (Pajares, 2007). The scale's questions correspond with the

following three areas of writing: ideation (generating ideas), conventions (standards of usage),

and self-regulation (self-direction through a writing task) (Bruning et al, 2012). Students rated

their answers to the questions in each of these categories on a scale of zero to 100. Answers

from zero to 20 corresponded with a student's belief that s/he cannot perform the writing task

indicated. Answers from 30 to 60 correspond with a student's belief that s/he felt moderately

sure s/he can perform the writing task indicated. Answers from 70-100 corresponded with the

student's belief that s/he is completely sure s/he can perform the writing task indicated.

Table 4.5 shows the participants scores for the pre-and post-survey administration. The

students' scores demonstrated some variability between the pre-and post-administrations and

within the survey's sections. Six out of the eight students' scores fluctuated but stayed within in

a particular score range for each category. Students' scores in the first year of the program,

overall, appeared to increase. Second year students' scores remained relatively stable.

Table 4. 5

Self-Efficacy for Writing Scale, Pre/Post Survey Administration Scores

Student	Years in the Program	Ideation		Conventions		Self-Regulation	
		Pre	Post	Pre	Post	Pre	Post
A	1	78	86	90	92	78	88
B	1	4	60	28	46	0	23
C	1	78	74	82	72	43	72
D	2	44	68	76	82	76	66
E	2	42	30	48	64	60	55
F	2	54	58	66	60	66	75
G	2	10	46	64	54	35	26
H	2	80	80	78	86	65	63

A one-tailed paired samples t-t test was conducted to determine if students' self-efficacy beliefs improved as a result of participation in a course in which a writing strategies curriculum was implemented. For students in the first year of the program, there was not a significant difference regarding their beliefs in themselves as writers for ideation section of the SEWS (pretest $M = 53.33$, $SD = 42.72$, posttest $M= 73.33$, $SD = 13.01$ (t (2) $= -1.09$, $p = .19$). There was not a significant difference for year one students for the conventions section of the SEWS (pretest $M =66.66$, $SD = 33.72$, posttest $M = 70.00$, $SD = 23.06$) (t (2) $= -.41$, $p = .35$). There was a significant difference for year one students for the self-regulation section of the SEWS (pretest $M = 40.33$, $SD = 39.06$, posttest $M = 61.00$, $SD = 33.86$) (t (2) $= -3.6$, $p = .03$). Results of this test indicate that students in the first year of the program did not increase their self-efficacy beliefs of themselves as writers for ideation and convention between pretest and posttest administrations but demonstrated an increase in their beliefs regarding self-regulation.

For students in year two of the program, there was not a significant difference for the ideation section of the SEWS (pretest $M= 46.00$, $SD = 25.17$, posttest $M = 52.40$, SD = 23.63 (t (4) $= -1.02$, $p = .18$). There was not a significant difference for year two students for the conventions section of the SEWS (pretest $M = 66. 40$, $SD = 11.94$, posttest $M = 69.20$, $SD = 14.04$ (t (4) $= -.58$, $p = .29$). There was not a significant difference for year two students for the self-regulation section of the SEWS (pretest $M = 60.40$, $SD = 15.33$, posttest $M = 57.00$, $SD = 18.74$ (t (4) $= .99$, $p = .18$). Results of this test indicate that students in the second year of the program did not demonstrate an improvement in their self-efficacy beliefs of themselves as writers.

A split-plot ANOVA was conducted to compare the impact of the program on the

students' writing self-efficacy beliefs. There was not a significant main effect for participation

in the program, $(F (1, 6) = .019, p = .89)$, nor was there a significant interaction, $(F (3.22, 19.36)$

$=2.41, p = .09)$.   However, while there were not significant main effects or significant

interactions, the test results demonstrated an increase for year one students in their self-

regulation self-efficacy skills as seen in Figure 4.10. This increase in self-regulation is important

because those skills are necessary to support ideation generation and manage strategy use

(Bruning et al., 2012).

Results of both the one-tailed paired samples t-test and the split plot ANOVA indicated

that, with the exception of the year one students' self-efficacy self-regulation beliefs, there were

not significant differences between the students' writing self-efficacy beliefs between the pretest

administration of the SEWS and the posttest administration after 18 weeks of participation in the

program.

