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Teaching expressive writing to high school students with learning disabilities using direct instruction, self-regulation, and computer-assisted instruction

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TEACHING EXPRESSIVE WRITING TO HIGH SCHOOL STUDENTS WITH LEARNING DISABILITIES USING DIRECT INSTRUCTION, SELF-REGULATION, AND COMPUTER-ASSISTED INSTRUCTION

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Dedication

I would like to dedicate this manuscript to all the members of my highly esteemed family, friends, and professional colleagues.

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I must first thank my professor and academic advisor, Dr. Joy Xin, for her boundless expertise, professionalism, and guidance throughout this entire endeavor. To my classmates who supported and sustained me throughout 3 years of graduate study. To Dr. Bruce T. Banford who graciously imparted his sage academic advice on learning and life experiences. And above all to my family, especially William F. Lindsey and Janice Lindsey, who tirelessly guided me throughout my life's journey with their personal wisdom, virtue, patience, and above all their unconditional love and support.

Abstract

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The purpose of this study was to examine the effects on a combination of Direct Instruction (DI), self-regulation strategies, and computer-assisted writing instruction for high school students with learning disabilities (LD). Five students with LD participated in the study. A multiple baseline research design across students with ABC phases was used. During the baseline, the participants were required to free write 3 to 4 stories based on a topic. During the intervention, the combined strategies were taught, and students were guided to practice in developing their own stories. After two weeks, they were required to complete 2 stories to evaluate their maintenance. Results showed that their story length, correct words, complete sentences, as well as quality of writing were increased comparing to that of the baseline.

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CHAPTER I

Statement of Problems

Introduction

Writing is an essential and fantastic invention of human ingenuity in regard to pertinent expression and communication among individuals (Koppenhaver & Wollak, 2011). Moreover, writing is an exclusive human endeavor that is a complex, rule-governed cognitive process uniquely predicated upon an individual's free thought and will. Writing is essential to the development of knowledge in academic, professional, and technical fields (MacArthur & Philippakos, 2010). It helps individuals to communicate with each other who are removed by distance and time, makes it possible to gather, preserve, and transmit information widely, offers a powerful tool for extending one's knowledge and understanding about a topic, and provides a flexible medium for artistic, political, spiritual and self-expression (Graham & Harris, 2005).

As young children begin formal or informal schooling, their instructors begin to teach them how to transfer their thoughts and feelings from their ever expanding mind onto a sheet of lined paper or a fine sheet of manuscript. At this critical juncture, children are encouraged to write down their personal experiences and observations of their environment. Writing systems and rules become more challenging to adolescents because the tasks were getting harder and more complex. Generally, typically developing adolescents are able to develop a well- written essay or analysis of a topic of their interest in a composition (Koppenhaver, et.al.).

Unfortunately, many students who have been unsuccessful in acquiring the fundamental and complexity of writing become lost in a contingency of learned hopelessness,

anxiety, and low self-esteem (Koppenhaver, et.al.). Most of these students have been diagnosed with a learning disability (LD), in which learning can be an excruciating process at school, and a private and hellish inner struggle within themselves outside of the classroom.

A variety of factors contribute to widespread writing difficulties among students with LD (Koppenhaver, et.al.). Many of these students have experienced language delays or impairments during their early years of schooling that have negatively impacted their written language (Koppenhaver, et.al.). Furthermore, a lack of writing strategies, an instruction focused on skill exercises with very few writing instructional opportunities, and low expectations of adults at home and at school has inhibited the ability of these students to perform well in writing compositions (Koppenhaver, et.al.).

According to Burke, Hagan-Burke, and Chalk (2005), students with LD lack competence in five major areas of writing an essay: (a) generating content, (b) creating and organizing structure for compositions, (c) formulating goals and developing plans, (d) efficiently executing the mechanical aspects of writing, and (e) revising text and reformulating goals. They also experience difficulty when asked to plan, write, and to revise their writing. They are not aware of effective writing strategies such as allotting time adequately for the planning process. Instead, they often begin writing as soon as the instructor hands out the writing assignment with little preparation (Burke, et. al.). These students simply write whatever comes to their mind.

In addition, many students with LD do not regard strategies in the prewriting phase such as brainstorming, a valuable tool to start, and fail to utilize meaningful techniques to become effective writers (Burke, et. al.). These students often experience difficulties in executing the mechanical aspects of writing (e.g. grammar). It is found that they considerably commit more spelling, capitalization, and punctuation errors in their writing compared to their

non-disabled peers (Burke, et. al.). Distorted sentence formation is also evident in their writing.

For example, they often lack a well-developed sense of sentence style and produce short and "choppy" sentences such as the use of repetitive, simple, and run-on sentences. These are common mistakes exhibited by these students (Burke, et. al.).

Another area of difficulty for these students is the revision of their writing. The revision process is an important step in the writing process that requires writers to "rethink" a portion of their writing by editing and rereading it many times, and at the same time evaluating how effectively their written composition communicates their ideas to the reader. These students often view the revision process as merely a time to correct mechanical and spelling errors, resulting in a failure to realize the importance of revising and refining their writing content (Burke, et. al.). Therefore, their composition may lack unity, development, order, clarity, emphasis, and diction (Burke, et. al.). Further, students with LD experience subsequent deficits in expressive writing. For example, they experience difficulty with higher-level cognitive processes such as setting goals, creating appropriate content, and revising their writing drafts (Alberto, et. al.).

According to Alberto, Cihak, Houchins, Shippen, and Walker, (2005), the success in writing relies heavily upon four major factors: 1) knowledge of writing and writing topics, 2) skills for producing text, 3) processes for energizing and motivating participants to write with enthusiasm, and 4) directing thoughts and actions through strategies to achieve writing goals.

Previous writing practice activities such as combining simple sentences into more complex sentences were not effective and beneficial to students with LD (Baker, Gersten, & Graham, 2003). A shift from solely teaching mechanics and grammar to the development of

cognitive models of writing is suggested to develop clear and specific objectives and to prepare these students for writing on specific topics (Baker, et. al.).

There are various instructional strategies to teach students with LD to write. Of these, direct instruction (DI) is considered as an effective method. Direct instruction includes fast-paced, well-sequenced, highly focused lessons taught by a teacher in small groups. Students are given several opportunities to respond with immediate feedback from the teacher using specific correction procedures such as four stages of instruction. First, the instructor models (provides the correct response); then, leads (asks students to say the correct answer with the teacher); followed by testing (gives immediate and delayed probe on the task initially attempted); and practices until the learners demonstrate the mastery (Alberto, et. al.). Specifically, the DI procedure includes teaching the steps in the process of writing; providing feedback to the student by a dialogue; and teaching students to understand different text structures and their relationship to writing genres (Baker, et. al.).

Teaching writing strategies is another way in writing instruction. For example, self-regulation (SR) is considered an effective method to teach students with disabilities. Self-regulation is the ability to regulate one's cognitive activities, underlies the executive processes and functions associated with metacognition (Montague, 2008). Metacognition is related to the knowledge and awareness of one's own cognitive strengths and weaknesses as well as self-regulation, which guides an individual in the coordination of that awareness while engaged in academic activities such as writing (Montague, 2008). It is not only about the strategies that students use, but also the students' knowledge of *when* and *how* to use these strategies (Bai & Wilson, 2010). When an individual is metacognitive, he/she demonstrates an awareness and

regulation of his or her mental processes, i.e. “having knowledge (cognition) and having understanding, control over, and appropriate use of that knowledge” (page 270, Bai, et.al.).

An individual who is metacognitive understands how to learn because he or she is cognizant of what he or she knows and what he or she must do in order to gain new knowledge (Bai, et. al.) It is found that metacognition plays a significant role in students’ memory, learning, and achievement (Klapp, Ramsay, Richmond, & Sperling, 2012), and metacognition is a key variable in students’ developmental and academic success (Klapp, et. al.).

According to MacArthur and Philippakos, (2010), self-regulation includes a variety of processes for setting goals, selecting strategies, monitoring the use of strategies, evaluating effects on performance, making efforts, and managing time and the environment. Self-regulation strategies such as self-instruction, self-questioning, self-monitoring, self-evaluation, and self-reinforcement, assist students in gaining access to cognitive processes that facilitate learning, guide learners as they apply the processes within and across domains, and regulate their application and overall task performance (Montague).

Prior studies revealed that DI and self-regulation strategy instruction were the two most effective instructional approaches to students with LD, especially when combined for teaching writing (Montague). Strategy instruction focuses on metacognition and self-regulation. The following procedures characterized the strategy instruction: (1) systematic and direct explanations and/or verbal descriptions of the task performance; (2) teacher’s verbal modeling, questioning, and demonstration of the steps and processes in the cognitive routine; (3) systematic prompts and cues to use the processes, strategies, and procedures; and (4) cognitive modeling using, “think aloud”, to model task completion (Montague). Students are guided to learn not

only how to use specific writing strategies but also when and where strategies are appropriate and how to manage them independently (MacArthur, et. al.).

Technology has provided educators an innovative tool in the classroom and opened a new avenue to teach expressive writing to students with LD (Mullen & Wedwick, 2008). For example, a variety of software programs can be an instructional tool for struggling writers, such as word processing, spelling checkers, word prediction, and speech recognition to offer support for transcription and revision (MacArthur). Computer Tutor for Writers, (CTW), is a program designed to combine all writing skills into a comprehensive training environment (Meyers, et. al.). It provides a structured support system, or scaffolding to help learners practice using the same problem-solving writing procedures utilized by expert writers (Meyers, et. al.). It is found that this program incorporates advanced cognitive tutoring techniques to produce reliable improvements in student performance, especially in complex cognitive skills such as writing. The CTW helped structure the student learning experience and addressing teacher needs, student learning styles, student interests, and the student's cognitive writing skills (Meyers, et. al.).

Using digital media is another method in writing instruction. It is called a digital story, in which learners are taught to use digital stories to develop their oral story with images and music using a computer program. This writing process is referred to as digital story telling. It is found that using digital stories encourage students to think critically because developing a digital story requires students to organize information, utilize technology, and reflect on their own personal experiences. Students must select and sequence digital images that meaningfully support their message in the text that requires critical awareness of the meaning they wish to convey (Green, et. al.). After reviewing research, it is also found that limited studies were conducted for high

school students with LD in learning expressive writing. This study plans to use digital stories together with DI and self-regulation strategy instruction to teach high school students with LD.

Significance of the Study

Writing is an essential tool for students to communicate their thoughts and ideas with others. Teaching students how to write can be a challenging task for teachers, especially for secondary students with LD. To date, little research has been found to improve and to develop effective instruction for written compositions (Mastropieri, Regan, & Scruggs, 2005). Even though an adequate number of writing studies on elementary school children has been conducted, a limited number of studies on writing instruction for secondary students with LD has been examined (Mastropieri, et. al.).

