PILOT STUDY OF WrAP: A VIDEO-CUED WRITING PROGRAM WITH A COMPUTERIZED

ASSESSMENT COMPONENT USED TO ENHANCE THE WRITING SKILLS OF STUDENTS

A THESIS

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DEPARTMENT OF TEACHER EDUCATION

BY

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TEXAS WOMAN'S UNIVERSITY
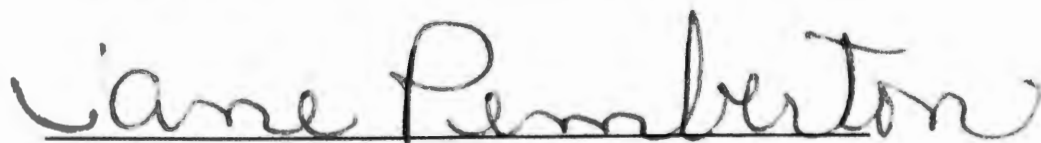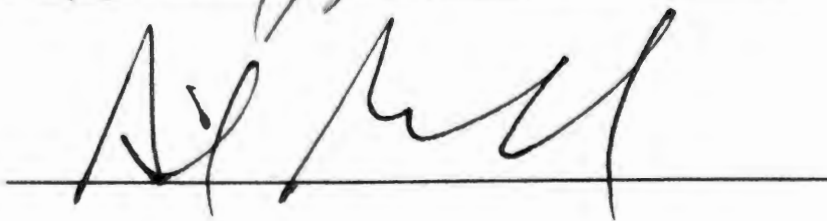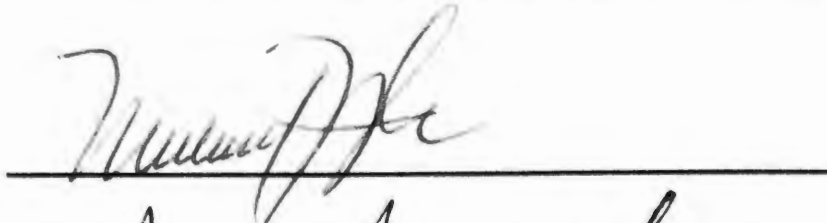
DENTON, TEXAS

November 9, 2011

To the Dean of the Graduate School:

I am submitting herewith a thesis written by Lisa Steinbach entitled "Pilot Study of WrAP: A Video-cued Writing Program with a Computerized Assessment Component Used to Enhance the Writing Skills of Students." I have examined this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts with a major in Special Education.

_____

Lloyd Kinnison, PhD, Major Professor

We have read this thesis and recommend its acceptance:

_____

_____

Department Chair

Accepted:

_____

Dean of the Graduate School

DEDICATION

To God, He sustained me through this process; to my mother, Jean Steinbach, because she made me who I am; and to my daughter, Michelle Anyango Obuong, because she is helping me become someone I never thought was possible.

ACKNOWLEDGMENTS

ABSTRACT

LISA STEINBACH

PILOT STUDY OF WrAP: A VIDEO-CUED WRITING PROGRAM WITH A COMPUTERIZED
ASSESSMENT COMPONENT USED TO ENHANCE THE WRITING SKILLS OF STUDENTS

DECEMBER 2011

The purpose of this study was to ascertain if a video cued writing system will

enhance students' writing skills by reinforcing the previously taught writing process in a

video format. In addition the design used a computerized assessment to analyze the

writing sample. This format would allow the teacher to use evidence-based instructional

planning for the student. The computerized assessment graphed the student's areas of

strengths and weaknesses so instruction could focus on these areas. The sample used

within the pilot program was comprised of fifteen participants attending a public charter

school located in an urban area in North Central Texas. There were ten female and five

male participants. The participants were in grades third through eighth. Students were

in both regular and special education classes.

The participants appeared to have benefited from the video portion of the

program, 93% displayed some increase in word frequency and fluency. However, the

assessment portion of the program did not perform as expected.

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CHAPTER I

INTRODUCTION

Writing is a life skill. Writing skills are important for academic and career advancement. Writing is a physical and mental function. It requires fine motor skills and higher order thinking abilities. It is both public and private. Writing relays information, conveys emotions, and transports us into the world of imagination. Writing cuts across curriculum, but is only taught as part of English/language arts. It is frequently used to judge a person's intellectual ability. It is one of the most complex skills required in education. Writing is becoming important for every student in the United States due to the fact that future employers value writing skills. American businesses spend $3.1 billion annually for writing remediation for their employees (Graham & Perin, 2007b).

Writing has taken on new significance for students. It has become a part of high stakes testing. Pick up almost any newspaper in America in the past five years and you will see stories about high stakes testing. L A Times, "Good Teachers, Good Students" September 3, 2010; New York Times, "High-Stakes Flimflam" October 9, 2007; Chicago Tribune, "Grade School Exam Scores Up; High School Results Flat" September 21, 2010; the Washington Post, "Time for Required Writing Should be Made" October 14, 2010; and Dallas Morning News, "Why Can't Texas Students Write?" September 10, 2010.

Students of all grades are affected by No Child Left Behind (NCLB) which has mandated students achieve proficiency in all four core subjects: English/Language Arts, mathematics, social studies and science by 2014. NCLB requires that all students perform to proficient standards at a national level. To this date no state has achieved that goal on state standards much less on national standards. Teachers and administrators are facing more pressure each year to produce test results showing students in all populations have made adequate yearly progress (AYP). NCLB has imposed the requirement that all students meet the national standard in English/Language Arts by 2014. In 2002, the National Assessment of Educational Progress (NAEP) reported only 24% To 31% of students in grades 4, 8 and 12 met writing proficiency goals (Persky, Daane, & Jin, 2003). This is well below the expected 100% by 2014.

While most sections of state standards or national standards are objectively scored, the writing portion of state and national standards is subjectively scored. This portion of the test uses a rubric scoring system and a team of independent scorers to assess the writing portion (Tiemann, 2010). Although writing is not exclusively addressed in NCLB, it is included in the language arts portion of the testing at certain grade levels.

Accountability has come more to the forefront due to NCLB. Professionals are seeking a better way of teaching which can help each individual student with his/her specific need. However, what occurs are school systems adopting a generic, one-size-fits all intervention that is quick and easy to use for the students and teachers alike. The intervention may generate a rise in test scores, but does it generate real learning experience for the student and genuine data for the teacher to use to evaluate a student's progress and use of basic skills?

Statement of the Problem

Some students struggle with writing at certain grade levels. If they are not able to show adequate skill in this area they cannot pass to the next grade. The state of Texas uses the Texas Assessment of Knowledge and Skills (TAKS) to assess the annual yearly progress (AYP) of students. Students at grades fourth, eighth, and eleventh or Exit, are expected to successfully complete a writing portion of the TAKS. Failure to pass this portion may result in the student being unable to graduate, repeating the grade, or being placed in a remedial program until a passing score has been achieved.

There are currently approximately forty two states that administer writing assessments in the elementary grades. The pass rates range from 9 percent passing up to between 81 and 91 percent passing (McCombs, Kirby, Barney, Darilek, & Magee, 2005). This data does not allow for the comparison of states for achievement rates due

to the difference in testing materials and scoring. However, the data may be useful in identifying the goals for states to reach the NCLB goal of 100 percent. Of the forty-two states participating in the 2002 fourth grade writing assessment the proficiency scores ranged from 10 percent to 49 percent which is well below the 100 percent demanded by NCLB by the year 2014 (Graham & Perin, 2007a).