Figure 4. 10 SEWS for Year One and Year Two Students
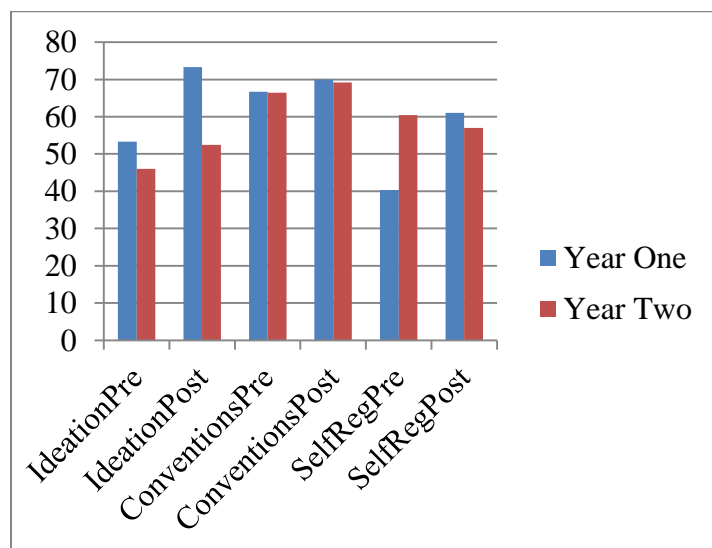
Results of the data analysis conducted for the TOWL-4, the rubric, and the SEWS

indicated that, overall, there were not statistically significant differences or effects on the

students' writing skills or writing self-efficacy beliefs. Despite these results, the students did

demonstrate an improvement in their written expression skills and, for year one students, an

increase in their writing self-regulation self-efficacy beliefs. A complete discussion of the data

analysis as well as implications and recommendations for further study will be covered in the

following chapter.

Chapter 5 Discussion

The purpose of this study was to evaluate a program involving the use of a writing strategies curriculum developed for high school students with disabilities. The program in which the curriculum is delivered is presented over two years. Students at the school in which the program is offered are required to take the course as part of their academic program.

While the program was initially created for students with learning disabilities, because of the school's population, students with other identified disabilities also participate in the program. The eight participants in this study represented a range of identified disabilities, including specific learning disability, attention deficit disorder, autism spectrum disorder, intellectual disability, multiple disabilities, and severe emotional disability. Three of the participants were in ninth grade and participating in year one of the program. The other five participants were in 10th grade and completing year two of the program. All of the students have documented intelligence scores of below average to low average.

To evaluate student progress in the program, the participants were given the Test of Written Language-4 (TOWL-4), had their progress measured using a school-designed rubric specific to the program, and completed a self-efficacy in writing scale (SEWS). Students completed each measurement tool in August at the beginning of the school year and then again in December, mid-way through the program and approximately after 18 weeks of participation in the program.

This study sought to answer the research question of what is the effect of a writing strategies curriculum on the written expression skills of high school students with disabilities? The two hypotheses based on this question were:

1.) Participation in a writing strategies curriculum will improve the written

expression skills of high school students with disabilities, and

2.) Participation in a writing strategies curriculum will improve students'

perceptions of their written expression skills and of themselves as writers.

The remainder of this section will discuss the findings regarding this question and the associated

hypotheses and will be organized in the following way: summary of the findings related to each

hypothesis with links to the literature, limitations of the study, practical implications,

recommendations for future directions, and the conclusion.

Hypothesis One: Improving the Written Expression Skills of Students with Disabilities

Participation in a writing strategies curriculum improved the written expression skills of

high school students with disabilities. This ability to express oneself in writing is a fundamental

skill students must have and with which many students, particularly students with disabilities,

struggle (Chalk et al., 2005). Students lacking this skill are at a disadvantage, not only in school

settings, but in work settings as well (NCOW, 2005). Direct instruction through a writing

curriculum is necessary for students to acquire and build the writing skills needed to facilitate

students' learning as well as to assist them in being successful writers in both school and work

settings (Graham & Harris, 2011). A writing curriculum that incorporates effective strategies

(Graham & Perin, 2007) and is based on the cognitive/motivational and social/contextual

theories of writing (Graham & Harris, 2007) can be beneficial for students who have writing

deficits.