This study attempts to use computer-assisted instruction with digital stories to teach high school student with LD. It is my hope that digital storytelling will support students in my class to improve their writing skills. Many of my students lack the essential grammar and sentence structure critical to elaborate intelligible sentences in order to convey their ideas to others. Therefore, it is my interest to investigate and to improve their writing skills because all of my students possess an aspiration to attend a postsecondary institution after their high school graduation.

Purpose of the Study

The purpose of this study is to determine how well students with LD perform using DI, self-regulation, and assistive-writing software with a computer to improve their writing skills. The specific goals are to evaluate learning outcomes in terms of: (1) the length of the composition (number of words per paragraph); (2) the use of correct words (e.g. punctuation,

capitalization); (3) the number of correct sentences (e.g. past tense verbs, subject-verb agreement); and (4) structure in composition by using an introduction, body, and conclusion.

Research Questions

1. Will students with LD improve their writing skills when digital stories were used in writing instruction?
2. Will students with LD increase the number of complete sentences, the number of total words, and the number of correct sentences (e.g. capitalization, punctuation) when digital stories were used in writing instruction?
3. Will students with LD improve writing structured paragraphs in their composition such as an introduction, body, and conclusion when digital stories were used in writing instruction?

CHAPTER II

Review of the Literature

Writing is an essential literacy skill and a form of communication needed to demonstrate learning, expression, and understanding of content (McCurdy, Shriver, Skinner, & Watson, 2008). Writing is also a threshold skill for employment and promotion (McCurdy et. al.). Research has indicated that people who cannot write adequately are less likely to be hired, retained, or promoted in the workplace (McCurdy et. al.). Therefore, the ability to write effectively must not be overlooked or understated. In school, writing is a critical skill for successful academic achievement in all academic areas (Frederick, Gama, Houchins, Lolivette, & Viel-Ruma, 2010).

Beginning in the 1980s, a great deal of research was conducted to examine the effective writing instruction for elementary school students with learning disabilities (LD) (Graham, Harris, & Larsen, 2001). Various methods for remediating writing were discussed. These included direct instruction and the use of self-regulation. By the late 1980s and early 1990s, computer-assisted technology and software began to be a primary tool to help these students develop narrative and expressive compositions (Karlan, 2011). Technology-based instruction such as computer-assisted instruction (CAI), word prediction, and speech recognition software were found to aid these students in writing (MacArthur, 2009). In recent years, the emergence of blogs, YouTube, Digital Story Telling, and web page design were other tools to assist these students (Mullen & Wedwick, 2008).

There are various methods to effectively teach expressive and narrative writing skills of students with LD. This chapter includes a review of studies on three particular categories of

writing instruction. They are *direct instruction, self-regulated strategies, and computer-assisted instruction.*

Direct Instruction (DI)

DI is an instructional approach based on task analysis, scripted lessons, and oral response. It focuses on analyzing major skills into smaller sub-skills, providing frequent opportunities for student responses, and delivery sequenced instructional steps from one level of mastery to the next at a quick pace. DI has shown to be beneficial for students with LD (Frederick, et. al.). *Expressive Writing.* Frederick's study, (2010), the *Expressive Writing Program*, was used to teach six students with LD in grades 9 through 11. The study was conducted in three public high schools located in the southeastern United States. The five classrooms in the study were either special education study skills resource classrooms or English/Language Arts resource classrooms. The placement test for the Expressive Writing study was administered to all participants prior to any instruction. This allowed for students to be correctly placed in the appropriate level of the program (Frederick et. al.). Students were instructed to write for 20 minutes based on what they observed in the prompt. Moreover, this study used a multiple-probe across-participants design to determine if a functional relation between implementation of the Expressive Writing program and participant writing performance improved.

The first part of this study was to examine the number of correct word sequences contained in the three-minute timed writing samples of the students. The results showed that participants exhibited gains in their mean scores from the baseline to the intervention. Moreover, the length of their writing samples was increased, which had a positive relationship with overall writing quality (Frederick et. al.). Despite the positive outcomes of the participating students,

there were some limitations. For example, the placement test as a posttest following the intervention was not administered. Also, one participant did not achieve stability during the baseline, which is indicative of a lack of experimental control. Thus, variability in his baseline scores makes it difficult to ascertain any improvement due to the intervention (Frederick et. al.).

Another expressive writing program was used in Alberto's study, (2005). The purpose of this study was to investigate the effectiveness of the Expressive Writing program for the acquisition and maintenance of narrative writing skills for students with LD. Three high-school students with LD participated and ranged in age from 14 to 16 years with intelligence quotients (IQ) ranging from 92 to 107 (Alberto et. al.). The independent variable was the writing instruction of Level I of the Expressive Writing program. The dependent variable was writing fluency on narrative writing assignments as assessed by the number of Correct Word Sequences (CWS). This study used a multiple probe design across participants. The multiple probe design is a variation of the multiple baseline design, in which participants are probed intermittently rather than continuously during the baseline phase (Alberto et. al.).

The results indicated that each student's number of CWS increased in a non-variable upward pattern (Alberto et. al.). For example, one student wrote a mean CWS of 35. During the intervention phase, his CWS increased to 42. Another student wrote a mean CWS of 16 during the baseline phase. During the intervention phase, she increased her mean CWS to 24 (Alberto et. al.). Moreover, social validity measures indicated that all three students felt that they were better writers after completing the program. Further, two out of the three students enjoyed the program and two would recommend *Expressive Writing* for other students (Alberto et. al.). Further, all three participants responded positively to the program such as gains in the number of CWS.

One limitation of this study was the composition of instructional groups. Groups were devised for this study rather than in naturally occurring class schedules. Another limitation was the use of different stimuli to generate writing across phases. The authors of this study, Alberto, Cihak, Houchins, Shippen, and Walker, concluded that future research in direct instruction for writing should be continued and that explicit, rule-based, teacher-directed programs such as *Expressive Writing* have a positive effect among students with LD.

Research has suggested that students with LD often compose writing assignments by drawing information from memory that is somewhat appropriate, writing it down, and using each idea to stimulate the next subsequent idea (Graham, Harris, & Larsen, 2001). However, with this retrieve-and- write process little attention is directed at the needs of the audience, the constraints imposed by the topic, the development of rhetorical goals, and the organization of the text. Also, when students with LD revise their writing, the result is generally not effective. For example, they generally utilize a thesaurus approach to revising, correcting mechanical errors and making minor word substitutions. This approach has little impact on improving the quality of their composition. In addition, their papers are replete with spelling, capitalization, punctuation, and handwriting mistakes (Graham, et.al.).

Comprehensive Writing Program (CWP)

This program was provided in school to improve writing skills of students with LD. In McCurdy's study, three 9th graders participated in the study. The study was conducted in an urban middle school in the United States. The participants included all students (n = 17) in three 9th grade English resource classrooms.

All students were Caucasian and were receiving special education services under the verification of a specific learning disability in written language (n = 15) or mildly mentally handicapped (n = 2). Data was analyzed for inter-rater reliability and treatment integrity with the assistance of an advanced graduate student in school psychology (McCurdy et. al.). Moreover, data from each class was evaluated using a multiple-baseline design across tasks. Tasks were identified as the specific writing skills targeted for improvement. The writing prompt, "The Best Thing About Saturday is…" was used to prompt students to start writing about their experience.

Results showed that student performance across all nine baseline-to-intervention phase comparisons, there was an immediate increase in targeted writing skill performance after the CWP was applied (McCurdy et. al.). Further, five of the nine intervention-to-maintenance phase comparisons showed that after the CWP was withdrawn and/or reapplied to other skills (maintenance phase), target skills remained at moderate levels. Although the results of this study were encouraging, replication of effects was a necessity to determine whether this program would enhance writing skills across students, settings, and target skills. The CWP should be considered as a prevention strategy, because it included direct instruction to accelerate accurate production of instructed writing skills. An important limitation of this study was explored.

During the first three baseline sessions, students were allowed only three minutes to write. For all subsequent intervention phases, students were allowed to write for 10 minutes. For this study, the researchers attempted to control this limitation by calculating the dependent variables using a percentage score that allowed for comparisons of performance across these unequal-length sessions (McCurdy et. al.). Further, the researchers demonstrated that reducing the time allotted for responding actually enhanced academic performance (e.g. accurate task

completion rates) in students with LD (McCurdy et. al.). These findings suggested that increasing the time allotted reduced as opposed to enhanced performance; this change was more likely to have caused an underestimation of CWP effects.

Researchers suggest that writing instruction should be at least ten minutes in duration before any prolonged writing activity should begin (McCurdy et. al.). It is found that students spend a good deal of academic time writing notes and responding to assignments and tests, but little time is writing instruction. They need multiple opportunities to respond to or practice that writing skill to (a) enhance their speed of accurate responding, (b) decrease the effort required to make accurate responses, and (c) increase the probability that they will maintain the skill over time (McCurdy et. al.).

Research has suggested that students with LD often compose writing assignments by drawing information from memory that is somewhat appropriate, writing it down, and using each idea to stimulate the next subsequent idea (Graham, Harris, & Larsen, 2001). However, with this retrieve-and- write process little attention is directed at the needs of the audience, the constraints imposed by the topic, the development of rhetorical goals, and the organization of the text. Also, when students with LD revise their writing, the result is generally not effective. For example, they generally utilize a thesaurus approach to revising, correcting mechanical errors and making minor word substitutions. This approach has little impact on improving the quality of their composition. In addition, their papers are replete with spelling, capitalization, punctuation, and handwriting mistakes (Graham, et.al.).

Graham, Harris, and Larsen, (2001), recommended six ways to remediate writing skills for students with LD. These are to (1) Provide effective writing instruction, (2) tailor writing instruction to meet individual student's needs, (3) intervene early, providing a coherent and

sustained effort to improve the writing skills, (4) expect that each child will learn to write, (5) identify and address academic and nonacademic roadblocks to writing and school success, and (6) employ technological tools to improve writing performance. It is indicated that an essential tactic to prevent writing difficulties among students is to deliver effective writing instruction starting in kindergarten and first grade and continue throughout the school years. This is advantageous for these students. First, it helps to maximize writing development for all children in general, second, it minimizes the number of children who experience writing failure as a result of poor instruction and third, it functions to refine the severity of writing difficulties experienced by children whose primary problems are not instructional, such as children with LD.

Early Literacy

The program of the Early Literacy Project (ELP) is generally used with first to fourth-grade students with special needs in resource rooms. This program integrates writing and reading together around thematic units. For example, during a thematic unit on wolves, students would read expository and narrative material about these animals and use writing as a means for responding to text as well as a mechanism for gathering additional information about wolves. Also, opportunities to engage in meaningful writing were present as the students not only responded in writing to the material about wolves but also kept a journal, generated personal-experience stories, and developed reports to share with each other.