Statement of Purpose

The purpose of this study was to ascertain if a video cued writing system will enhance students' writing skills by reinforcing the previously taught writing process in a video format. In addition the design used a computerized assessment to analyze the writing sample. This format would allow the teacher to use evidence-based instructional planning for the student. The computerized assessment provided a graph of the student's areas of strengths and weaknesses so instruction could focus on these areas. The computerized assessment assessed grammar, based on standard Microsoft Word grammar protocol, (i.e. misspelled words underlined in red and grammar and punctuation errors underlined in green). Scoring for a student's level abilities used the Texas Essential Knowledge and Skills (TEKS) guidelines for each grade.

Rationale

Writing is a very personal communication. It means putting a piece of yourself on paper, posting information in a blog, researching a paper on a topic you don't really

care about, or writing a thesis about a topic that you feel passionate about. The quality of one's writing puts an individual in a position for people to make judgments about them, their education and writing skills.

Students who do not learn to express themselves in a written format are at a disadvantage both in and out of school. In school, grades can suffer in classes in which writing is a primary means of assessing a student's knowledge. Poor writers may be less likely to use writing to support and extend their learning, and they are less likely to attend college. Outside school, lack of writing skill can hamper one's employment opportunities. Life in general is more influenced by writing due in part to e-mail and text messaging (Tracy, Reid, & Graham, 2009).

It is crucial to address the writing needs of all students. Interventions have greater impact when conducted in the primary grades when they can give students the basic skills to build on for future writing demands. The need for continued interventions may be reduced as the student gets older. Using a system that elementary students can access to help them self monitor their own progress and skill level will benefit them while they learn the basic skills and different writing genres. These skills should transfer to the use of more complex writing skills at the upper grade levels. The basic writing process does not change. Each time a student is called upon to write, there are steps to be followed which can lead to better results in writing regardless of the circumstances.

Definition of Terms

Curriculum Based Measurement: the CBM uses probes that overlap closely with a school's curriculum, are quick to administer, can be given frequently, and are quite sensitive to short-term student gains. These probes offer several scoring options, including but not limited to: total words written and number of correctly spelled words (Wright, 2010).

Demand Writing: the student is presented with a writing prompt and expected to create a story or essay on the topic given within a prescribed amount of time (Deshler, Schumaker, & Bui, 2003).

National Assessment of Educational Progress: the NAEP, also known as "the Nation's Report Card," is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. Since 1969, assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and the arts (National Assessment Governing Board, 2006).

Response-to-Intervention (RtI): RtI is a multitiered approach to providing services to students that matches the students' level of academic need to a corresponding level of instruction (Barnes & Harlacher, 2008).

Writing fluency: the total words written without examining accuracy of spelling, punctuation, or other writing conventions (Espin et al., 2000).

For the purpose of the pilot study only, the following terms were defined by the researcher:

Video cue: the cue is a thirty second to one minute long video that is used by the student to start the writing process.

Writing Assessment Program: the WrAP model is a video prompted writing system used to assist students in learning the writing process, i.e. visualization of the narrative by video, audio, and written prompts the students will use to complete the writing assignment.

Writing prompt: the written stimulus that a student responds to on a standard test. For example, "One of the heroes in my life is…."

Research Questions

The research questions developed for this study were:

1. Will a video prompted writing program increase the word frequency and fluency in writing samples of students?

2. Is a computerized assessment program able to assess grammar, punctuation, and spelling with 90% accuracy?

CHAPTER II

REVIEW OF THE LITERATURE

The challenge that most schools are facing today is to improve the writing skills of all students including students with learning disabilities, students who are culturally and linguistically diverse, and students who are performing in the low- and normal-achieving range. There are several ways to look at this issue. Review of research can be focused on several areas. The first area will be the method for writing instruction including the use of technology and data driven decision making. The second area will focus on assessing writing both the writer's skills and the product produced.

Writing Instruction

Many students do not meet grade level standards in writing skills (Persky, Daane, & Jin, 2003). One possible explanation is that schools do not do an adequate job of teaching this complex skill. The impact of any recommendation is likely to be reduced unless teachers learn to use effective instructional practices (Rogers & Graham, 2008). A student's knowledge about writing shapes his/her writing development. It is reasonable to expect the following from writing students: skilled writers are more knowledgeable about writing; developing writers become more knowledgeable with age and schooling;

individual differences predict writing performance; and instruction designed to increased knowledge improves writing skills (Saddler & Graham, 2007).

Writing plays two important roles in school. First it is a skill that draws on both mental and physical capabilities to accomplish a goal such as writing a report. Second, writing is a way for a student to extend and deepen their knowledge (Graham & Perin, 2007a). The first three years of schools children learn to read and write, then children begin reading and writing to learn. Writing is the last language skill to develop and requires the integration of knowledge of words, word meaning, and how to place words together in a sequence to create meaning. Writing is a skill that crosses all curriculums. For example, students in science are expected to keep journals of observations; social studies require students to write essays portraying an understanding of historical events; national mathematics standards encourage students to keep a problem-solving journal (National Council of Teachers of Mathematics, 2000); and language arts teaches the mechanics of writing and how to write in different genres (Bulgren et al., 2006). Writing is an important part of each subject area that the students are exposed to in school; however, teachers express this to be a challenge due to the time constraints of scoring the writing (Bulgren et al., 2006). Yet writing continues to be taught in only one subject area, English. In a brief survey of college catalogs, writing is taught in only one subject area, but students are expected to write in all subject areas. Most college

campuses now offer writing labs to assist students with their writing separate from their classes.

By the fourth grade students have certain knowledge expectations placed on them; they are expected to have the critical skills, vocabulary and concepts to write. They should have developed an idea of the writing process, i.e. pre-writing, composing, editing, etc. They should be able to compose individually and in a group. By the eighth grade, students should have mastered basic skills and begun to use more techniques in their writing. They should be adding to their range of styles of writing and making a more personal connection to the writing process. By the twelfth grade, students should have enhanced their writing techniques and expanded their writing styles significantly (National Assessment Governing Board, 2006).

While writing is critical to all core subjects there are many students who continue to struggle with nearly all aspects of writing. This is particularly true for students with learning disabilities (LD). Specifically, these students struggle with the mechanics of writing, method of writing either handwriting or dictation, and age level appropriateness (Espin et al., 2008). While writing crosses all curriculum areas, teachers prepared in how to teach writing does not. Teachers have difficulty coming to an agreement on how to evaluate writing skills which is why writing is often scored in two areas, one being mechanics and the other being content (Beyreli, & Ari, 2009). Teachers

need to be better prepared on how to teach writing instruction so as to better meet the needs of their students (Graham & Perrin, 2007a; Rogers & Graham, 2008).

Writing spans the curriculum and takes into account the needs/requirements of students with a wide range of abilities in the same classroom. Writing instruction must be responsive to a wide range of students and meet the teachers' comfort level for instructional procedures. Teachers generally do not adopt new instructional procedures unless such instructional procedures are found to be effective with a wide range of students. As general education becomes more inclusive, educators will need additional training to be more responsive to a wide range of students' abilities (Bulgren et al., 2006).

The use of consistent teaching routines and instructional procedures help students with the writing process. A routine allows the student to understand what to expect, gives the opportunity to practice and master skills, and eliminates distraction from the writing process. The student understands what to expect and is less anxious. Instructional procedures define how the teacher informs the student about the technology and routine involved (Bulgren, Marquis, Lena, Schumaker, & Deshler, 2009).