The purpose of this study was to evaluate a program in which a writing strategies

Curriculum designed for use with high school students with disabilities, that incorporates

effective writing strategies, and has as its framework the cognitive/motivational and

social/contextual theories. The first hypothesis predicted that participation in a writing strategies

curriculum will improve the written expression skills of high school students with disabilities. Students' progress in the program was measured using the TOWL-4 and a rubric designed by the school's faculty specifically for use with the course in which the curriculum is presented. This hypothesis is supported by the findings from the evaluation. The findings related to the students' performance on the TOWL-4 will be discussed first, followed by a discussion of the rubric data.

TOWL-4

The students completed all seven TOWL-4 subtest areas in both the pretest and posttest administrations. The Vocabulary, Punctuation, Sentence Combining, Contextual Conventions, and Story Composition subtest areas demonstrated significant main effects between pretest and posttest administrations. While all of the participants showed improvement in these areas, there was a difference in the degree of improvement between students in the first year of the program and the students in the second year of the program.

Students in year one of the program demonstrated greater relative growth in those areas than the students in the second year of the program. One reason for the first year students' larger gains on the TOWL-4 in these areas lies in the correspondence between the material covered in the first year of the program and those subtest areas in which they showed the most improvement. Year one of the program has a greater focus on writing sentences. The sentence patterns the students learn guide them to develop vocabulary, use correct punctuation and spelling, combine sentences for increased sentence complexity and write in a logical, organized way (Morgan, 2004). Like students in the first year of the program, students in year two also demonstrated growth in the Vocabulary, Spelling, Punctuation, and Sentence Combining subtest areas. Again, the material in year two of the program begins with a review of the material presented in the first year of the program. This review reinforced the writing skills the second year students learned during their first year in the program. While year two students increased

their skills in those four areas as did first year students, the second year students did not show

similar gains in the Contextual Conventions and Story Composition subtest areas.

Secondly, all three of the first year students have low average intelligence. According to

Graham and Harris (2011), students' scores on intelligence tests are positively linked to their

written expression skills. Of the five participants who were in year two of the program, four had

below average intelligence. Students with cognitive difficulties have weaker performance on

writing tasks that require planning, organizing, and producing larger, more complex texts

(Guzel-Ozmen, 2009). The two subtest areas in which the second year students did not

demonstrate significant progress were Contextual Conventions and Story Composition. These

areas, which emphasize the use of correct grammar and the ability to develop a theme, plot, and

characters, as well as use more advanced vocabulary and prose, are "very demanding, requiring a

large expenditure of effort and cognitive resources" (Graham & Harris, 2011, p. 426). Although

the year two students did not demonstrate significant improvement in these areas, their scores

demonstrated that they moved from the very poor range in the Contextual Conventions and Story

Composition subtest areas to the poor to average ranges in those areas.

Rubric

As part of their individual instruction plans, each participant has a written expression

goal. Their progress toward this goal is measured using a rubric designed by the school's faculty

and is monitored through the course in which the writing strategies curriculum is implemented.

At the beginning of the school year, students were given a writing prompt to establish a baseline

measurement for their goals for the academic year. Students are then given writing prompts at

the end of each nine-week grading period to evaluate their progress towards their goals. The

duration of this study covered the first two grading periods or approximately 18 weeks of

instruction.

Both groups of students made progress toward their writing goals. Year one students demonstrated more progress toward their individual goals between the first and second grading periods than they did between the baseline prompt and the first grading period. By that point in the curriculum, year one students have been taught a variety of sentence patterns to write more varied and complex sentences and three strategies for writing descriptive paragraphs about people, objects, and feelings. Use of writing strategies, sentence combining, specific product goals, prewriting, and process writing approach are several of the effective elements of instruction recommended by Graham and Perin (2007) for improving students' writing skills that are implemented during this stage of the curriculum.

Year two students demonstrated more progress toward their individual goals between the baseline writing prompt given at the beginning of the school year and the end of the first grading period. This outcome, like their performance on the TOWL-4, was not unexpected given that the material covered during this part of the course involved a review of the material covered in year one. Similar to the year one students, year two students also responded well to those elements of effective instruction used during this stage of the curriculum. These same elements continued to be used during the next part of the curriculum, which included the introduction of the four squares to analyze writing tasks. While the year two students also made progress towards their goal during the second grading period, it was not as significant as during the first grading period.