In Graham's study, (2001), most of the children had a learning disability. Teachers used scaffolding to enhance their students' learning such as implementing word banks, pictionaries, and planning sheets as temporary aids to help their students to write when needed. The writing progress of students in the ELP program was compared to the performance of children without

the program in the same school district. Results showed that children taught by experienced ELP had greater measurable gains in writing. Their papers contained less spelling errors, but longer and better organized. These substantial gains were achieved with just one year of instruction. It was suggested that even greater gains would have been realized if such instruction was provided on a regular basis during the school year. It appeared that early intervention has an effect over a given amount of time (Graham, et. al.).

The process of learning to write is not the same for all children (McLaughlin, Park, & Weber, 2007). From the age of three years old, children progress and acquire the fine motor skills to transform their scribbling into characteristics of intelligible print. However, children with learning disabilities exhibit delays in handwriting and spelling skills (McLaughlin et. al.). Difficulty in acquiring sound handwriting skills can reflect negatively on the child and can result in unwanted consequences such illegibility and misspellings.

Error Correction Procedure

According to McLaughlin's study, (2007), was to examine and evaluate the use of an error correction procedure identified as a model, lead, and test procedure found in DI literature. Another purpose was to determine whether this procedure could be used with preschool students with disabilities (McLaughlin et. al.). The two participants of this study were enrolled in a special education preschool classroom in a medium-sized rural school district located in the Pacific Northwest within the United States. The first participant was a male diagnosed with cerebral palsy. The second participant was a female student diagnosed with dyslexia.

The dependent variable was the number of letters written in each participant's name. The baseline data were taken for one school week before the first intervention. In this particular

session, the scoring was done utilizing only legibility as a measure, owing to the age group this study included. Legibility was determined by school and district standards at the kindergarten level. Data were collected four days a week for a total of five weeks (McLaughlin et. al.). The participants were given a sheet of paper with four blank rectangles for them to write their name. A model and verbal prompts were given to students to write their name. DI procedure of model, lead, and test was used in the initial presentation of letter formation (McLaughlin et. al.).

The overall results of this study revealed an increase in the amount of letters that were legibly written by both participants. Moreover, both participants were able to write all the letters in their name legibly at the end of the fading process of dotted lines and verbal and physical prompts. One limitation of this study was that the scoring criteria had to be based only on legibility due to skill level because the study was conducted among preschoolers. Another limitation was that some subjectivity on the part of scoring was used because the researchers tailored the legibility of the students in order for the students to track their own progress (McLaughlin et. al.). The results also showed that the combination of modeling, fading, and prompting together with DI was able to increase handwriting performance with preschool children who are cognitively and physically delayed (McLaughlin et. al.).

In addition, teachers are in favor of DI. For example, a survey was disseminated to 300 teachers in Wisconsin includeing100 second-grade, 100 fifth-grade, and 100 elementary teachers of students with LD (Chiang & Drecktrah, 1997). The survey was mailed to the participants to determine if the teachers prefer DI, a whole language, or a combined method using both in teaching writing. It was found that 12.7% of second-grade teachers, 64.3% of fifth-grade teachers, and 37% of teachers of students with LD indicated that they use a whole language method. In contrast, 59.4% of second-grade teachers, 58.6% of fifth-grade teachers, and 61.1%

of teachers of students with LD indicated that they frequently used DI. Most teachers in the survey agreed that a combination approach of direct instruction and whole language was the most effective method to teach writing to elementary students.

Self-Regulation

Self-regulation or Self-Regulated Strategy Development (SRSD) is a flexible instructional method to teach writing strategies and a variety of self-regulation techniques (metacognition) such as goal setting, progress monitoring, self-instructions, and self-statements (Graham, Harris, & Santangelo, 2007). It can be utilized by one or several teachers in a variety of instructional settings such as small groups or a whole class. It had shown that SRSD increases content knowledge, strategic behaviors, self-regulation skills, self-efficacy, and motivation among students of various ages, ability levels, and students with LD (Graham, et. al.).

According to Graham, Harris, and Santangelo, (2007), SRSD has been proven effective for students with LD because the instructional procedures and writing strategies specifically target the most common difficulties experienced by this population. Six stages should be included in order to guide a student's acquisition and the corresponding self-regulation procedures. These are: (1) Develop background knowledge, (2) Discuss it, (3) Model it, (4) Memorize it, (5) Support it, and (6) Independent performance. A mini three-step writing process called, "TREE", was suggested. The first step of TREE was to establish the purpose for writing by identifying the audience and the goal. For step two, the students used a series of genre-specific prompts to generate, evaluate, and to organize reasons to support their arguments. The third step involved the students using this plan as a guide to "write and say more". In their study (Graham, 2007), six students of a combined fifth- and sixth- grade classroom at an inclusive

school participated. Their writing class was team taught by both special education and general education teachers. Stage one of the SRSD instruction program began by the teaching team introducing the students to discuss what they already knew about writing persuasive essays. At stage two, the teaching team held individual conferences to discuss each student's approach to writing and to introduce the new strategy they would be learning. At stage three, the teaching team shared their own opinions on a topic and used the "think aloud" technique to model how to use the strategy to develop an idea into an essay. The students practiced the information of what they were going to write about individually and with partners in stage four. At stage five, students supported their ideas by using self-statement and progress monitoring procedures to write opinion essays. By the end of stage six, all of the students were able to independently use the self-regulation procedures effectively after writing three or four essays (Graham, et. al.).

The results of the study revealed that the participants were happy that they learned the three-step strategy with TREE and because it drastically improved their persuasive writing skills and perceptions of the writing process (Graham, et. al.). Moreover, SRSD leads to increased student motivation and self-regulation. For example, students' active collaboration throughout the instruction process enhances ownership over the strategy and allows them to understand why the strategy is helpful. It is found that involving self-regulation techniques into instruction helps students to see how their efforts influence their learning. Teaching to promote an "I can do this…" attitude and offering praise enhances student's belief in their academic ability to achieve (Graham, et. al.).

According to Greenberg and Helsel, (2007), self-regulatory strategies include setting goals, choosing appropriate strategies when approaching a task, generating self-instruction on how to complete the task, managing time effectively, creating effective environmental settings,

monitoring progress, evaluating one's own performance, seeking help from appropriate sources, and providing rewards or imposing consequences based upon performance. Further, self-efficacy or an individual's personal judgment of his or her ability to reach a set goal also plays a significant role in the attainment of self-regulation (Greenberg, et. al.).

Researchers of this study have identified five important components of the self-regulatory process (Greenburg, et. al.). First, learning is a collaborative experience between the teacher and the student. Second, the model emphasizes the explicit teaching of strategies. Third, individualization is emphasized by adjusting the level of explicitness and support based upon individual student needs. Fourth, instruction is criterion based whereby students move through stages at their own pace and do not proceed until initial criteria are met. Lastly, SRSD is an ongoing process because new strategies are introduced while previously taught strategies are refined and reinforced (Greenberg, et. al.). Thus, a goal of SRSD is to help students establish positive attitudes about writing.

In this study, (Greenburg, et. al.), an SRSD approach was provided to a sixth-grade female student who was struggling with writing. The student experienced difficulty producing written summaries of her reading. Moreover, the student's knowledge of writing details appeared undeveloped and unorganized. The intervention session lasted for five 45-minute intervals over a period of four weeks. During the first session, the student was guided to build background knowledge that was critical to learn the SRSD summary writing strategy. This was followed by discussing the strategy with the participant to understand reasons of learning the strategy. The second session was composed of a review of the steps for a written summary. As the student worked, the researcher and participant developed personal self-instructions to address

her specific writing difficulties. For example, when became apparent that the student felt like resigning from the writing task, she wrote on a note card, “think longer” to serve as a motivator.

During the third session, the student brought her completed summary. Although the student’s composition was somewhat unclear and with some errors, she made substantial improvement compared to previous summaries she had developed. At stage four, it was apparent to the researcher that the student was moving more quickly through the steps and seemed more focused on the task. The student reported that she made little signs that read, “keep thinking” and “stay focused” in order to complete her writing task. During the fifth and final stage, the student confidently and independently moved through the steps. She no longer needed to read or say the self-instruction aloud, though she did reiterate a few things to encourage herself when she experienced difficulties.

One limitation of the study was that the sessions with the student ended shortly before the end of the school year. The researcher did not have the benefit of observing how the student’s progress during the individual sessions transferred to her work in the classroom and other content areas (Greenberg, et. al.). The author of this study concluded that SRSD is an instructional approach that should be explored by upper elementary and middle school teachers who work with struggling writers.

Little research has investigated the relationship of achievement goals and self-regulation or writing strategies (Gorodetsky, Kaplan, & Lichtinger, 2007). In one of the few studies, researchers found that, (a) mastery goals were associated with writing self-efficacy and with self-efficacy for self-regulation of writing, (b) performance-approach goals were associated with writing self-efficacy but not with self-efficacy for self-regulation, and (c) performance-avoidance

goals were negatively associated with writing self-efficacy as well as with self-efficacy for self-regulation in writing (Gorodetsky, et. al.).

In 2007, a study was conducted in Israel to determine if the notion of writing strategies and self-regulation may be perceived by students as essential to their motivational orientation for the writing task (Gorodetsky, et. al.). Participants for this study were 211, 9th-grade students with 98 boys and 103 girls from 11 classes in two high schools in southern Israel. One of the schools defines itself as a traditional environment that is geared towards excellence. The other school defines itself as an authentic environment, where lessons are conducted by a method of inquiry. The participants of this study completed a writing assignment in their classrooms.

The results of this study showed that the notion of self-regulation of writing is not a unidimensional construct. This indicated that students may vary not only in the level of self-regulation but also in the type of strategies they use while self-regulating their engagement in the writing task (Gorodetsky, et. al.). Although it may be that some strategies are used in any type of self-regulation of writing, the use of other components of self-regulation and specific writing strategies may vary among self-regulating students.

One limitation of this study is that studies that replicate the finding those different self-regulation strategies are constructed by students as actualization of different motivational orientations in larger samples, in different age groups and from other countries (Gorodetsky, et. al.). Another limitation is that research in other domains besides writing should be investigated to determine whether this finding could be generalized across domains, other learning environments, and across groups of students with different characteristics (Gorodetsky, et. al.). This study did support the notion that self-regulation in not a unitary construct, that motivational orientations of self-regulation strategies are integrated in the meaning that students construct for

engagement and that engagement varies across educational environments and individual student characteristics (Gorodetsky, et. al.).