Writing production has taken a different direction with word processing taking the place of pen and paper. Word processing is having an influence on writing. Although, the results are mixed, it appears that students who use a computer to write,

write more sentences and words (Nichols, 1996). Researchers have recommended that future studies focus on measuring ability, style and preference for learning with a multimedia format which may help the learning process for students who both visualize and verbalize their learning experiences (Mayer & Massa, 2003).

Basically, there are three instructional modes: (1) the presentational mode that consists of lecture and teacher-led discussion; (2) the environmental mode, which includes problems selected to engage students with each other in the writing process; and (3) the individualized mode in which students are provided with instruction on an individualized basis. These modes differ in amount of direct teacher instruction and student independent work (Hillocks, 1986). Each mode may be used at different times to convey information.

Students are expected to write about topics on demand in high stakes testing. There are several research-based interventions to help teach students this skill. The interventions fall into four main categories. Pre-writing planning instruction teaches students how to plan before they write. Text-structure interventions teach about the different genres that the students will be expected to write in, such as narrative, expository, etc. The learning strategies instruction teaches students how to write more complex sentences, organize their paper, and edit for errors. The process approach encourages students to move through the writing process at their own pace to create a

more authentic writing experience (Center for Research on Learning, 2003). Much like the different instructional modes, all interventions may be used at different times in the instructional cycle.

The two strategy approaches to instruction are explicit and implicit. Explicit instruction involves teacher directed instruction including writing topics and mechanics. The writing is very structured and teacher driven. Implicit instruction allows the student more freedom. For example, students may pick their own topics and mechanics is not stressed as much. It is more individualized for the student. However, researchers from the University of Kansas Center for Research Learning have combined the two approaches. The instructional process begins in the explicit style with more teacher directed instruction and fades the instruction to more implicit style of instruction (Schumaker & Deshler, 2003).

The writing performance of young writers may be improved by teaching specific strategies for planning and writing in conjunction with the knowledge and self-regulatory procedures to use these strategies effectively. Students who were taught a general strategy that emphasized planning by using a self-regulated strategy development (SRSD) improved. This strategy emphasized three basic processes: (1) select a topic to write about, (2) organize possible ideas into a writing plan, and (3) then use a plan to change or revise your writing as you write. This instruction takes place by

teaching the student to ask themselves a series of questions about the story they are preparing to write (Tracy, Reid, & Graham, 2009).

While students are focused on learning the questions to ask and how to answer them within their story, teachers are instructing students about the parts of a story, characteristics of a good story or research paper, and basic mechanics of writing. Students are also taught self-regulating procedures, such as: (a) self-talk to improve performance, (b) goals for completion of writing project, (c) monitoring of personal progress in writing process, and (d) using skills independently. Once students acquire the basic skills of writing, the teacher shifts the responsibility to the students as quickly as possible. Students move through the process as quickly or slowly as needed because a mastery of the skills is more important than the time to achieve mastery (Tracy, Reid, & Graham, 2009).

Effective learning is requires both the strengths and weaknesses of a student to be addressed by the teacher; teaching a student to build on their strengths and to learn from their weaknesses. This style of instruction allows teachers to adapt curriculum and learning activities to the individual needs of the students. The knowledge and application of this strategy creates better future teachers (Roark, 1998).

Most writing instruction for students with and without learning disabilities takes place in a general classroom setting. Therefore, students' success depends upon the

teacher being able to meet the instructional needs of a wide range of student abilities. Writing interventions consist of four areas: strategic behavior, that is planning and revising; writing skills, which include handwriting and spelling, sentence construction skills, and basic writing skills; knowledge, including knowledge about writing topics, intended audience, and how to write; and motivation to write (Graham & Harris, 2009). Teachers may use readability scales to assess the level of a student's writing skills and this will help the teacher with individualized educational planning.

To assist teachers to improve writing skills of students, they must use writing interventions that are evidence-based as a means to evaluate student progress or success; a system that measures progress and monitors the growth of students toward state and national standards (Espin et al., 2008).

An additional instructional intervention must consider predictable environments. Most creative environments are not constantly changing, but one that is predictable and consistent, such as a library, a studio, or a laboratory. Each of these environments is kept simple and predictable because the work that happens there is unpredictable and complex (Calkins, 1986). Research, also, supports the instruction model in which teachers combine multi-sensory approaches so the student can use more than one sense at a time in learning (Roark, 1998).

Use of Scoring Rubrics

A rubric is a performance assessment that observes the students' production within a process and is used to make judgments about that product (Beyreli & Ari, 2009). There are basically three types of rubrics used for writing: (1) primary trait, used for assessing basic writing skills; (2) holistic, used to assess the overall work of the student where properties are assessed and different levels are assigned superficially; and (3) analytic, used to score the writing product on its properties and components. The analytic rubric's comprehensiveness is beneficial to both the teacher and student because the teacher can assess for specific properties and use appropriate interventions (Beyreli & Ari, 2009). It is recommended that the analytic rubric be used to assess writing skills because it allows the teacher to assess individual student deficiencies and begin appropriate interventions immediately (Beyreli & Ari, 2009).

The standard rubric has a simple format. It usually assesses three to four performance areas at four to five different levels. The performance areas and what is expected at each level is clearly outlined. The rating scale is clearly explained. There are descriptors for each area. The descriptors show progression of skills to the higher levels. There is also a recording form that is clear and easy to understand to record why the students received the scores they received (Carlson & Kimpton, 2010).

The rubric used by the NAEP is based on six objectives. Specifically, students should write for a variety of purposes, variety of tasks and audiences, and from a variety of materials. Students should also display organization in their writing and show that some thought and preparation have been used to express their writing. Most important students should value writing as a form of communicating (McCombs, Kirby, Barney, Darilek, & Magee 2005).

Using a rubric to score writing assignments can lead to a higher quality product because the students clearly understand what is expected. Writing requires practice and using a rubric allows the student to know clearly what is expected in the writing product. A rubric can quickly elevate the quality of writing. Students are able to use the feedback information provided and are better able to edit their work (Carlson & Kimpton, 2010).

Writing rubrics vary in specific items; however, there are some common characteristics. Table 1 shows six rubrics and the traits they have in common. The rubrics included are: Analytic rubric used in assessment of narrative texts written by students (Beyreli & Ari, 2009), TAKS (Texas Assessment of Knowledge and Skills, 2010), NAEP (National Assessment Governing Board, 2010), Atlantic Canada English Language Arts Curriculum Guide (Foundation for the Atlantic Canada English Language Arts Curriculum, 1996), Demand Writing Instruction Model (DWIM) (Deshler, Schumaker, &

Bui, 2003), and Wechsler Individual Achievement Test III (WIAT III) . Spelling,

punctuation, capitalization, and grammar focus on the mechanics of writing without

regard for content of the essay. The remaining elements focus on the content of the

essay and the skill of the writer to express his/her thoughts.

Table 1

Comparison of Writing Scoring Rubrics

Skill	Analytic	TAKS	NAEP	Atlantic	DWIM	WJIII
Spelling*	X	X	X	X	X	X
Punctuation*	X	X	X	X	X	X
Capitalization*	X	X	X	X	X	X
Organization*	X	X	X	X	X	
Grammar*	X	X	X	X	X	
Supporting details*		X	X	X	X	
Vocabulary*			X		X	
Transitional elements		X	X			
Central idea	X	X	X			
Handwritng	X		X			X
Readability		X	X			

An * denotes only items scored for elementary students

A scoring rubric attempts to simplify and quantify scoring writing. Scoring a

writing assessment continues to be both subjective and objective.