The findings for both year one and year students, based on the data from the TOWL-4 and the rubric, are consistent with those of prior studies focusing on the written expression skills of students with learning disabilities (Chalk et al., 2005; Englert et al., 1991; Harris et al., 1991; Santangelo et al.,2007), as well as students with autism spectrum disorders and intellectual disabilities (Asaro-Saddler & Saddler, 2010; Guzel-Ozmen, 2009), which indicate that

participation in a program that uses a writing strategies curriculum can beneficial in improving

those skills. These findings also support the first hypothesis associated with this study that

predicted that participation in a writing strategies curriculum will improve the written expression

skills of high school students with disabilities.

Hypothesis Two: Improving Students' Perceptions of Their Written Expression Skills and

of Themselves as Writers

Participation in a writing strategies curriculum did not improve students' perceptions of

their written expression skills and of themselves as writers. Bandura (1986) defined self-efficacy

as the belief in one's abilities to perform a task and the factors that accompany that belief.

Bruning et al. (2012), Pajaras and Johnson (1996), Prat-Sala and Redford (2010), and Shell et al.

(1995) demonstrated in their studies with students with disabilities a link between writer's beliefs

in their abilities to complete a writing task and their writing performance. Shell et al. (1995) also

noted that students with disabilities have a tendency to hold an inflated sense of their writing

self-efficacy. To assess the writing self-efficacy beliefs of the participants in this study, the

SEWS, self-efficacy for writing scale, was administered at the beginning of the school year in

August and then again at the end of the second grading period, after approximately four months

of participation in the course in which the writing strategies curriculum was implemented.

SEWS

The 16 items on the SEWS correspond to three major categories of writing. Those

categories are ideation (developing ideas for writing), conventions (using accepted writing

standards), and self-regulation (directing oneself through a writing task and its requirements).

Students ranked their responses on a zero-100 scale, with zero to 20 meaning that a student

believes s/he cannot perform a particular writing task, 30 to 60 meaning that a student believes

s/he feels moderately sure s/he can perform a particular writing task, and 70-100 meaning that a

student believes s/he feels completely sure s/he can perform a particular writing task. Students in

both years of the program demonstrated similar outcomes from their responses on the SEWS.

        Year one students. First year students ranked of their beliefs in their abilities regarding

ideation and conventions in the 30-60 and 70-100 ranges between pretest and posttest

administrations. These students came into the program with the belief that they could

moderately to completely perform required writing tasks. This belief remained constant through

the duration of this study. However, year one students did demonstrate an increase in their

beliefs regarding self-regulation, moving from feeling not able to complete a task to being

completely sure they could complete a task. This finding is significant as self-regulation is

needed "to generate productive ideas and writing strategies but also to manage the anxieties and

emotions that can accompany writing" (Bruning et al., 2012, p. 5). Many students with

disabilities struggle with maintaining effort and focus during writing tasks, especially as the

difficulty of writing tasks increases. This increase in students' beliefs regarding self-regulation is

consistent with those findings of Parjares and Johnson (1996) and Shell et al.(1995) that self-

efficacy beliefs correspond to the use of writing strategies.

        Year two students. Students in the second year of the program ranked their beliefs

regarding ideation and conventions in the moderately sure to completely sure ranges. These

beliefs did not change significantly between pretest and posttest administrations. Unlike the year

one students, second year students did not show significantly increased scores in their beliefs

regarding self-regulation. These beliefs also remained in the moderately sure to completely sure

ranges. Having completed the first year of the program and having spent much of the first

grading period reviewing that material, students appeared to feel very confident in their writing

abilities. This belief is consistent with what Pajares and Johnson (1996) noted in their work with

high school students with disabilities. They found that "students with positive expectations that result from a strong sense of confidence approach tasks with optimism and continue to strive in the face of difficulty" (p. 172). While these findings for the second year students were not statistically significant, they are meaningful in terms of students' willingness to continue to engage and persevere in writing tasks, a willingness that Pajares (1997) posited is "instrumental in creating and nurturing students' competence and confidence" (p. 9).

The findings from the SEWS did not support the hypothesis that predicted that participation in a writing strategies curriculum will improve students' perceptions of their written expression skills and of themselves as writers. This finding is similar to those reported by Graham and Harris (2011) in which "self-efficacy increased or declined depending on the study" (p. 424). Students in both years of the program began the program with the beliefs that they could moderately or completely perform required writing tasks. With the exception of year one students' increase in their beliefs regarding self-regulation, the students' writing self-efficacy beliefs did not change through the course of the study.