The use of cue cards to assist students with LD have shown to be effective instructional supports that help students organize, structure, and sequence their cognitive activities until these cognitive processes have been internalized (Conderman & Hedin, 2010). Cue cards are low tech, portable devices that contain written and/or visual steps, prompts, processes, abbreviations, or a mnemonic that remind students or reinforce their use of instructional procedures and processes (Conderman, et. al.). Many cue cards are small in dimension so they can be stored easily into student folders or assignment books. Although cue cards are not considered an evidence-based practice, they offer many benefits to both students and teachers in a variety of settings and are included as an instructional strategy to support evidence-based practices (Conderman, et. al.).

According to Conderman and Hedin (2010), cue cards should be used in seven steps. First, develop and activate students' background knowledge. Second, discuss the steps on the cue card. Third, model how to use the steps on the cue card. Fourth, if possible, have students memorize the steps on the cue card. Fifth, support the students through guided and independent practice activities using the cue card. Sixth, wean the student from the cue card. Finally, teach students how to develop their own cue cards.

It is found that cue cards present three primary benefits for students with LD (Conderman, et. al.). First, cue cards can address deficits in cognitive strategies, planning, monitoring, and revising during the writing process. For example, cue cards serve as an attention and procedural support system by reminding students of steps and their order in pertinent processes and procedures. Second, cue cards help students to learn more content and to know and remember how to apply strategies and to complete tasks. Third, cue cards can promote

independence for students with LD. Students with LD often believe that their efforts will not succeed. They have difficulty in planning, monitoring, and revising their work, and have a limited awareness of the usefulness of specific strategies for completing a task (Conderman, et. al.).

Research on cue cards spans from content areas including writing, reading, math, and behavior management for students with LD (Conderman, et. al.). However, researchers have rarely used cue cards alone as the focus of intervention. Instead, cue cards have been a means of conveying instruction and supporting independent use of intervention strategies such as SRSD (Conderman, et. al.). Consequently, the impact of cue cards documented in various researches must be considered in the context of self-regulation. It is found that cue cards paired with SRSD, an evidence-based writing intervention, helped students set writing goals and monitored their academic performance (Conderman, et. al.).

However, according to Conderman and Hedin, (2010), at least three primary limitations were found with use of cue cards. The first was that cue cards were inappropriate to use with learning tasks that emphasize creativity. Second, cue cards were ineffective when students are independently exploring multiple ways of approaching learning tasks. Third, cue cards were less effective when steps were complex and followed a flowchart model with several routes and possibilities. Finally, cue cards were less helpful when steps could not be summarized in short statements, questions, or probes at the student's developmental level. Despite the above limitations, cue cards do offer assistance to students with LD because they are a flexible instructional approach that assists students in developing and maintaining independence with challenging materials and classroom expectations (Conderman, et. al.). Teachers can enhance

their instruction and scaffold student learning through the use of cue cards because the cards are often used with evidenced-based practice to support academic learning (Conderman, et. al.).

Students with LD experience problems with writing that are rooted in both cognitive and motivational factors (Garcia & de Caso, 2004). Compared to non-disabled peers, these students appear to have a less positive self-concept, lower self-efficacy, more negative motivational patterns, less emotional support, and more stress (Garcia, et. al.). It is important that writing interventions for students with LD not only teach self-regulation strategies and control of the writing process but also focus on the students' motivation. Also, interventions should be adjusted according to students' developmental level (Garcia, et. al.).

In 2004, researchers from Spain investigated if students with LD could learn strategies for written compositions and if they could increase their motivational level (Garcia, et. al.). The participants consisted of 127 5th and 6th graders with low achievement and/or learning disabilities, ranging between 10 and 12 years of age, from 23 primary schools in western Spain. They were randomly selected to either the experimental or the control groups. Participants in the experimental group completed tests of writing performance and motivation both before and after to the intervention. The participants in the control group completed these tests at the same time in the school year. A program of training in writing motivation and planning strategies was developed specifically for the purpose of this study.

Results of this study showed that for the experimental group with students with LD, there were only statistically significant changes in the writing quality of texts (Garcia, et. al.). Further, as motivation in this study was assessed, the researchers observed that the motivational components did not change significantly, except the attitude towards writing. For the students who only received the standard instruction, their attitudes towards written composition

decreases, which is congruent with the results of other studies showing that negative attitudes towards writing increase with age in students with or without LD (Garcia, et. al.). However, for students trained in the program focused on writing processes and motivational components, their attitudes towards writing significantly increased (Garcia, et. al.).

There were various limitations in this study. One limitation was that emotion was a primary component of this study in regard to motivation in the school context. Emotions had to be equated and added to the theory of the value expectation, the attributions and the self-efficacy.

For example, a task that was boring to the students was not made interesting by adding only a few details. The material had to make sense and increase the students' cognitive and emotional interest. Another limitation of this study was that motivation remained to be relatively stable beyond age 12. Therefore, a more prolonged intervention was needed to bring about important changes in motivation. According to Garcia and de Caso, (2004), the combination of cognitive strategies with the motivational aspects could improve the quality of writing among students with LD. It is possible that if students write better, their history of failures will decrease and their expectations of success could improve.

Computer-Assisted Instruction

When computers were first introduced into classrooms in the 1980s, many writing teachers began designing software programs for invention tools in the hope of getting the maximum potential out of the computer (Bacci, 2008). However, researchers at the time surmised that all of these invention strategies could be performed on the computer without specialized software. The programs were essentially taking existing heuristics such as the topoi, pentad, or free writing and putting them on computer screens; they could just as easily be done

on paper (Bacci). Consequently, writing experts began to call for methods to use computers in writing in order to add a significant dimension or advantages to the writing process (Bacci). For example, hypertext was expected to provide that unique electronic medium that would offer students a significant change through the use of technology.

During the 1990s, hypertext gained attention for its potential in the writing classroom and students experimented with it with grand enthusiasm as another possibility for enhancing invention. Therefore, hypertext as a medium of composition attracted many teachers because of the special considerations it provided for its audience and because it could be applied to all forms of writing (Bacci). Moreover, the task of writing in HTML required the writer to ensure that all links were contextualized and consequently, that he or she must pay careful attention to analyzing the relationships among pieces of information and categorizing them into a hierarchal structure (Bacci). However, this potential for providing a new way of thinking about writing was quickly displaced as what you see is what you get (WYSIWYG) editors became more commonplace and writing in hypertext was no longer a necessary skill (Bacci).

Educators struggled to discover something substantial and meaningful that computers could bring to the classroom after the invention software and hypertext were abandoned (Bacci). Towards the end of the 1990s, a researcher found minimal results regarding the ways that computers and technology could change or add to the writing process (Bacci). Thus, the 1980s and 1990s were spent incorporating computers into classrooms in methods that essentially resisted any kind of meaningful change over the traditional ways of teaching (Bacci). However, at the beginning of the 21st century, computers and technology finally found their niche in the classroom to assist students across the broad spectrum of curriculum, especially in regard to reading and writing (Bacci).

Technology in the 21st century has shown significant potential to support teaching and learning (Hourcade, Peterson-Karlan, & Parette, 2008). It has been critical for teachers, teacher educators, and educational researchers to examine how technology, learning, and teaching intersect across all academic domains, especially in regard to writing (Katic & Turner, 2009). Not only can technology be used to support all aspects of the writing process, it especially can be beneficial for specific processes such as drafting, editing, and revising. Also, technology enables students to apply their writing skills in new approaches such as using the Internet and search engines (Hourcade, et. al.). It is found that technology can transform the basic nature of writing by introducing new electronic genre and new multi-media forms in which a composition involves a combination of media such as print, still images, video, and sound (Hourcade, et. al.).

Currently, there are a variety of technologies to support writers with physical and learning disabilities. These include word processing, spell checkers, word prediction, speech recognition, and text-to-speech screen review. These technologies are intended to support students who experience difficulties with writing without replacing good writing-as-process instruction (Hourcade, et. al.). The organizational programs such as Inspiration or Kidspiration allow students to brainstorm and synthesize information easily during the prewriting phase (Marks & Montgomery, 2006). Students can have access to word-prediction software programs such as Co:Writer and Aurora that can be used in conjunction with word-processing programs (Marks, et. al.). Word-prediction programs provide correctly spelled word choices, decreasing the spelling demand placed on students during the writing and allowing students to compose at a level commensurate with their oral-expressive language ability (Marks, et. al.).

Digital storytelling is a technological instructional strategy used for students with LD. Digital storytelling involves telling stories using multimedia technologies, providing a format for

students to put their thoughts together, visually, aurally, and kinesthetically (Banister, Hodges, & Michalski, 2005). Evidence supports the idea that students can increase their reading and writing skills by incorporating multimedia technologies in this manner. Creating digital stories serves as a motivator for students with LD, thus they remain engaged throughout the writing process (Greenridge & Sylvestor, 2009). It seems that this multimedia approach helps students organize their idea, record their voice to tell the story, increase their confidence, and transfer their thoughts into a composition (Greenridge, et. al.). According to Banister, Hodges, and Michalski, (2005), writing for students with LD can be laborious and frustrating. Therefore, exploring technological alternatives can alleviate these stressors and simultaneously stimulating students for successful writing achievement.

According to Banister, (2005), digital storytelling could in fact improve the writing skills of students with LD. In Banister's study, 7th and 8th grade students identified as cognitively delayed with an IQ averaging below 70, and an IQ averaging below 55 participated. Of these, 90% qualified for free or reduced lunch, documenting the impoverished status of most of the households in which these students lived (Banister, et. al.). During the study, several adaptations were made to meet the needs of the students in the class. These adaptations included input (e.g. using instructional strategies to facilitate student learning), output (e.g. the ways learners can demonstrate understanding of knowledge), time (e.g. the flexible time needed for student learning) and level of support (e.g. the amount of assistance to the learner) (Banister, et. al.).

The results showed significant progress among the participants. Before the digital storytelling intervention, the students experienced difficulties constructing phrases, using correct grammar, spelling, and appropriate vocabulary. After the intervention, the participants learned to build words and phrases into fragments, and eventually into sentences (Banister, et. al.). The use

of images in digital storytelling provided students with prompts that encouraged their use of words in more creative and complex ways (Banister, et. al.). Thus, the students' writing products reflected their attention to detail, ability to organize and develop a story as well as providing proof of the level of their achievement (Banister, et. al.). It is found that the incorporation of digital storytelling into writing instruction compelled students with LD to become excited about their writing and a committed increase in an effort for good writing (Banister, et. al.).

According to Collings, Dunsmore, Englert, Wolbers, and Zhao, (2007), research has yielded consistent results that two primary types of organizational tools may support writing performance through the use of technology-assisted devices such as graphic organizers, mapping tools, and supplementary assistive technologies for students with LD. Graphic organizers and mapping tools enables writers to organize what they know into relational databases that facilitate information generation and retrieval (Collings, et. al.). For example, the Inspiration software allows students to organize their ideas into a multitude of possible structural arrangements, such as compare-contrast, explanation, and flowcharts (Collings, et. al.).