Curriculum Based Measurement

Curriculum based measurement (CBM) is an approach for assessing the growth

of students in basic skills (Deno, 2003). Without basic skills mastery a student cannot

hope to achieve the proficiency which is legally required by NCLB.

CBMs have many attributes which make them the preferred method of assessing growth in students. These characteristics include: technically adequate, standard measurement tasks, prescriptive stimulus materials, standard administration and scoring, performance sampling, multiple equivalent samples, time efficient, and easy to teach (Deno, 2003). There is one consistently identified barrier to implementing CBMs among teachers. This barrier is time. The time required to create and score the CBM is seen as the biggest barrier to implementation of this instrument by a teacher. However, using a computerized CBM could increase the amount of time that a teacher has available for planning instruction as well as collaborating with other educators (Bulgren et al., 2006).

CBMs have a variety of applications some are student focused such as: (1) improving individual instructional programs, (2) predicting performance on important criteria, (3) developing norms, (4) increasing ease of communication, (5) reducing bias in assessment, (6) measuring growth in secondary school programs and content areas, (7) assessing English language learning students, and (8) predicting success in early childhood education (Deno, 2003). The other applications are more focused on functions for teaching such as: enhancing teacher instructional planning, screening to identify students academically at risk, evaluating classroom pre-referral interventions, offering alternative special education identification procedures, and recommending and evaluating inclusion.

The CBM offers three features that distinguish it from traditional forms of classroom assessment: (1) it is standardized so the measurements can be specific, (2) the testing methods and difficulty remain constant which gives an assessment tool that can be used throughout the school year to chart growth, and (3) each week's content reflects the performance desired by the end of the year and can be used as a sample of the curriculum (Fuchs, Fuchs, & Hamlett, 2007). Teachers using a CBM were better able to plan differentiated instruction for students in the low- and average-achieving range. This was accomplished when the CBM information was more specific and regardless of whether it offered diagnostic feedback or not (Fuchs, Fuchs, & Hamlett, 2007).

CBMs to be considered effective need to meet several criteria. First, what the CBM measures must be valid with respect to the curriculum it is designed to measure. Second, the measures must be reliable. Finally, the CBM measures are used to show progress. The design should allow for frequent data collection by the teacher (Espin et al., 2000).

Response-to-Intervention

The primary purpose of response-to-intervention (RtI) is to provide support for all students. RtI was originally introduced as part of the Individuals with Disabilities Improvement Act (IDEIA) of 2004. It was offered as an alternative method of identifying

students with learning disabilities. However, RtI is now sweeping the nation as a way to meet the needs of all students, from low-achieving to gifted (Coleman & Hughes, 2009).

Frequently, RtI is based on a three tier provision of interventions and services. Tier I occurs in the general education classroom. Students are provided supports and differentiated instruction as needed. Tier II continues in the general education classroom, but more supports are offered. The student may not be responding to interventions offered at the Tier I level. The general education teacher may begin collaborating with other professionals at this point to introduce new interventions. Tier III occurs when the student requires a higher level of intervention. Usually, at this level formal testing is introduced to assess the exact areas where the student needs support.

RtI has core characteristics. These are: (1) high quality research based instruction in general education, (2) universal screening for academic and behavior problems, (3) continuous progress monitoring, (4) multiple tiers of progressively more intense instruction/interventions, and (5) fidelity measures. However, state laws vary on the implementation of RtI (Zirkel & Thomas, 2010). RtI is characterized as comprehensive strategy that includes universal screening, high quality instruction for all students, and needed interventions for struggling students (Gersten et al, 2008).

RtI is critical at all grades, but in differing ways. For example, in elementary grades, RtI increases accountability for the outcomes of identifying and intervening to

prevent academic failure. In the middle and high school grades, the purpose of RTI is to assist the teacher in adding support for already identified deficits. The focus shifts from identifying at-risk students in the elementary grades to monitoring the students' responses to the interventions in middle and high school (Fuchs, Fuchs, & Compton, 2010).

Technology in the Classroom

The use of the internet can be an equalizing tool in the classroom. It is capable of breaking down barriers for students of different backgrounds and different skill levels (Bayha, 1998). An interactive hypermedia (IH) intervention is defined as a type of computer programming that can include video, audio, text, graphics and animation that respond to the student and provide an individualized feedback and uses this feedback to control the student's movement within the program (Lancaster, Schumaker, & Deshler, 2002). IH could be used to teach complex learning strategies to students. It would allow the teacher to manage the instruction by selecting the target areas, thus allowing for more intensive instruction in areas of weakness for the student (P. Lancaster, S. Lancaster, Schumaker, & Deshler, 2006).

Using technology in the classroom has improved instruction by changing the students' attitude about writing. The students believe that their work is more authentic and they become more motivated to write. When the students are more motivated, the

complexity of their work is enhanced. The teachers are more able to assume the different role of coach and advisor (Glennan & Melmed, 1996).

Using an automated system to score large-scale writing assessment has the potential to dramatically change the scoring of high-stakes and low-stakes testing. Research has shown that automated scorers are at least as reliable as human scorers. However, due to the impact that high-stakes testing has on educational systems, teachers have expressed some concerns regarding validity (Weilge, 2010).

Introduction of computer-based instruction has multiple functions. Students are adept at technology and using technology motivates them. It can be used to grade essays. Computers can be used to drill and practice basic skills. Computers could provide an interactive medium between teacher and student. The computer also offers varied skills that can be used with word processing and the use of hypertext.

Beginning in 2011 for grades eighth and twelfth, the NAEP will begin assessing students in computer based writing. The students will be able to have access to all editing features that are commonly available in word processing software such as editing, formatting and task analysis. By the year 2019 this style of testing will include fourth grade as well (National Assessment Governing Board, 2010).

Summary

Communication is one of the most important skills. It is the way people convey our needs, wants, hopes, and dreams. Written communication is one of the most complex skills and one of the last to be learned and it can take a lifetime to master. The how of written communication is changing i.e., tweets, e-mails, instant messaging, blogging, to name a few; the why of written communication is not changing it is about expressing deas so they can be understood by the reader regardless of how the person is reading the information.

Research shows that teachers are not properly trained in teaching or assessing writing skills. However, teachers are expected to be more accountable not only for what is taught, but how the student performs. Writing is only taught in one subject area, but is an expected output in all subject areas. The list of what is not happening in a classroom is never ending. The focus needs to shift to what can be done using all the available tools educators have at their disposal.

CHAPTER III

METHODOLOGY

The purpose of this study was to introduce a video-cued writing instruction strategy for students to enhance performance on national standards for writing assessment. The theory was to teach students how to visualize the story they want to write in their mind and then measure the word fluency, word frequency, and grammar errors to make data driven decisions regarding the individual needs of the students.

School

This research was conducted in a public charter school located in an urban area in North Central Texas. The school was approximately ten years old. It serves children from kindergarten through high school, with a student population of approximately 87 students of which seventeen participated in the pilot program. The community surrounding the school ranged from low to high socioeconomic status.

Students at this school are instructed by the use of individualized educational packets called paks. The students are given grade appropriate instruction at their individualized pace. Each student is required to set daily goals in each subject. Each student in every grade received exactly the same education packet unless otherwise

specified by an individualized educational plan (IEP). For example, all fourth grade students were given the exact same educational English packet on the first day of school with the possible exception of special education students who received a modified packet.