Limitations of the Present Study

The primary aim of this study was to evaluate a program in which a writing strategies curriculum designed for high school students with disabilities is implemented. As with many studies, there are some limitations associated with the present study. Three major limitations of this study are the sample, the duration of the study, and the measurement instruments. Each limitation will be examined in the remainder of this section.

Sample. The sample for this study was a convenience sample. Because the participants were enrolled in the course in which the writing strategies curriculum was delivered as part of their academic course requirements, neither a control group nor random selection or assignment was possible. For this school year, only eight students were enrolled in the course. Three of the

participants were completing the first year of the program. The other five participants were completing the second year of the program. Because of the small sample size of this study, the tests used to analyze the data did not have the power that a larger number of participants could have provided (Johnson & Christensen, 2012).

In addition to the small sample size, five out of the eight participants have identified disabilities other than learning disabilities, which was the particular disability for which the curriculum was originally developed. Only one student in the first year of the program is identified as having a specific learning disability; only two students in the second year of the program are identified as having a specific learning disability. However, several previous studies that focused on students with disabilities and the use of writing strategies had comparable sample sizes and ranges of disabilities, to include autism spectrum disorder, emotional disabilities, and intellectual disabilities (Asaro-Saddler & Saddler, 2010; Chalk et al., 2005; Graham & Harris, 1989; Guzel-Ozmen, 2009; Hoover, 2010; Santangelo et al., 2007).

Duration of the study. The program being evaluated in this study is typically presented over a two-year period. Students at the school in which the program is implemented are required to take both years of the program as part of their academic requirements for school attendance. For this particular school year, eight students were enrolled in the course. Three students were completing the first year of the course while five students were completing the second year of the course. Due to time constraints associated with completion of the study, students had only completed approximately half of the course for their respective years of participation in the course between pretest and posttest administrations of the measurement instruments used to assess their writing performance and progress. In addition, there was not enough time during this study to follow year one students through the second year of the program.

In regards to hypothesis one, which predicted participation in a writing strategies curriculum will improve the written expression skills of high school students with learning disabilities, there was measured progress in the students' written expression skills. However, due to the length of the study, it was not possible to assess the maintenance of these skills or to assess the acquisition of additional skills as a result of completion of the course, for years one and two respectively. For hypothesis two, which predicted participation in a writing strategies curriculum will improve students' perceptions of their written expression skills and of themselves as writers, the participants' beliefs in their abilities regarding their writing skills varied little between pretest and posttest administrations. Asaro-Saddler and Saddler (2010), Chalk et al. (2005), Jacobson and Reid (2012), MacArthur and Philippakos (2010), and Shell et al. (1989) reported similar limitations regarding study length.

Measurement Instruments. A rubric designed by the school's faculty specifically for use with the program being evaluated by this study and the SEWS, a self-efficacy for writing scale, were two of the measurement instruments used to assess the participants' progress and beliefs about their writing. Concerns related to the rubric will be discussed first, followed by concerns associated with the SEWS.

The rubric is used to measure the students' writing goals associated with their individualized instruction programs they have as students at the school in the program is implemented. This type of rubric is considered a local rubric, a rubric developed specifically to assess particular programs and outcomes associated with those programs (Rezaei & Lovorn, 2010). Like many rubrics, because of its specific purpose, there is no data to support or contest its reliability or validity. There is also the potential for bias and/or subjectivity in completing the

rubric. McLeod et al. (2009), Rezaei and Lovorn, (2010), and Spence (2010) noted similar

limitations in their work with rubrics assessment of student writing.

The participants completed the SEWS at the beginning of the school year in August and

again at the end of the second grading period in December, about halfway through the course

after approximately four months of instruction. One concern in using a survey such as the

SEWS is the tendency for students with disabilities to rate their beliefs in their abilities as higher

than their actual abilities (Graham & Harris, 2011; Santangelo et al., 2007). In addition, because

the students were self-reporting and because the survey was administered by the principal

researcher who was also their instructor, the participants may have been motivated to answer in

ways that would make them appear more confident in their abilities than they actually felt.

Limitations associated with this study included the sample, the duration of the study, and

two of the measurement instruments. These limitations are similar to those found in prior studies

of students with disabilities. Despite these limitations, the current study yielded valuable

information regarding practical implications and recommendations for future research. Those

implications and recommendations will be presented in the remainder of this chapter.