Assistive technologies are organizational tools that offer discourse-level prompts that help students stage their ideas and develop the macrostructure of their expository papers through the provision of cognitive frameworks (Collings, et. al.). For example, Technology-Enhanced Learning Environments on the Web, (TELE-Web), is Internet-based software that offers several structural devices upon which students can frame their thoughts, words, and ideas (Collings, et. al.). This TELE-Web assists students stage the text structure by reminding them to generate the introductory statements that prepare readers for the forthcoming text. It is found that TELE-Web scaffolding has supported students with LD to write effectively (Collings, et. al.).

The participants of Collings study, (2007), were 35 elementary students with LD. There were 20 students in the experimental condition and 15 in the control group. All were classified with an LD (Collings, et. al.). The students were drawn from six special education classrooms across five urban schools. They were divided into two groups, 13 students in the TELE-Web group, and 11 in the comparison group. The mean age of students in the TELE-Web condition was 10.64, whereas the mean age of students in the comparison group was 9.64. A baseline sample of writing performance was collected two weeks prior to the start of the intervention in order to gather information about students' entry-level performances in writing an informational paper about a familiar topic (Collings, et. al.).

An examination of the students' compositions indicated that all students improved from the baseline to posttest assessments, with noticeable improvements to the introduction of graphic organizers (Collings, et. al.). Further, students performed significantly better using the TELE-Web. The TELE-Web helped students frame their introduction based on their maps, elaborate on their body paragraphs with details, and incorporated conclusions in their writing. It seems that this intervention offered pedagogical support that allowed students to connect their newly emerging knowledge to the relevant textual sites where such knowledge might be implemented (Collings, et. al.).

This particular study examined the potential benefits of web-based scaffolding on the writing performance of students with LD. The findings indicated that computer-assisted environments could mediate and scaffold student performance (Collings, et. al.). By making writing tools and text structure available during text construction, students were prompted to incorporate the various properties associated with well-organized texts (Collings, et. al.). There were two major implications for the TELE-Web intervention. First, it is important to realize that

TELE-Web does not teach students. TELE-Web works best when it is combined with effective instruction by teachers (Collings, et. al.). Teachers cannot implement writing technologies and expect students to induce and internalize principles and text structures without guided instruction that makes explicit and visible the arrangement of ideas in texts (Collings, et. al.). The second major implication was that technology scaffolds must be tailored to the individual user relating to his/her learning history. Students require developmentally appropriate prompts and language whose function and meaning are understood (Collings, et. al.).

A Canadian study conducted in 2009, listed software literacy programs that had a positive impact on students' writing performance (Lovell, et. al.). The authors of this study analyzed 47 software programs authorized for use by the ministries of education in the provinces and territories of Canada by searching online resource catalogues. Of the 47 programs, only 13 were available for purchase, and 12 of the 13 programs were published in the United States and one was published in Canada (e.g. SMART Ideas) (Lovell, et. al.). The criteria to measure the effectiveness of each software program were also created. These included instruments to evaluate if the program was comprehensive through interface design, content, and instructional design. Also, pilot testing was used at a high inter-rater reliability to determine appropriate instructional use for elementary students (Lovell, et. al.).

The results revealed that six out of 13 writing software programs were deemed to meet expectations outlined by the aforementioned criteria and the remaining seven failed. It is recommended that teachers must ensure that technology alone is not instructing their students. Instructors must review and teach students how to organize ideas, prepare for writing, and edit the draft following the critical components of the writing process, while technology only serves as an instructional support (Lovell, et. al.).

Summary

The review of the literature summarized in this chapter explained the beneficial approaches to improving writing instruction for students with LD. The three primary methods focused in this section- *direct instruction, self-regulation,* and *computer-assisted technology,* was proven to be an effective measure for students with LD based upon the results of evidenced-based studies conducted by various researchers internationally (e.g. Spain, Canada, and Israel).

DI and self-regulation instructional strategies for writing have been in existence for quite some time while computer-assisted instruction has been recently applied in the classroom for students and teachers within the past 25 years (Bacci).

In conclusion, research has shown through the literature that students with LD had made significant writing achievements in the various domains of writing such as pre-writing, drafting, revising, and editing through the use of the three primary approaches to instruction. For example, DI has allowed students with LD to attend to analyzing major skills into smaller skills and to provide opportunities for students' response. Self-regulaton instructs students on how to utilize self-regulation technique such as goal setting, progress monitoring, and self-instruction. Computer-assisted technology enables students with LD to use pre-writing strategies, word prediction, voice output, spelling and grammar checker, and a thesaurus (Marks & Montgomery, 2006). These three instructional approaches have critical academic implications to enhance the learning of writing among students with LD.

CHAPTER III

Methodology

Setting

This study was implemented at an alternative school for secondary students with learning disabilities, developmental disabilities, and emotional/behavioral disorders. Currently, there are approximately 90 students enrolled in the program ranging from ages 12-18 through grades 7-12. All of the students are referred to the program by their home school district.

The main school building contains a total of eight classrooms. The north wing of the building contains four self-contained classrooms. There are two self-contained classrooms designed for students with trauma and the remaining two are for middle and high school students with learning disabilities.

The south wing of the building contains four classrooms for high school students. All students in the south wing transit to other classes to receive instruction in the four common subjects such as science, social studies, mathematics, and language arts. All of the high school students in this wing are classified with an emotional/behavioral disorder. The age ranges of these students are from 16 to 18 in grades 10 through 12. Many of these students are adjudicated by the state's juvenile court system on probationary measures prescribed by legal code mandates.

Two self-contained classrooms for high school students with developmental disabilities are located in an adjacent building on campus. Each classroom is comprised of one lead teacher and two instructional assistants. In some cases, a staff member may accompany a student if additional support is necessary.

This study was conducted in a self-contained high school classroom during Language Arts class. There were 9 students in the classroom. All of the students were classified with a learning disability. A special education teacher delivered the writing instruction for the entire study and two instructional aides provided assistance.

Participants

Students

Three freshman and two sophomore students participated in this study. Their ages ranged from14 to 16. All of them were classified with a learning disability and two received speech and language services. Moreover, all of them received counseling services based on their emotional and behavioral needs addressed in their IEPs. All students had IEP objectives in writing instruction for 40 minutes that were required each day. Table 1 represents the general information about the participating students. The writing level of each student was determined by the Test of Written Language, 3rd Edition, (TOWL-3, 1996).

Table 1.
Student Information

Student	Grade	Gender	Age	Ethnicity	Writing Level
A	9	F	14	Hispanic	8
B	9	F	14	White	6
C	9	M	14	African-American	8
D	9	M	15	African-American	6
E	10	M	16	African-American	6

Student A is a 14 year-old female, 9th grader with LD. She reads at the 10th grade and writes at an 8th grade level and excels at mathematics. However, she experiences moderate difficulty with expressive and persuasive writing compositions. For example, she often fails to elaborate on details of a main idea and uses incorrect punctuation and tenses. She also has been diagnosed with a reactive attachment disorder whereby it is difficult for her to build rapport and relationships with her peers.

Student B is a 15 year-old female, 9th grader with LD, Oppositional Defiant Disorder (ODD), and ADHD. She reads and writes at a 6th grade level. In writing, she experiences difficulty writing the correct subject-verb agreement scheme and misuses tenses. Also, she fails to adequately elaborate in her expressive writing activities. She can be physically aggressive towards staff and peers when she becomes angry or frustrated.

Student C is a 14 year-old male, 9th grader with LD and ADHD. His reading level is at 10th grade and his writing level is at the 8th. In writing, he experiences difficulty using transitional phrases and correct tenses. He is confused with adjectives and adverbs. He enjoys writing short stories and poetry and would like to become a journalist.

Student D is a 15 year-old male, 9th grader with LD. His reading and writing levels are at the 6th grade. In writing, he experiences difficulty using run-on sentences, spelling, and correct usage of tenses vocabulary words. He enjoys writing stories about his favorite football team and likes to read biographies of famous athletes.

Student E is a 16 year-old male, 10th grader with LD, ADHD and a conduct disorder. He reads and writes at a 6th grade level. His writing is barely legible and he experiences difficulty with spelling, grammar, and punctuation. He also has difficulty in using correct subject-verb agreement and sentence fragments and run-ons. Reading fluency and comprehension are his

weaknesses. He does not like to write but enjoys typing and playing educational games on the computer.

Teacher

One special education teacher delivered writing instruction for the entire study. The teacher has three years of experience in teaching students with learning disabilities.

Research Design

A multiple baseline research design with A (baseline), B (intervention) and C (maintenance) phases was used in this study. During Phase A, the first three participating students were provided three writing opportunities to evaluate their writing. The remaining four students were assigned to write four compositions to evaluate their writing. During Phase B, the teacher provided a computer program called Digital Stories in writing instruction to assist students to develop their compositions. Students were assigned five topics for expressive writing. During Phase C, after two weeks of intervention, the students were assigned to write three stories using Digital Stories to evaluate their skill maintenance.

The dependent variables of this study included (1) the total number of words of each story; (2) the number of correct words; (3) the number of complete sentences; and (4) the writing quality of the participants' compositions based on a writing rubric.

Materials

Instructional Materials

Writing Guides

The instructional materials included two writing guides presenting the basic principles of writing through DI to assist students in planning their writing through self-regulation strategies.

The first book, *Writing Better: Effective Strategies for Teaching Students with Learning Difficulties* by Steve Graham (2005), was used by the teacher to explain the fundamental steps of organizing, planning, and writing a composition. For example, the students were introduced to the *STOP* and *LIST* strategy (see Figure 1). Each letter in the *STOP* mnemonic stands for a word in the phrase: *s*top and *t*hink *o*f *p*urposes. This strategy is divided into three steps of organization. The first step for STOP was to (1) brainstorm an idea for a purpose; (2) list ideas and develop a sequence of events; and (3) write down a story following the sequence.

The first step instructed students how to establish their purpose and goal for their writing. The second step involved students to generate and organize ideas. This part of the process was referred to as the *LIST* strategy. Each letter in the *LIST* mnemonic stands for a word in the phrase: *l*ist *i*deas and *s*equence *t*hem. The third step encouraged the students to follow this writing sequence while creating their compositions. They could add new ideas and statements or delete irrelevant statements. The writing process of the 6 primary steps (see Figure 2) was introduced after the students learned the *STOP* and *LIST* strategy.

STOP- Students stop and list goals for composition.

1. Brainstorm an idea for a purpose.
2. List ideas and develop a sequence of events.
3. Write down a story following the sequence.