Participants

The participants for this study were seventeen students in third grade through high school. Students ranged from low- to high-achieving and were in general education or special education classrooms. Upon enrolling in this charter school, each participant was given an admission test and placed in grade appropriate instruction material. All students were enrolled in English/Language Arts. Students must pass at 80% proficiency before being allowed to begin the next instructional packet.

Table 2

Participant Demographic Information

Participant Identification Number	Gender	Grade
STOMVT2	F	3
BBQJQD	F	3
EKG29J8	M	3
AX0AJDC	M	4
AP40B2Q	F	4
QQHRJVE	F	5
35RO5STL	F	5
M36AYBR	M	5
C418HT8	F	5
MBL1LZW	F	6
TPTKQUT	F	6
QMCU38N	F	6
E54TBRJ	M	7
7NYQYWCH	M	7
HWLW775	F	8

Teachers

There were five teachers participating in the pilot study. All teachers had a Bachelor's degree, teaching experience ranged from two years to twenty-five years, and certification levels varied. All teachers were considered to meet "highly qualified" standards for the state of Texas, however; not all were certified. No teacher had received special training in teaching writing. The five teachers were assigned self-contained grades. Each teacher was responsible for teaching all subjects at grade level. One teacher had the added responsibility of conducting the reading lab in the school and teaching special education (See Table 3).

Table 3

Survey of Teacher Experience

Teacher	# years teaching	Degrees/Certifications	Trained to teach writing
AW1	25	BS/Elementary	No
LS	2	BS	No
MG	2	BS	No
AW2	3	BS/Special Education	No
DS	5	BS	No

Instrumentation

Writing Assessment Program (WrAP) is a series of ten video-cued writing prompts per grade level. The initial video was approximately one minute long. The video was intended to assist the participant in visualization of the story he/she is composing. The length of video time was faded over the course of the series. The visual portion of the writing prompt was faded over time to give the participant the opportunity to begin his/her own visualization process which was reinforced by the written and audio prompts.

Teachers participating in the project attended professional development designed for this project on how to use WrAP with students. The teachers participated in group training and were given a manual outlining and explaining WrAP and how it works for reference. There were detailed graphs and a sample of videos and writing samples encompassing the full series. Training included: (1) setting up the participants in the

program; (2) monitoring participant progress; (3) individualized instruction planning; (4) using WrAP to assist in preparing participants for NCLB standards; and (5) effective use of technology in the classroom.

The training session was one ninety minute session with additional training provided on a one-to-one basis with a graduate assistant. The initial training consisted of a group explanation of the program functions and how it operated. Next, the teachers adjourned to the computer lab and the writing program was installed on each computer. The teachers viewed the video prompts and detailed instruction on how to write a story. This training presented them the opportunity to experience how the program functioned. The teachers discussed possible uses for the program, i.e. using it as a response to intervention tool, monitoring student progress, and creating individualized educational plans for students with learning disabilities.

For the purposes of this study, all participants were assessed in the areas of (a) word frequency, (b) word fluency, (c) punctuation, (d) capitalization, and (e) grammar. However, WrAP allows the teacher to individualize the assessment process for each student. This process allows the teacher and participant to focus on the areas of greatest need.

Each participant received individual instruction when using WrAP for the first time. Each participant logged into a website designed specifically for the purpose of the

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pilot program and was assigned a random user identification and password for the first time. The participant was then instructed to change the user identification and password. However, data was collected under the original user identification.

When the participant logged into the program to begin the assignment, he/she started by seeing and hearing the writing prompt, and then viewing a short (30 seconds to one minute) video about each particular prompt. Next, the participant had one minute of "think" time. During this time, three questions appeared on the screen, at twenty second intervals, to enhance organization of the essay. These questions were presented in audio format, as well. These questions were: (1) "What happened?" (2) "Who is involved?", and (3) "How do you feel about it?" These questions are designed to help with recall and story organization. During "think" time, the participant had access to pen/pencil and paper/graphic organizers if needed. The participant was unable to write using the computer during this time period.

The participant created and entered a story into the computer. After the story was completed, the program provided an "edit" feature. This feature showed the participant the grammatical, punctuation, and capitalization errors. The participant was given the option to edit the story before submission. If the participant decided to correct the errors, he/she made corrections and then submitted the story. Only the final submission submitted by the participant was used in this research.

After final submission, the paper was scored by a computerized assessment program called Assessing Student Achievement Program (ASAP) in the areas of punctuation, capitalization, spelling, and grammar or correct word usage. These were then graphed and became part of the participant's WrAP record. The participant participated in WrAP weekly. The time of the video prompt was shortened after each presentation until there was no video prompt, and only a written and audio writing prompt was provided. However, no participant reached this level in the program.

Each written assignment was scored in areas of grammar, punctuation, capitalization, and spelling. Each writing sample was compared to the previous week's assignments. These comparisons were designed to permit discussion between the participant and teacher and permit only the tracking of progress. The teacher assessed the content of the paper for organization, central idea, and supporting details. The teacher scoring provided the opportunity for feedback and building rapport.

Each time the participant logged into the program he/she reviewed the previous scored writing assignment and its comparison to previous weeks' work. This process continued until the research was completed. WrAP provided the opportunity for the teacher and participant to maintain and evaluate an online portfolio of writing work. For the purpose of this study the work of the participants was tracked over five weeks.

Procedures

Once the study was formalized, a meeting was held with school administration to discuss the pilot program and possible benefits to the participants. When final approval was received, initial training for the participating teachers was completed. A secondary training was scheduled due to teacher difficulty enrolling participants in the pilot program.

The participants began using WrAP after the Texas Assessment of Knowledge and Skills (TAKS) testing was complete for the school year. Each participating student received individual instruction in how to use WrAP. Each participant then enrolled and completed demographic information. However, all participants had difficulty completing information; as a result, not all demographic information was obtained and had to be removed from the study.

Each participant completed some portion of the program but no participant completed the entire program. Upon completion of the five week WrAP pilot program, the work of the participants was graphed on an individual basis to determine individual impact of the program.

The participating teachers were given a survey regarding different aspects of the pilot study. The teacher surveys were not completed by the participating teachers.

CHAPTER IV

RESULTS

The purpose of this pilot project was to ascertain if a video prompted writing program would increase word fluency and word frequency by reinforcing previously taught writing process in a video format. The writing samples were then analyzed by a computerized assessment program to assist the teacher in making data driven decisions regarding the instructional needs of each student.

Demographic Information

The sample used within the pilot program was comprised of fifteen participants attending a public charter school located in an urban area in North Central Texas. There were 10 female and 5 male participants. The participants were in grades third through eighth. Students were in both regular and special education classes.