Practical Implications

The purpose of this study was to evaluate a program in which a writing strategies

curriculum designed for use with high school students with disabilities is implemented. This

study adds to the body of literature on writing and students who have deficits in this area. It has

practical implications specifically for curriculum development and instruction.

The writing strategies curriculum that was implemented in the program evaluated by this

study incorporated the instructional approaches of self-regulated strategy development (SRSD)

and cognitive strategy instruction in writing (CSIW), as well as additional effective elements of

writing instruction recommended by Graham and Perin (2007). Each of these approaches has

been found to be successful with students with a variety of disabilities at both the elementary and secondary levels (e.g., Asaro-Saddler & Saddler, 2010; Chalk et al., 2005; Graham & Harris, 1989; Guzel-Ozmen, 2009; Hoover, 2010; Santangelo et al., 2007). Putting these approaches and elements together in one curriculum creates a program that is comprehensive, addressing all areas and genres of writing and benefitting students of varying grade and ability levels. A curriculum of this type provides the focus on writing called for by the National Commission on Writing (2003) to address what it called the "neglected R" (p. 3) and the need for more focused writing programs.

        The program evaluated by this study combined the cognitive/motivational and social/contextual theories of writing with the SRSD and CSIW instructional approaches and additional effective elements of writing instruction. The curriculum that developed from this combination was successful with high school students with a variety of disabilities. This success suggests that writing curricula should incorporate these approaches and elements in order to improve the writing skills of a wide range of students at the high school level.

        The theories that provided the framework for this curriculum also informed its delivery and implementation. The focus on the individual from the cognitive motivational theory (Hayes, 1996) combined the social/contextual theory (Russell, 1997) creates an instructional environment in which students learn to use their internal processes, such as reflection and self-regulation, to approach writing tasks while interacting with their teacher and peers as well as the physical tools of writing. For example, teaching the use of the four squares paradigm provides students with a tool to both monitor and analyze their own writing, as well as to review and evaluate their classmates' writing.

Writing instruction for students with deficits in this area should include the following three components. First, it should include strategies that develop a student's ability to regulate his/her mental operations and motivations regarding a writing task. Secondly, writing instruction needs to include methods for facilitating interactions between the student and the teacher and between the student and his/her peers that will build both the student's competence and confidence. Finally, writing instruction should be both discursive and recursive. Students need to be taught strategies and processes allows them to complete writing tasks in a logical, structured fashion regardless of the type of writing task they encounter.

This program evaluation demonstrated that a writing strategies curriculum designed for high school students with disabilities has been successful in improving the written expression skills of those students. It offers practical implications for curriculum development and instruction. This study adds to the body of literature regarding writing and students with writing deficits by providing an example of how to combine two accepted theories of writing development (Graham & Harris, 2011) with several effective elements of instruction (Graham & Perin, 2007) to design and implement a writing strategies curriculum to address those deficits. The following section will offer recommendations for future research.

Recommendations for Future Research

While progress has been made in the study of writing and students who struggle with writing, including students with disabilities, research in this area still lags behind that of reading and math (MacArthur & Philippakos, 2010). Reports by the National Commission on Writing (2003, 2004, 2005) and the National Assessment of Educational Progress (2011) have continually called for additional research and reform in writing. Recommendations for future research in writing include the areas of self-efficacy for students with lower cognitive

functioning and writing assessments. Both of these recommendations will be discussed in the remainder of this section.

Self-efficacy beliefs are the beliefs that one has the abilities to accomplish various tasks (Bandura, 1986). Several studies have noted links between a writer's beliefs in his/her writing ability and his/her writing performance (Bruning et al., 2012; Pajares & Johnson, 1996; Prat-Sala & Redford, 2010; Shell et al., 1995). Additional studies have also demonstrated that students with disabilities tend to overinflate their abilities when completing self-efficacy assessments (Santangelo et al., 2007). In addition to studies linking self-efficacy and writing performance, researchers have also noted a relationship between strategy instruction and improved self-efficacy (MacArthur & Philippakos, 2010). While there appears to be a link between strategy instruction and increased writing self-efficacy, students with more intense learning needs, such as students with autism spectrum disorder (Asaro-Saddler & Saddler, 2010), or lower cognitive functioning may not fully understand the connection between what they are learning and their abilities to apply those skills (Englert et al., 1991). Future research in this area is needed with students with cognitive impairments such as intellectual disability, multiple disabilities, and autism spectrum disorder to develop methods to assist these students in understanding and developing their writing self-efficacy beliefs.