LIST- List Ideas and Sequence Them.

Figure 1. STOP & LIST

Step #1: Pre-Write

Step #2: Write

Step #3: Revise

Step #4: Conference

Step #5: Edit

Step #6: Publish

Figure 2. Six Steps of the Writing Process

The second writing guide, *Powerful Writing Strategies for all Students* by Harris (2008), guided students to use the self-regulated strategy (SRSD), to successfully organize (i.e. grammar) and to develop quality sentences in their writing. The six primary stages of an SRSD include: (1) developing background knowledge (i.e. pre-skills such as vocabulary are developed); (2) discussing it (i.e. teacher and student discuss the importance of SRSD strategy; (3) modeling it (i.e. student thinks aloud while writing composition); (4) memorizing it (i.e. memorizing steps in the composing strategy); (5) supporting it (i.e. teacher provides writing support for student); and (6) practicing to become independent (i.e. plans for maintenance and

generalization are devised). Specifically, the participants used a **POW + WWW, What = 2, How = 2**, self-regulation strategy for this study, (see Figures 3 & 4).

P.O.W.
Pick my idea. **O**rganize my notes. **W**rite and say more.

Figure 3. P.O.W. Strategy

WWW What = 2 How = 2
Who is the main character? When does the story take place? Where does the story take place? What does the main character do or want to do? What happens then? How does the story end? How does the main character feel?

Figure 4. WWW Strategy

Digital Stories

Another instructional material, a Microsoft software program www.microsoft.com, *Digital Storytelling*, was used to develop compositions. This program provided students the opportunity to use computer-based images, text, audio narration, video clips and/or music to develop writing compositions. During the study, each student had access to a PC and was able to retrieve the program from a Microsoft webpage, Microsoft.com, designated for educational use (Microsoft.com).

Measurement Materials

Rubric

A rubric was developed based on Graham and Harris's study (1989) by the teacher to evaluate each student's composition. The quality of writing was based upon the following components, (see Table 6). Scores would be collected and analyzed during the baseline phase (A), the intervention (phase B), and the maintenance (phase C).

Student Survey

At the end of the study, the participating students were asked to complete a survey developed by the teacher to determine the study's social validity. The survey was intended to gauge the students' overall perspectives in learning writing using the computer program. There were seven statements in the Likert scale with strong agreement as 4, the highest score, to the lowest score of 1 for strong disagreement (see Table 2).

Table 2.
Student survey

	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)
I learned that using a computer helped my writing.				
I would rather type on a computer than write.				
I learned a lot about the writing process.				
I learned how to use correct punctuation.				
I learned new self-regulation strategies.				
I increased my sentence length.				
I would recommend this writing instruction to peers.				

Instructional Procedures

Baseline Procedures

During the baseline (Phase A), the participants were given basic writing prompts and were directed to write passages about a topic in 15 minutes. The first three participants were directed to write three compositions within three weeks with one topic per week and the remaining three participants were assigned for four compositions within four weeks. Intervention Procedures. The participants were grouped together three times a week during Language Arts class for 40 minutes (Phase B). During the first two weeks, the teacher taught the students to write correct compositions using a DI approach. For example, the teacher taught the *STOP* and *LIST* strategy. The students were then instructed to develop a composition with three paragraphs consisting of an introduction, body, and conclusion. Each paragraph had to consist of at least three sentences.

During the second two weeks, the teacher instructed the participants on how to use self-regulation strategies for writing compositions. For example, the teacher instructed the students on how to use the *POW + WWW, What = 2, How = 2* method. The students were then instructed to develop a composition with three paragraphs consisting of an introduction, body, and conclusion. Each paragraph had to consist of at least five sentences.

During the last two weeks of the study, the teacher instructed the students to use the Digital Storytelling program to create compositions. The students were then instructed to write a composition with five paragraphs consisting of an introduction, body, and a conclusion. Each paragraph had to consist of at least five sentences.

Maintenance Procedures

After two weeks from the intervention, the participants were required to use Digital Storytelling program to develop three compositions on their own. The teacher and the TA only provided technical support on the computer program.

Measurement Procedures

Each student's composition was read by the teacher to count the total number of words, the number of correct words, the number of complete sentences, and the writing quality based on a writing rubric (see Table 3). The rubric was developed using an 8-point scale created by Grahm and Harris's study (1989). A teacher assistant was invited to double check the student surveys together with the teacher to ensure accuracy. Each participant was given the survey at the end of the study. The teacher read each survey question to the students in class. The students were then called upon to circle their opinion: strongly agree, agree, disagree, or strongly disagree. The teacher then collected the completed survey.

Data Analysis

Student performance was presented through a graph as well as a table including means and standard deviations (SD). The survey results were generated into percentages and demonstrated in a table.

Table 3. Writing Rubric.

Relates to topic.	Minimal response to topic.	Attempts to focus.	May lack opening and/or closing.	Partial opening and/or closing.	Generally has opening/closing.	Opening and closing.	Opening and closing.	Opening and closing.
Logical Progression of Ideas.	No planning evident.	Attempts organization.	Usually has single focus.	Usually has single focus.	Single focus.	Single, distinct focus. Details appropriate and valid.	Single, distinct focus.	Single, distinct focus. Unified and coherent. Fluent and cohesive.
Tense formation.	Severe errors.	Numerous errors.	Some lapses or flaws in organization.	Some lapses or flaws in organization.	Ideas loosely connected.	Very few, if any, errors.	Very few, if any, errors.	Very few, if any, errors.
Subject-verb agreement.	No apparent control.	Numerous errors.	Patterns of errors may be evident.	Some errors that do not interfere with meaning.	Few errors.	Very few, if any, errors.	Very few, if any, errors.	Very few, if any, errors.
Word Choice	Guesses at word meanings.	Numerous errors.	Patterns of errors may be evident.	Some errors that do not interfere with meaning.	Few errors.	Very few, if any, errors.	Very few, if any, errors.	Very few, if any, errors.
Correct Sentence construction.	Assortment of incomplete sentences.	Excessive monotony.	Little variety in syntax.	Some errors that do not interfere with meaning.	Few errors.	Very few, if any, errors.	Very few, if any, errors.	Very few, if any, errors.
Spelling. Capitalization. Punctuation.	Errors so severe they detract from meaning.	Numerous serious errors.	Patterns of errors may be evident.	Some errors that do not interfere with meaning.	Few errors.	Very few, if any, errors.	Very few, if any, errors.	Very few, if any, errors.

Chapter IV

Results

Each student's writing composition was reviewed by the teacher and his TA to calculate total number of words, correct words, complete sentences and quality of writing using the rubric.

Total Number of Words

Table 4 presents the means of total number of words of each student's composition across phases.

Table 4.

Means of Total Number of Words of each student's composition.

Student	Baseline (Phase A)		Intervention (Phase B)		Maintenance (Phase C)	
	Mean	SD	Mean	SD	Mean	SD
A	34	5	112	3	103	3
B	30	4	110	2	100	4
C	50	4	116	2	116	2
D	41	3	113	4	112	2
E	21	5	47	5	52	3

Total Number of Correct Words

Table 5 presents the means of total number of correct words of each student's composition across phases.

Table 5.

Means of Correct Number of Words of each student's composition.

Student	Baseline (Phase A)		Intervention (Phase B)		Maintenance (Phase C)	
	Mean	SD	Mean	SD	Mean	SD
A	31	4	86	4	86	3
B	22	1	98	5	98	4
C	45	1	112	5	110	3
D	31	1	109	4	110	1
E	11	2	46	3	46	2

Complete Sentences

Table 6 presents the means of total number of complete sentences of each student's composition across phases.

Table 6.

Means of Complete Sentences of each student's composition.

Student	Baseline (Phase A)		Intervention (Phase B)		Maintenance (Phase C)	
	Mean	SD	Mean	SD	Mean	SD
A	4	0	8	1	10	2
B	6	1	8	1	8	0
C	4	1	7	1	12	2
D	5	1	8	1	8	1
E	2	1	4	1	6	1

Quality of Writing

Table 7 presents means of the quality of writing of each student's composition across phases.

Table 7.

Means Scores Writing Quality of each student's composition.

Student	Baseline (Phase A)		Intervention (Phase B)		Maintenance (Phase C)	
	Mean	SD	Mean	SD	Mean	SD
A	3	1	6	2	6	1
B	3	1	7	1	6	1
C	2	0	7	2	5	2
D	2	1	4	2	5	0
E	1	0	4	1	3	0

Figures 5 through 9 represents individual student performance across all phases.

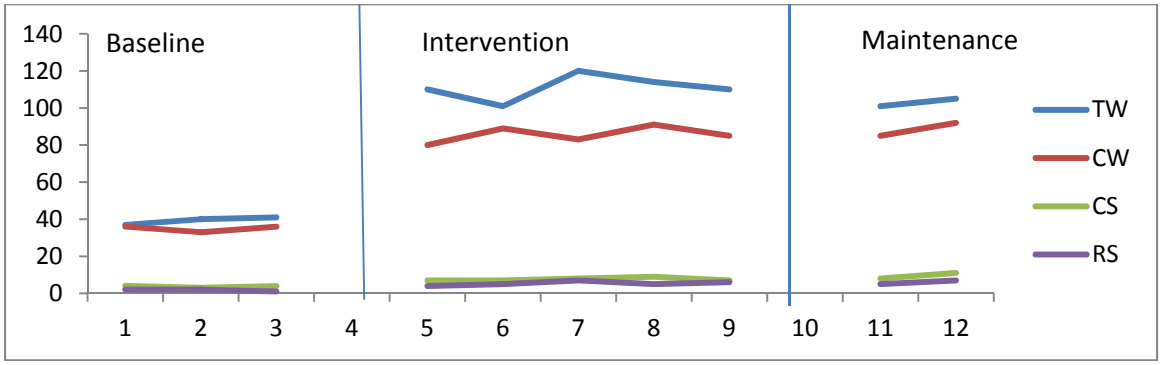

Figure 5. Student A

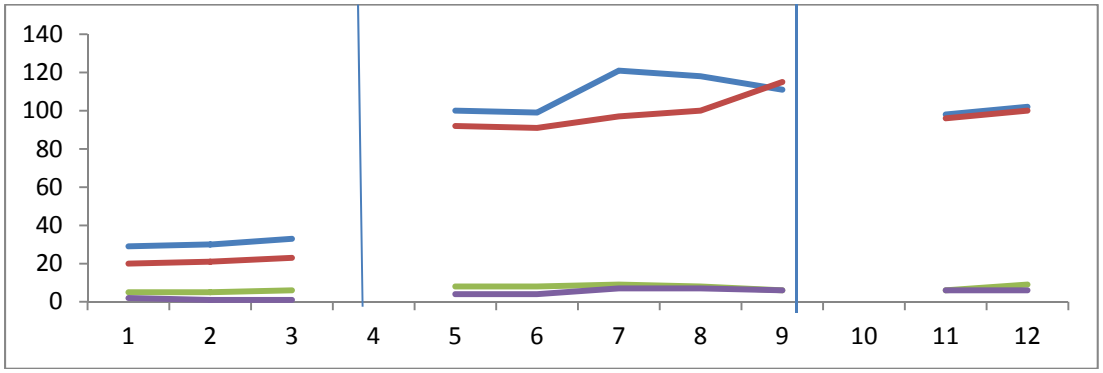

Figure 6. Student B.