Research Questions

Will a video prompted writing program increase the word frequency and fluency in writing samples of students? As illustrated by Figures 1 and 2, the word frequency and fluency increased over time. Word frequency is a measure of the number of times a word appears in a writing selection. This is used to measure vocabulary and word usage.
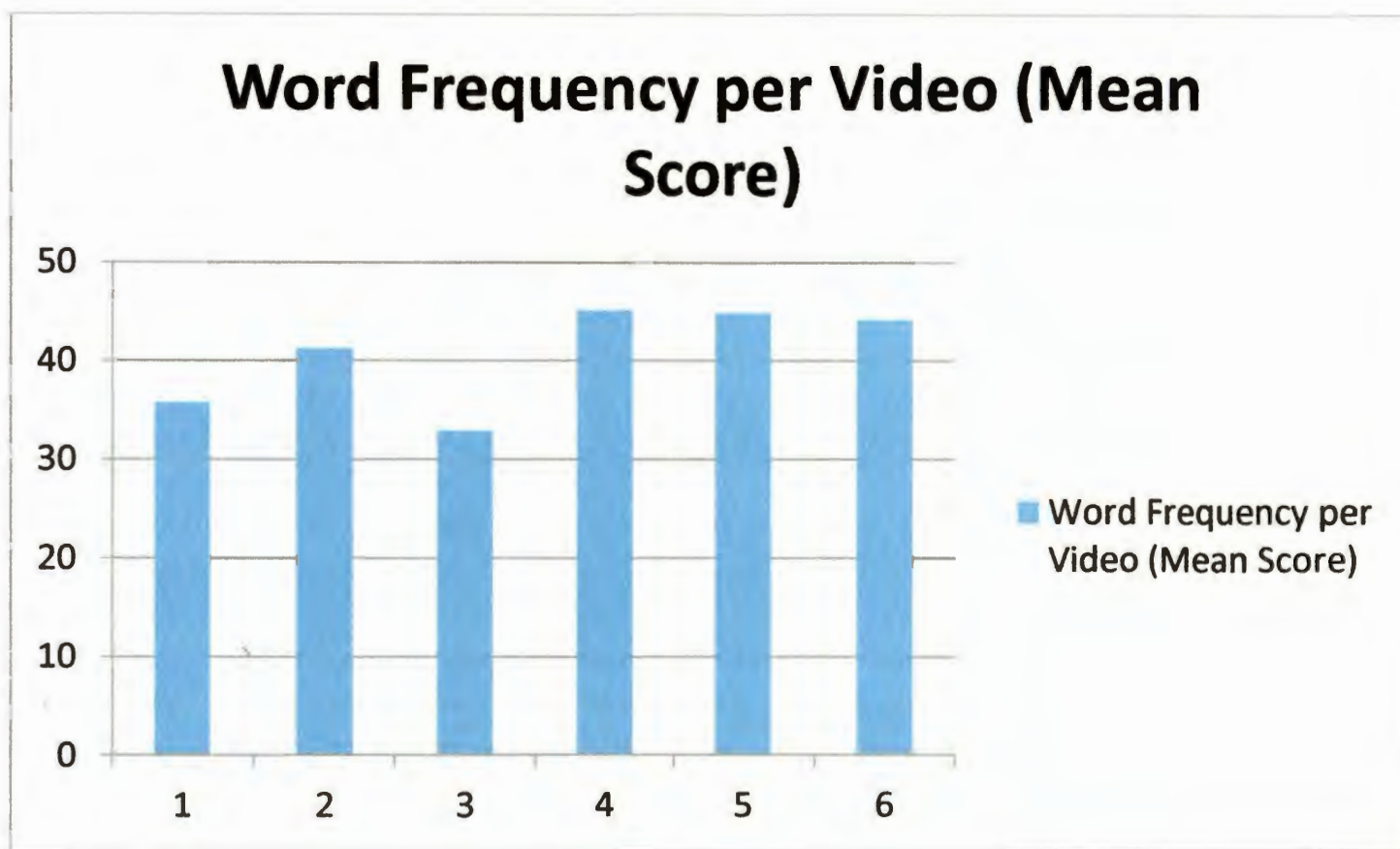
Figure 1. Mean score of word frequency per video

As noted in Figure 1, videos 1 and 3 resulted in lower words written while videos 2, 4, 5, and 6 resulted in higher word frequency. The mean score is for all grade levels and all participants. There was an increase in word frequency from video 1 to video 2 and from video 3 to video 4.
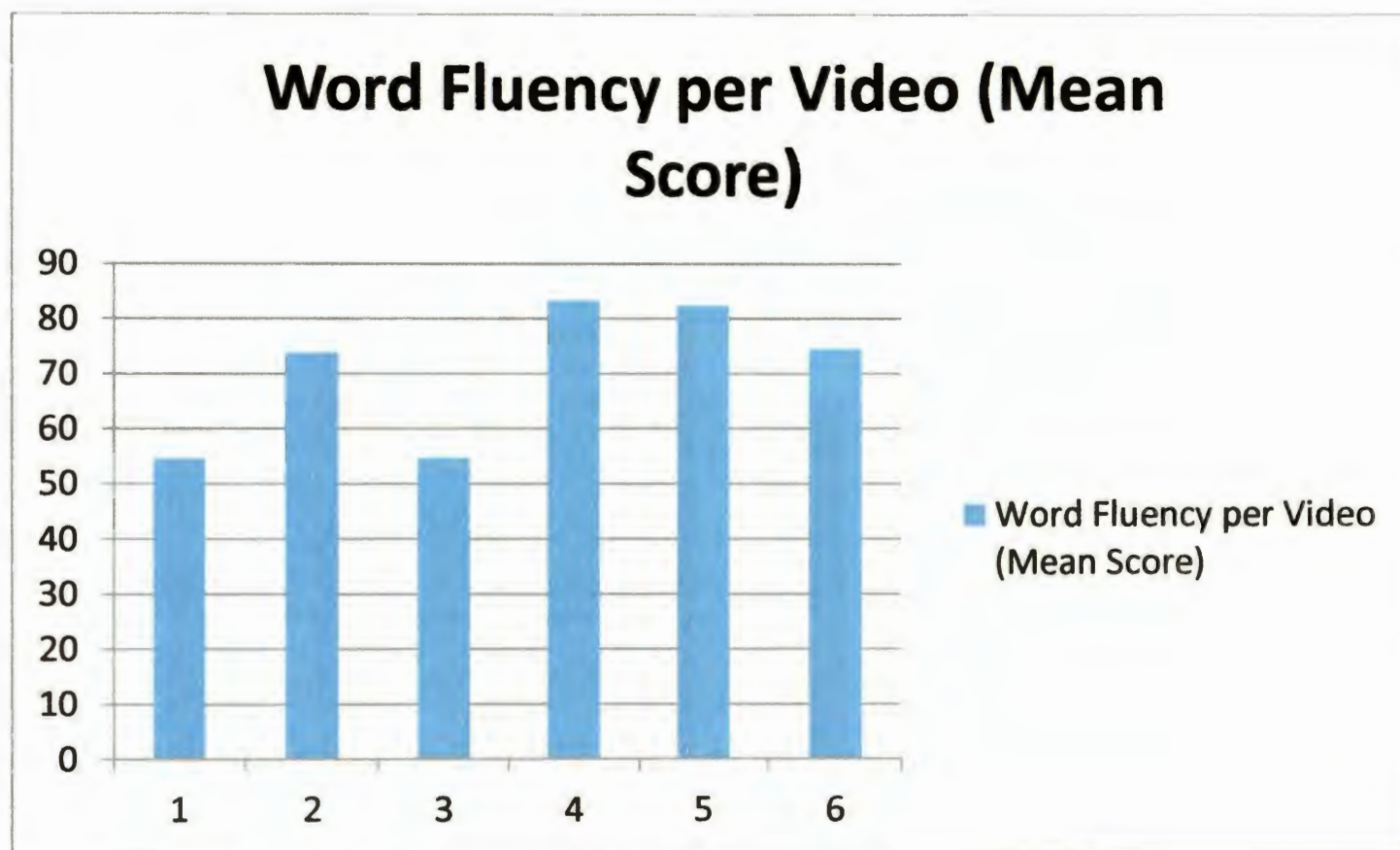
Figure 2. Mean scores for word fluency

As noted in Table 2, videos 1 and 3 resulted in lower word fluency, while videos 2, 4, 5, and 6 were higher. Based on observations made in Tables 1 and 2 a further analysis of the word frequency and fluency was done based on gender.