Graham and Harris (2011) stated that "perhaps the greatest challenge facing those who study the development and teaching of writing. . .is the development of valid and reliable methods for assessing writing" (p. 431). Standardized measurements, such as the TOWL-4, give valid and reliable data but are more useful for diagnostics and global instructional design as opposed to day-to-day instructional planning and assessment (Deno, 1985; Hammill & Larsen, 2009). Rubrics, though informal, can be used for both formative and summative assessments

(Polloway et al., 2102) and can be used more frequently to evaluate students' writing and plan instruction. However, rubrics lack any clear method for testing their validity and reliability (Rezaie & Lovorn, 2010). Like rubrics, curriculum-based assessments (CBA) are a more informal, formative way of assessing students' writing that have been shaped by the cognitive/motivational theory of writing. Hessler and Konrad (2008) defined CBA as "fluency-based evaluation approach intended to give teachers a means to monitor a student's progress within the curriculum, encouraging immediate instructional adjustment when necessary" (p. 28). CBA can be used to assess both content and skills, as well as inform on-going instruction. Although CBA may not be as reliable and valid as other types of assessments when used consistently, they, can, provide more specific information regarding an individual student's growth and progress (Deno, 1985). Because of the subjectivity inherent in CBA, and due to the lack of information regarding their reliability and validity, Graham and Harris (2011) recommended caution when using CBA. Because of these questions regarding validity and reliability, both for rubrics and CBA, and due to the limited use of standardized tests, like the TOWL-4, further research is needed in the area of writing assessment to develop measurement tools that are both valid and reliable and that can yield information to assist teachers in not only evaluating students' writing but also in planning instruction to address students' writing needs.

Conclusion

The purpose of this study was to evaluate a writing curriculum developed for high school students with disabilities. The curriculum was evaluated in terms of the effects on the students' writing skills and on their perceptions of themselves as writers. This curriculum was shaped using both the cognitive/motivational theory of writing and the social/contextual theory of writing. Its development was also influenced by the recommendations from the National

Commission on Writing (2003, 2004, 2005), and from Graham and Perin's (2007) follow ups to those reports which outlined evidence-based practices that should be included in an effective writing curriculum. The assessments used to evaluate students' work and progress as they move through this curriculum included standardized testing and rubrics, as well as a self-efficacy for writing scale.   The expected outcome of this study was that students who complete a writing course using this curriculum would improve their writing skills as well as improve their perceptions of themselves as writers. While the participants in this study did demonstrate improvements in their written expression skills, only the participants completing the first year of the program had increases in their self-efficacy beliefs in the area of self-regulation. However, it is this researcher's belief that a writing curriculum that blends both the cognitive/motivational and social/contextual theories with effective elements of instruction, such as self-regulated strategy development and cognitive strategy instruction in writing, have the potential to make a very positive impact on students' writing development by addressing the whole student, both the head (cognition) and the heart (social interaction).

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Appendix A

Foundations of Communication
Upper School

COURSE DESCRIPTION: This course is designed to introduce and reinforce overall reading comprehension and writing skills and processes needed for independence in academia and life. Active Critical Reading as well as a flexible writing process are taught and practiced to automaticity. Text includes selected essays, fiction, journalism, and poetry.

GOALS:
1. Students will become aware of the need to integrate reading, writing, speaking, and listening to optimize learning.
2. Students will learn and use an Active Critical Reading approach for academic text using adaptable strategies for pre-reading, involved reading of text, and post-reading.
3. Students will learn how to approach and complete academic writing tasks using a discursive, dynamic, multi-step process.
4. Students will learn the relationship of reading and writing and practice reading/ writing integration as a necessary study skill.
5. Students will learn to use writing as a mode of learning.
6. Students will learn to use technology to assist in the writing process.