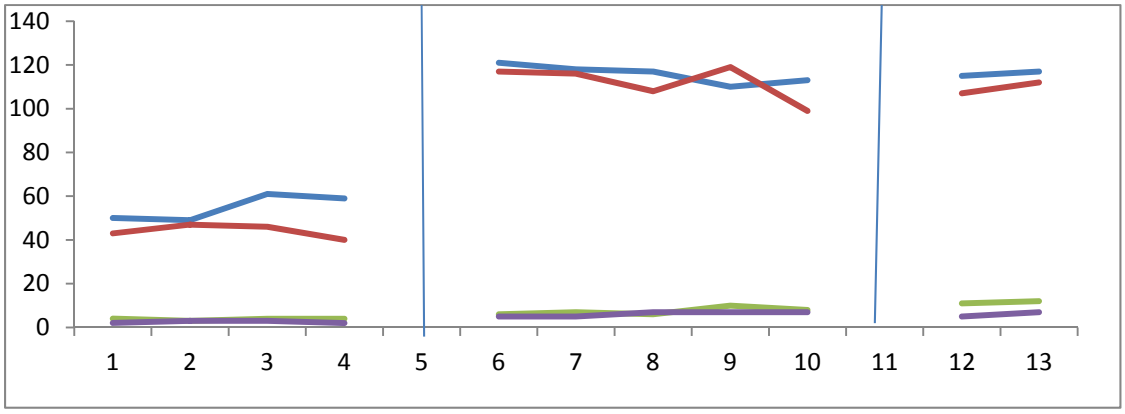

Figure 7. Student C

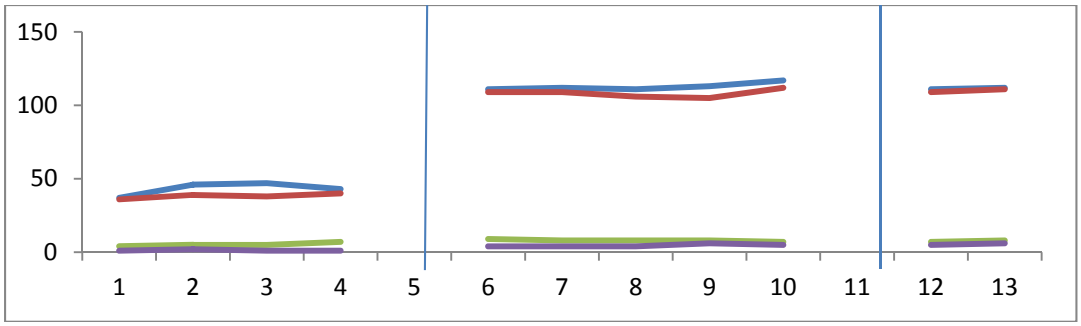

Figure 8. Student D

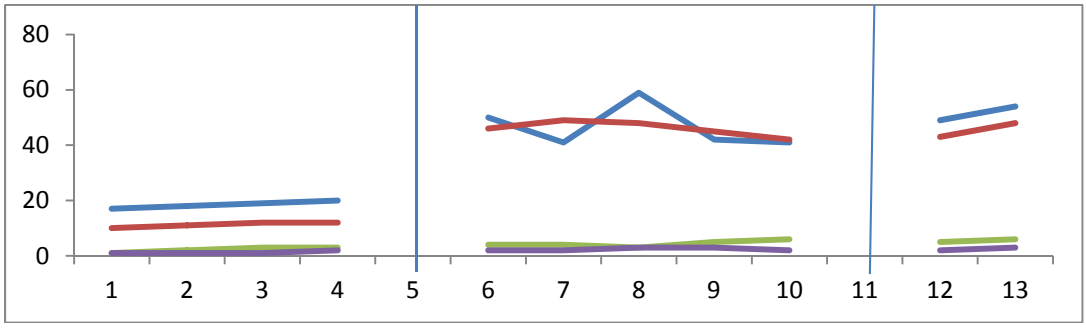

Figure 9. Student E

Total Number of Words

Student A increased her total number of words (a mean of 34) from the baseline to the intervention (a mean of 112). The total number of words was maintained to a mean of 103 during phase C (maintenance). Student B increased her total number of words from the (a mean of 30) baseline to the intervention (a mean of 110). The total number of words was maintained to a mean of 100 during phase C (maintenance).

Student C increased his total number of words (a mean of 50) from the baseline phase to the intervention (a mean of 116 words). The total number of words was maintained to a mean of 116 during phase C (maintenance). Student D increased his total number of words (a mean of 41) from the baseline to the intervention (a mean of 113 words). The total number of words was

maintained to a mean of 112 during phase C (maintenance). Student E increased his total number of words (a mean of 21) from the baseline to the intervention (to a mean of 47). The total number of words was maintained to a mean of 42 during phase C (maintenance).

Correct Words

Student A increased her number of correct words (a mean of 31) from the baseline to the intervention (a mean of 86). The total number of correct words was maintained to a mean of 86 during phase C (maintenance). Student B increased her number of correct words (a mean of 22) from the baseline to the intervention (a mean of 98). The total number of correct words was maintained to a mean of 116 during phase C (maintenance). Student C increased his number of correct words (a mean of 44) from the baseline to the intervention (a mean of 112). The total number of correct words was maintained to a mean of 110 during phase C (maintenance). Student D increased her number of correct words (a mean of 31) from the baseline to the intervention (a mean of 109). The total number of correct words was maintained to a mean of 110 during phase C (maintenance). Student E increased his number of correct words (a mean of 11) from the baseline to the intervention (a mean of 46). The total number of correct words was maintained to a mean of 46 during phase C (maintenance).

Complete Sentences

Student A increased complete sentences (a mean of 4) from the baseline to the intervention (a mean of 8). The total number of completed sentences was maintained to a mean of 8 during phase C (maintenance). Student B increased complete sentences (a mean of 6) from the baseline to the intervention (a mean of 8). The total number of complete sentences was

maintained to a mean of 8 during phase C (maintenance). Student C increased complete sentences (a mean of 4) from the baseline to the intervention (a mean of 7). The total number of complete sentences was maintained to a mean of 12 during phase C (maintenance). Student D increased complete sentences (a mean of 5) from the baseline phase to the intervention phase (a mean of 8). The total number of complete sentences was maintained to a mean of 8 during phase C (maintenance). Student E increased complete sentences (a mean of 2) from the baseline to the intervention (a mean of 4). The total number of completed sentences was maintained to a mean of 6 during phase C (maintenance).

Quality of Writing

Student A increased her scores of quality from the baseline (a mean of 3) to the intervention (a mean of 6) and maintained to a mean of 6 during Phase C (maintenance). Student B increased her scores of quality from the baseline (a mean of 3) to the intervention (a mean of 7) and maintained to a mean of 6 during Phase C (maintenance). Student C increased his scores of quality from the baseline (a mean of 2) to the intervention (a mean of 7) and maintained to a mean of 5 during Phase C (maintenance). Student D increased his scores from the baseline (a mean of 2) to the intervention (a mean of 4) and maintained a mean of 5 during Phase C (maintenance). Student E increased his scores of quality from the baseline (a mean of 1) to the intervention (a mean of 4) and maintained to a mean of 3 during Phase C (maintenance).

Student Survey

At the end of the study, all students were given the survey. A Likert scale ranging from 1 to 4 (1= *strongly disagree*, 4= *strongly agree*) was used to obtain student opinions about the instruction.

Table 8 presents means of the student responses to each survey statement.

Student Responses

	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)
I learned that using a computer helped my writing.		3		
I liked to use a computer for writing.	4			
I learned a lot about the writing process.			2.8	
I learned how to use correct punctuation.		3		
I learned new self-regulation strategies.		3		
I increased my sentence length.		3.2		
I would recommend this writing instruction to peers.			2.8	

Social Validity

Overall, the participants provided positive comments on the survey. For example, Item 1, *I learned that using a computer helped my writing*, indicated that 3 out 5 students agreed (60%). Item 2, *I liked to use a computer for writing*, indicated that 4 out of 5 students strongly agreed (80%). Item 3, *I learned a lot about the writing process*, indicated that 3 out of 5 students agreed (60%). Item 4, *I learned how to use correct punctuation*, indicated that 3 out of 5 students agreed (60%). Item 5, *I learned new self-regulation strategies*, indicated that 3 out of 5 students agreed (60%). Item 6, *I increased my sentence length*, indicated that 3 out of 5 students agreed (60%). Item 7, *I would recommend this writing instruction to peers*, indicated that 3 out of 5 students agreed (60%).

In addition, during the instruction, the teacher and teacher's assistant observed the participants sharing ideas to formulate writing compositions, asking such questions as to "what would a person want to know about how to change school rules, the school dress code, and what entertainment or sports celebrity would they like to spend the day with". Students' positive attitude and "excitement" and "eagerness" were observed as they were learning to develop their own compositions using computers.

Chapter V

Discussion

The purpose of the study was to examine the effects of self-regulation incorporated with computer-assisted instruction in teaching writing to students with LD. Results showed that all five participants in the study had improved their writing skills as increasing total number of words, correct words, complete sentences, and quality of writing. These four dependent variables were evaluated as students' performance over the course of a three-month period.

For example, Student E, the most reluctant participant increased his total words from 23 in the baseline to 47 during the intervention with a gain of 24 words. He increased his sentence length from the mean of 2 to 4. During the intervention, all students were instructed in self-regulation techniques such as **POW + WWW, What = 2, How = 2** to brainstorm for developing their compositions. Students were able to utilize the **STOP** and **LIST** strategy in their writing practice. For example, students would brainstorm ideas of personal interest such as sports, entertainment, or hobbies. This process assisted them in organizing their ideas in a sequence. In essence, this method assisted students in developing their story structure. As a result, Student A improved writing quality from a mean of 8 in the baseline to 19 in the intervention. Student B improved writing quality from a mean of 10 to 26.