Figure 3. Mean scores of word fluency by gender

In a comparison of male and female writing samples the females wrote more words. However, on video 3 the gap between male and female participants closed significantly. Video 2 had the most significant difference in fluency, while video 3 had the least. Word fluency peaked for both males and females with video 4. Males' word fluency dropped sharply for video 5, but increased again for video 6. Females' word fluency gradually declined for videos 5 and 6.

Figure 4. Mean scores of frequency by gender

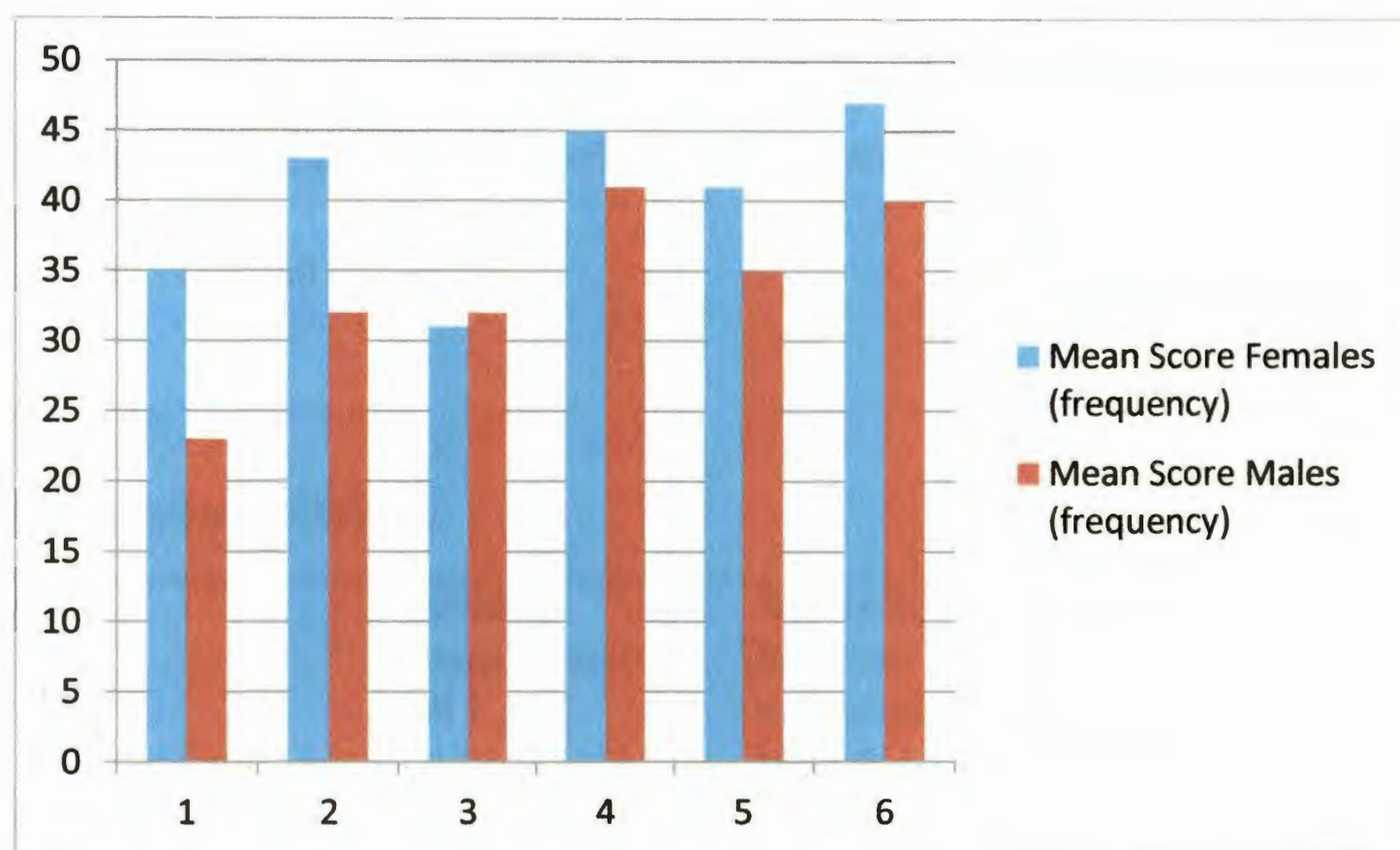As illustrated in Figure 4, males consistently used fewer words except for video 3. In video 3 the mean score for males is one word more than females. Video 4 is the next showing a four word deficit between males and females. Videos 1 and 2 show a higher differential between males and females, than do videos 4, 5, and 6, so the deficit in word frequency decreased over the duration of the program.

Is a computerized assessment program able to assess grammar, punctuation, and spelling with 90% accuracy? The results of using a computerized assessment are varied. Regarding word fluency there is 94% to 99% reliability by the computer based on comparisons with inter-raters (see Table 4). Reliability estimates for word fluency was 100% agreement between the computer's assessment and the raters. However, while

the agreement was 100%, the raters noticed words though technically misspelled, a teacher recognized the misspelling was due to a space between words, for example "onthe" instead of "on the".

Table 4

Word Fluency Reliability

Video	Reliability between raters 1 and 2	Reliability between computer and rater 1	Reliability between computer and rater 2
1	94%	99%	94%
2	99%	99%	99%
3	99%	99%	99%
4	99%	98%	98%
5	98%	99%	97%
6	95%	100%	95%

As noted in Table 4, the reliability between raters was 94% to 99%. The reliability of Rater 1 with the computer ranged from 98% to 100%. The reliability of rater with the computer ranged from 94% to 99%. The reliability of the scoring for grammar, number of sentences, and misspelled was much more varied (see Table 5).

Table 5

Overall Reliability Between Raters and Computer Scoring

	Reliability between raters 1 and 2	Reliability between computer and rater 1	Reliability between computer and rater 2
Number of Sentences	99%	85%	85%
Grammar Errors	87%	12%	10%
Misspelled Words	40%	87%	35%

Post discussions with the persons who served as raters revealed the difference in the scoring was due to the raters not applying the same grammar or spelling standard. For example, Rater 2 would mark a word misspelled if it was not capitalized and the Rater 1 would count it the word as a grammar error. This discrepancy explains the wide range of reliability with the misspelled words.

The computer was unable to recognize the end of a sentence. The punctuation used to end a sentence is varied. There was particular difficulty with sentences which ended with a period, because a period can also end an abbreviation. The computer failed to recognize a run on sentence. While the raters' reliability was 99%, the reliability with a computer was 85%. Another area of difficulty for the computer was the area of dialog. When the participant was writing a conversation and failed to punctuate appropriately, the computer scoring program did not count these as punctuation errors.

CHAPTER V

DISCUSSION

The purpose of this study was to evaluate a video-cued writing instructional strategy for students to enhance performance on national standards for writing assessment with a computerized assessment. The video-cued strategy was designed to teach students how to visualize the story they want to write in their mind and then measure the word fluency, word frequency, and grammar errors. The data produced was used to make decisions regarding instructional requirements of individual students for writings.