OBJECTIVES:
1. To understand individual learning preferences, strengths, and weaknesses and how that affects academic performance, especially reading and writing.
2. To learn the stages of an Active Reading Process and practice to automaticity.
3. To expand and enrich vocabulary.
4. To learn Latinate and Greek prefixes, roots, and suffixes.
5. To apply the stages of an Active Reading Process to grade-level texts in all disciplines.
6. To learn strategies for reading comprehension for demanding academic text, including but not limited to identification of the main idea, supporting information, inferences, and vocabulary in context.

7. Introduction of language as a tool for oral and written communication in a variety of genres.
8. Review and practice of the stages and purposes of the writing process.
9. Introduction and practice of expressive modes such as anecdotes, limericks, news stories, brief personal narratives, and various modes of essays.
10. Review and practice of varied sentence patterns and their accompanying punctuation.
11. Review and practice of various types of academic paragraphs.
12. Strategies for analyzing writing tasks and self-monitoring.
13. Strategies for completing a multi-step/multi-task research project.

Appendix B

Orton-Gillingham structured approach, to within an acceptable level for his/her age and grade (_____ of skills or independent mastery of _____ of the 23 skills measured on the original draft of pre- and post test in-house rubric).

Baseline measurement:

PROGRESS PERIOD ENDING DATE

SHORT TERM OBJECTIVES							BASELINE
1. Student will write a paragraph that contains:							
Content							
a. Topic sentence							
b. 3 supporting details							
c. 3 examples							
d. Concluding sentence							
e. Originality							
f. Reasonableness of thought							
Expression							
a. Logical organization							
b. Transition words (min. 2)							
c. Consistent voice/point of view							
d. Consistent verb tense							
e. Appropriate vocabulary							
f. Non-repetitive vocabulary							
g. Sentence variety							
1. at least 4 types of sentence starters							

2. representation of all sentence forms							
Format							
a. Indentation							
b. Author information							
c. Title placement							
Mechanics							
a. capitalization accurate							
b. End punctuation accurate							
c. Spelling accurate (min. 1 error)							
d. Verb endings accurate							
e. Other punctuation							
f. Sentence usage (no fragments or run-on sentences)							

Code for Progress Reports:

I Introduced   **P** Progressing   **NP** No Progress   **M** Mastered

MN Maintaining   **NI** Not Yet Introduced

Appendix C

Self-Efficacy for Writing Scale

Directions: On a scale from 0 (cannot do it) to 100 (completely sure I can do it), show how confident you feel when you perform the writing tasks necessary for your work. You may use any number between 0 and 100.

Cannot do it				Medium/Sure I can do it			Completely sure I can do it			
0	10	20	30	40	50	60	70	80	90	100

____ 1. I can think of many ideas for my writing.

____ 2. I can put my ideas into writing.

____ 3. I can think of many words to describe my ideas.

____ 4. I can think of a lot of original ideas.

____ 5. I know exactly where to place my ideas in my writing.

____ 6. I can spell my words correctly.

____ 7. I can write complete sentences.

____ 8. I can punctuate my sentences correctly.

____ 9. I can write grammatically correct sentences.

____ 10. I can begin my paragraphs in the right spots.

____ 11. I can focus on my writing for at least one hour.

____ 12. I can avoid distractions while I write.

____ 13. I can start writing assignments quickly.

____ 14. I can control my frustration when I write.

____ 15. I can think of my writing goals before I write.

____ 16. I can keep writing even when it's difficult.
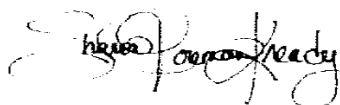
Appendix D

Date: May 15, 2013
To: Lisa Thomas
Cc: Dr. Ed Polloway; Dr. Sally Selden
Re: Approval of Research Proposal

Your request for a full review of your research project: "Evaluation of a Writing Strategies Curriculum for High School Students with Disabilities" has been completed. The proposal and related study comply with the standards set by the U.S. Department of Health and Human Services, Code of Federal Regulations, Title 45 CFR Part 46, Protection of Human Subjects, effective as of July 14, 2009. The study is therefore approved.

Please remember that if any modifications are necessary, these changes need to be approved by this committee (see our website/Moodle for instructions).

Approval for this proposal is for one year. If necessary, re-approval/renewal must occur prior to May 15, 2014. You will receive a reminder close to this date requesting that you complete a renewal or closure form. Please feel free to contact me at if you have any questions.

Sincerely,

Sharon Foreman Kready, Ph.D., M.S.W.
Chair, Human Subject Research Committee (IRB)