The instruction of self-regulation strategies encouraged students to learn writing skills. According to Kaplan et. al. 2009, when low-achieving students such as Student E in this study are not familiar with a certain strategy or do not feel highly skilled in the area, they are less likely to perceive such strategies as actions possible for engagement. These strategies need to be taught and extensively practiced in class to support low achieving students in order to increase their

motivation toward a writing task. For example, Student E was not familiar with a certain strategy or did not feel highly skilled in the areas of using the writing processes of brainstorming, organizing ideas onto a graphic organizer, arranging events in a sequential order, and checking spelling and grammar. However, after approximately three weeks of self-regulation instruction such as writing down thoughts and ideas, listing events in order, and using spell check and a dictionary, this student demonstrated a marked improvement in writing performance compared to his baseline data.

According to Bacci, (2008), using technology such as PowerPoint and Digital Storytelling allows the students to write with alphabetic text, compose images and sounds, and orally perform their presentation with a slide show. A benefit of a computer, according to Bacci, is that students would be more likely to make substantial revisions and corrections to their composition after their draft is presented and posted on the screen and scrutinized by their peers. All participants during the study took the opportunity to examine each other's paper to determine if the content, fluency, and mechanics were correct. Students C and D made gains in all four areas of writing such as increasing amount of total words, correct words, complete sentences, and improving the quality of writing. During the baseline, both students did not exhibit any enthusiasm in writing while their motivation and eagerness to write was stimulated as technology was introduced during the intervention.

The first question of this study addressed if students with LD could improve their writing skills when digital stories were used in writing instruction? The results showed that participants demonstrated an improvement in overall writing subcategories such as coherent sentence structure, use of additional new vocabulary words, and descriptive sentences to engage the readers. For example, before digital writing was introduced, some of the participants especially

Students D and E appeared to be disinterested and preoccupied with other thoughts. They demonstrated short attention spans and had to be redirected on several occasions to concentrate despite their best efforts to remain on task. Their attention and enthusiasm had increased when they were allowed to begin typing their stories on the computer. Students A, B, and C exhibited a pre-emerging ability for expressive and narrative writing. For example, they were able to establish a mood for their stories and could successfully arrange story events in a chronological order. Also, they started to use transitional phrases and correct words and spelling. Their skills began to flourish when they input the writing component on the computer. It seems that using a computer in writing instruction motivates students' ambition. For example, the students used a variety of pictures and backgrounds to describe their stories. Student C used a winter themed, snowy background in one digital story to engage the reader to feel a mood of solitude and peace. Student D used action pictures from a professional sports team to convey a mood of frenzy and excitement in the story.

The second question was to evaluate student performance in terms of the number of complete sentences, total words, and correct words and sentences when digital stories were used in writing instruction. The data presented in the tables and graphs have shown a marked improvement in all four categories. For example, the overall increase for the entire group for total words was from a mean of 35 to 99 and the overall increase for correct words was from a mean of 28 to 90. The overall increase for complete sentences was from a mean of 4 to 7.

In addition, a writing rubric was developed to measure and analyze the quality of writing. Each student's composition earned different scores but all participants gained scores comparing to that of the baseline. The overall increase for the group was from a mean of 2 to 5. The

motivation of using digital stories during the intervention may impact their effort to edit their writing, thus, their writing quality could improve.

The third question was how to evaluate student performance in terms of measuring writing structures which included an introduction, body, and a conclusion when digital stories were used during instruction. All of the participants were able to improve their paragraph structure, especially Students A, B, and C. They learned how to use transitional phrases such as, "however", "moreover", "also", and "in conclusion". Students D and E were able to include just two transitional phrases such as "however" and "finally" while transitional phrases were missed during the baseline. They improved their sentence structures to avoid fragments and run-on sentences during the intervention when the self-regulation skills such as reviewing and silently reading to themselves was introduced. This editing process helped them improve their writing quality.

Limitations

There are some limitations of the study. First, the environment where the students located was not appropriate for an intensive study which required concentration with the least distractions. For example, disruptive behaviors from other students not involved in the study might impact their learning at times. Students who participated in the study complained to the teacher and assistants that it was "difficult to concentrate" and that it caused the participants to become agitated. Also, the participants wanted to transfer to another location in the school building such as the library but space and opportunity was severely limited.

A second limitation was the length of each instructional period. The study was conducted during the language arts class and the time allotted for students was approximately 40

minutes. However, some students could not consistently attend every session due to being pulled out of class for medical, counseling, and behavioral reasons. Instead, these students were instructed at a later time to make up the class. This different time period may have impaired their learning and performance.

The third limitation was the small sample size of participating students. There were only five students involved during the entire writing instruction. The initial target size for the instructor was at least eight but failed to get additional students. Thus, the small group size may be difficult to generalize the findings to other students or class settings.

Recommendations

It is strongly recommended that writing instruction incorporated with technology should be implemented to elicit a student's interest and motivation for writing. Students would not only learn how to put sentences together but also learn new vocabulary words and how to use basic parts of speech such as adjectives, adverbs, and transitional phrases, in order to make their writing fluent, coherent, and readable. Therefore, their writing quality could be improved.

Also, writing instruction must be provided daily to promote students' writing potential and to reinforce writing practice. Limited instruction, such as current practice in school, only 2 or 3 times weekly over 3 months seems not enough for students to practice, and for teacher's instruction. Embedded writing into reading and language instruction is needed, thus, daily instruction could be provided. In addition, writing workshops after school might be another idea for schools to provide an additional opportunity for students to improve their writing.

It is also very important that the writing instruction should be administered in an academic setting such as a library, computer lab, empty classroom, or conference room to ensure

a conducive environment for learning, reflection, group discussion, and concentration. Any external stimuli such as other individuals without being involved in the study, inappropriate behaviors from other students or staff interactions can negatively influence a student's performance. Further studies may need to expand the sample size and extend the intervention time to validate the findings.

Implications

The use of technology in writing instruction has potential to substantially improve the writing of students with LD at the secondary level. According to Banister, Hodges, and Michalski, (2005), studies have shown the positive correlation of writing and technology among elementary students were found, but very few involving high school students. It is important to realize that many high school students must be able to choose their topic of choice before a writing activity. This ensures that students are motivated and engaged with the topic of writing compared to an assigned topic whereby the student may feel disconnected to writing and will perform very poorly in spite of the teacher's best efforts to motivate the students. Teachers should be familiar with the latest technological advances such as different writing programs and devices that are available for their instruction. For example, interactive technology such as smart phones, software applications, and Smartboards are available in school. Teachers should be able to become familiar with technology as much as possible to meet the needs of contemporary student populations who are learning the latest technologies. Conversely, teachers must be firmly grounded in understanding the fundamental writing process. This process include a basic comprehension of a standard method that begins with pre-writing, writing, revising,

conferencing, editing, and publishing. A solid foundation of composition techniques to teach students is imperative before any type of computer-assisted instruction can even take place.

Conclusion

The use of technology to teach expressive writing to high school students with LD could enhance and improve these individual's writing skills. It may support the notion that technology can be used as a motivational construct that can make writing enjoyable and intriguing to students. An incorporation of technology can be used in writing instruction to motivate their interest and promote their potential. It is my hope that the findings of this study will lead to further assessment and investigation into the usefulness and educational benefits of merging technology into writing instruction at the secondary level.

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Appendix A

Example of Teacher's Lesson Plan for Writing Instruction

SUBJECT(S): Language Arts **LESSON ACTIVITY:** Writing
TIME FRAME: 40 Minutes

NJCCCS INDICATOR(S):

A. Writing as a Process (prewriting, drafting, revising, editing, post-writing)

3.2.12.A.1 Engage in the full writing process by writing daily and for sustained amounts of time.

3.2.12.A.2 Define and narrow a problem or research topic.

3.2.12.A.3 Use strategies such as graphic organizers and outlines to plan and write drafts according to the intended message, audience, and purpose for writing.

3.2.12.A.4 Analyze and revise writing to improve style, focus and organization, coherence, clarity of thought, sophisticated word choice and sentence variety, and subtlety of meaning.

3.2.12.A.5 Exclude extraneous details, repetitious ideas, and inconsistencies to improve writing.

3.2.12.A.6 Review and edit work for spelling, usage, clarity, and fluency.

3.2.12.A.7 Use the computer and word-processing software to compose, revise, edit, and publish a piece.

3.2.12.A.8 Use a scoring rubric to evaluate and improve own writing and the writing of others.

3.2.12.A.9 Reflect on own writing and establish goals for growth and improvement.

3.2.12.B.9 Provide compelling openings and strong closure.

C. Mechanics, Spelling, and Handwriting

3.2.12.C.1 Use Standard English conventions in all writing (sentence structure, grammar and usage, punctuation, capitalization, spelling).

3.2.12.C.2 Demonstrate a well-developed knowledge of English syntax to express ideas in a lively and effective personal style.

3.2.12.C.3 Use subordination, coordination, apposition, and other devices effectively to indicate relationships between ideas.

3.2.12.C.4 Use transition words to reinforce a logical progression of ideas.

3.2.12.C.5 Use knowledge of Standard English conventions to edit own writing and the writing of others for correctness.

ENDURING UNDERSTANDING: Students will be able to write compositions that provide a coherent main idea, logical sequence of events, and correct punctuation and capitalization.

ASSESSMENT OF STUDENT LEARNING: Informal assessments such as writing drills and practice will be used on paper and the computer to monitor student progress and understanding.

LIST OF STUDENT MATERIALS:

- Folders, graphic organizers, lined paper, and note books
- Computer
- Pen and/or pencil

Appendix B

Writing Samples

My hero is Nicki Minaj. Because I can relate to her. She has been through a lot and still has the tenacity to keep on her grind. She is a trooper and style motivator. She's brave and a lyrical genius. Her songs give me inspiration to make it through the day. (Baseline, Student C)

The creature then stepped out from the darkness, and I gasped. The creature was not a creature at all, but two small little girls. They looked almost identical except for their hair and eye color. One had hair the color of perfect moon shine and eyes of pure crimson, while the other one had hair the color of space and eyes of a super nova. They both had rosy cheeks and thick eyelashes. They looked to be about the age of five or younger. I stood my ground and said "Who are you?" the white haired one said in a cherubic voice" Our names are Aoi and Kigame, " she said motioning to the black haired one. " We came from our home in the forest to play a game of hide'n seek but we got attacked by a beast. Kigame managed to behead it and that's why we stand here before you. (Intervention)

Cafeteria good is “not good” cause every thursday serves hoagies and I feel some type of way of the food that they are serving every thursday. the food they serve mostly everyday is nasty. doesn’t taste right. and looks weird.(Baseline, Student D)

My very first support system person is my special best friend . The reason why she is my support system is because I can go up to her and I can talk to her about my feelings, my personal issues, etc. I can literally trust her because whatever I say to her she keep it safe, and secure. (Intervention)