Research Question Discussion

Research Question 1. Will a Video-cued Writing Program Increase the Word Frequency and Fluency in Writing Samples?

The results of the study indicated the participants displayed an increase in both word frequency and fluency. As indicated in figures 1 through 4, there was on overall increase in word frequency and fluency, regardless of gender. The data indicates there was a decrease in both word frequency and fluency for videos 1 and 3. Video 1 is the initial introduction to the program.

Video 3 posted the lowest scores for both frequency and fluency. Males assessed higher in word frequency indicating a participant's prior knowledge of a subject matter will increase the vocabulary used in a writing sample. This video was about a football game. The females while writing more words used less vocabulary. Another possible explanation for the low scores is the rehearsal effect.

Regardless of gender, 93% of the participants showed some increase in both word frequency and fluency. The increases in word frequency and fluency may be in part due to the consistency in the routine and instructional procedures which agrees with Bulgren, Marquis, Lena, Schumacher, and Deshler (2009). In the Bulgren, et al study participants displayed normal skill acquisition the eighth grade participant had a higher overall mean score than the younger participants. National Assessment Governing Board (2006) reported students are expected to have certain writing skills by grade level and these skills accumulate. The writer begins to make a more personal connection with the subject he/she is writing about. There is also a greater wealth of experience to draw upon for the writer.

WrAP provided participants the structure to organize their writing as advocated by Tracy, Reid, and Graham (2009). The presentation procedures were the same every time so the participants knew what to expect from the "think" time which was allotted. The WrAP pilot program provided a predictable environment for the student to create.

As noted by Calkins (1986), writing is extremely unpredictable and complex. Roark (1998) proposed using a multi-sensory approach to enhance the learning time. The WrAP program provided audio, visual, and kinetic input from each participant, which was prepared by Roark (1998).

Research Question 2. Is a Computerized Assessment Program Able to Assess Grammar, Punctuation, and Spelling with 90% Accuracy?

The computer was unable to assess with 90% accuracy. Table 5 clearly shows the problem with reliability between the raters and the computer. The computer was able to determine the end of a sentence with only 85% accuracy. This difficulty arises because a period performs multiple functions in the English language arts. The computer was unable to recognize a run on sentence and this accounted in part for the discrepancy between computer and raters.

Assessing grammar and misspelled words proved to be more difficult. There was significant discrepancy between the computer and the raters regarding grammar errors. These differences most often involved the punctuation used in writing conversations. However, the more significant discrepancy occurred with misspelled words. In post assessment discussions, rater 1 stated if the word was not the correct word, but was spelled correctly, there was no error. Rater 2 did not assess the same way. If the word was spelled correctly but the wrong word, it was counted as an error. This explains why

rater 1 had higher reliability than rater 2 with the computer on spelling. The discrepancy in scoring related to what each rater perceived as an error. Beyreli and Ari (2009) addressed the difficulty teachers experience in assessing a writing sample because teachers are not prepared in how to teach writing.

Teachers have difficulty adopting a new instructional procedure as noted by Bulgren, et al. (2006). In this study no participating teacher used the graphing feature to discuss with participants whether the writing was improving or not. This researcher concluded the teachers did not understand the benefit of the program to themselves or the participants. This finding could be related to the lack of professional preparation that is part of a university-based teacher preparation program. As Rogers and Graham (2008) stated the impact of any recommendation is likely to be reduced unless the teacher learns to use effective instructional practices. Teachers use evidence based writing interventions to monitor progress. Espin, et al. (2008) recommend using a system that measure progress and growth of a student towards meeting national goals. WrAP is designed for this use; however, there are some problems with the grammar and spelling assessment areas.

The WrAP program follows the guidelines suggested by Deno (2003). The preferred method of assessing students is a curriculum based measurement (CBM) which should includes the following characteristics: technically adequate, standard measurement

tasks, prescriptive stimulus materials, standard administration and scoring, performance sampling, multiple equivalent samples, time efficient, and easy to teach. Espin, et al (2000) concurs with Deno adding a CBM must be valid with respect to the curriculum it is designed to measure. While WrAP incorporates most of the characteristics of a CBM, it was lacking in the area of standard assessment.

The school that participated was a small public charter school in an urban setting in North Central Texas. Students were placed in an individual educational environment. Each student was participating in a self-paced program in all subject areas. While this type of program allowed a student to advance at his/her own pace, it is not representative of public education. It was difficult to get a school to participate. The administration of public schools were concerned the program would interfere with preparation for Texas Assessment of Knowledge and Skills (TAKS), the state administered examination for compliance with No Child Left Behind. The school agreeing to participate did not begin the program until TAKS testing was completed. This limited the time for the program to be executed as designed. The students had a total of four weeks to complete the program instead of five weeks.

Recommendations for Further Research

Based on the results of this initial investigation, the study should be replicated in a public school setting. This study was conducted in a small charter school and at the

end of the school year. Therefore, the results are not comparable to students in a public setting. It is also recommended the program start of the beginning of the school year and be incorporated into the regular curriculum. Future studies have a should control and experimental group; both groups having access to the assessment portion of the program.

A baseline of writing skills should be established by using pre- and post writing samples to show the effect of the program. The teachers must be trained in the program and demonstrate some mastery of the program before student instruction begins. The computerized assessment of the writing samples will require some clear grammar rules in place.

Conclusions

The video-cued portion of WrAP helped participants increase in both word fluency and frequency. However, the assessment portion of the program needs to establish clear guidelines for assessing writing samples. A larger scale study in a public school setting is warranted with the use of experimental and control groups. Continued work is needed in the area of assessment. This may continue to prove problematic due to the nature of the English language and its irregularities, which is why a teacher continues to be the most part of the instrumentation. If the teacher fails to use the

information, both participant and teacher are not receiving optimum benefits from the program.

Data is not information until it becomes useful. WrAP has the potential to gather large amounts of data about students and their writing skills. Unless, this data is interpreted and used to make decisions regarding individual student instruction it is a waste of time and money. The nation as a whole no longer has the time or money to waste on future generations of children. Education needs to become meaningful.

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APPENDIX I

Permission to Conduct Pilot Program

TEXAS WOMAN'S UNIVERSITY
DENTON   DALLAS   HOUSTON

February 10, 2011

Ms. Lisa Steinbach
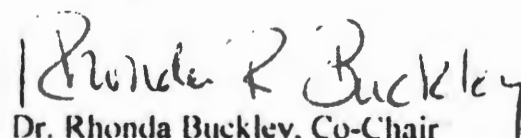
Dear Ms. Steinbach:

Re: *Pilot Study of WrAP: A Video Cured Writing Program With a Computerized Assessment Component Used to Enhance the Writing Skills of Students (Protocol #: 16473)*

The above referenced study has been reviewed by the TWU Institutional Review Board (IRB) and was determined to be exempt from further review.

If applicable, agency approval letters must be submitted to the IRB upon receipt PRIOR to any data collection at that agency.   Because a signed consent form is not required for exempt studies, the filing of signatures of participants with the TWU IRB is not necessary.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any unanticipated incidents. If you have any questions, please contact the TWU IRB.

Sincerely,

Dr. Rhonda Buckley, Co-Chair
Institutional Review Board - Denton

cc.   Dr. Jane Pemberton, Department of Teacher Education
     Dr. Lloyd Kinnison, Department of Teacher Education
     Graduate School