12-2013

Elementary Writing Assessment Platforms: A Quantitative Examination of Online Versus Offline Writing Performance of Fifth-Grade Students

Vickie L. Heath
Indiana University of Pennsylvania

ELEMENTARY WRITING ASSESSMENT PLATFORMS: A QUANTITATIVE EXAMINATION OF ONLINE VERSUS OFFLINE WRITING PERFORMANCE OF FIFTH-GRADE STUDENTS

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Vickie L. Heath

Indiana University of Pennsylvania

December 2013

Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Professional Studies in Education

We hereby approve the dissertation of

Vickie L. Heath

Candidate for the degree of Doctor of Education

_____ _____

George R. Bieger, Ph.D.
Professor of Education, Advisor

_____ _____

Beatrice S. Fennimore, Ed.D.
Professor of Education

_____ _____

Anne Creany, D.Ed.
Professor of Education

ACCEPTED

_____ _____

Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research

Title: Elementary Writing Assessment Platforms: A Quantitative Examination of Online Versus Offline Writing Performance of Fifth-Grade Students

Author: Vickie L. Heath

Dissertation Chair: Dr. George R. Bieger

Dissertation Committee Members: Dr. Beatrice S. Fennimore
Dr. Anne Creany

This quantitative study explored if significant differences exist between how fifth-grade students produce a written response to a narrative prompt using online versus offline writing platforms. The cultural and social trend of instructional and assessment writing paradigms in education is shifting to online writing platforms (National Assessment Governing Board, 2011; National Writing Project, 2010).

A mixed between-within subjects with repeated analysis of variance (ANOVA) and counter balance design was conducted to assess the effects of online versus offline writing platforms in the areas of topic/idea, convention, and gender. The Pennsylvania System of School Assessment Writing Rubric was used to rank students' written responses to a narrative prompt. The findings suggest that a significant difference in students' writing performance is positively affected when students' blog. Evidence suggests blogging encourages students' awareness of audience and social interaction. Further studies are needed in the area of online versus offline writing platforms with elementary children.

ACKNOWLEDGMENTS

Thank you Lou for blessing me with your love and support for 40 plus years! Together we have built a great life. Our greatest accomplishments are yet to be seen in our children and grandchildren. Let us plan on seeing our great-great-great grandchildren together! The next chapter of our life awaits!

I would like to thank all my family, friends, co-workers, and professors who have encouraged me in this educational journey. I could not have done it without all of you! Nothing is more important to me than God and my family. Both have had to take a back seat in my life these past four years. I am blessed to return to my station as servant, wife, mother, grandmother, sister, friend, and teacher.

Thanks to my great car-pooling and summer weekend cohort friends--the bonds we have made and the memories we have shared during this journey will be treasured forever!

I would like to thank all the IUP professors for their educational expertise and leadership in education. However, several made a significant difference in my life. Dr. Frank Corbett, thank you for setting high expectations and challenging me to be a leader and better prepared to wear the title of Doctor. With sincere appreciation, I would like to thank my dissertation committee, Dr. Bieger, Dr. Fennimore, and Dr. Creany for believing in me and guiding me through the research and writing process. I appreciate all the time you invested in my study and I am grateful to have had you as instructors. Thank you! Dr. Sabousky, thank you for being a sounding board for my study. Dr. Ames thanks for the international perspective. Dr. Waleff, thank you for the counseling! Gail—you are a life saver--thank you! Rindi thank you for your ongoing support and making it possible for me to stay late at work to complete the big “D”!

It is by no accident that our paths have crossed and this journey has taken place, God has the blueprint mapped out for the next passage. I will have to be patient and seek that plan. As new chapters and opportunities open up, I hope I use this degree to make a difference in the lives of others.

DEDICATION

Dedicated to my family--thank you for the love, encouragement, sacrifices, and support these past four years. As with all we do as a family, we earned this degree together. Thank you for making this accomplishment a reality. Hey Beth, now I can wear the pin you gave me 24 years ago--Dr. Mom! We all deserve a vacation!

In loving memory--dedicated to Carrie French, my mom, the wind beneath the wings of my sisters and me--we did it--from GED to D.Ed.--the sacrifices of success can be bitter sweet.

TABLE OF CONTENTS

Chapter Page

Chapter Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

The global competition for academic superiority in the 21st century is an ongoing challenge that American educators will continue to face for decades to come. Educators are accountable for student achievement in content area subjects such as mathematics, reading, language arts, social studies, and science. The countries that will lead the future with international influences will be those that excel in grooming their youth in academic supremacy and excellence in technology, science, math, communication, and problem solving skills.

Communication modes are changing globally for the United States and many other technologically advanced societies. Prior to 1980, writing a letter and completing an application form with paper and pencil was the chosen method for written communication. However, today most writing of advanced technological societies is digital (National Writing Project, 2010). Outside of school, especially in the United States, most elementary students have rarely, if ever, composed a handwritten letter. They do, however, use digital technology such as e-mail, iPhones, texting, chat rooms, blogs, Skype, twitter, and Facebook to communicate with people regularly outside of the school day. The definition of literacy changes with human development and the evolution of technology within a society. Today, literacy means to be technologically knowledgeable, able to read proficiently, and write clearly: "The literate of the twenty-first century must be able to download, upload, rip, burn, chat, save, blog, Skype, IM, and share" (Mullen & Wedwick, 2008, p. 66).

During the 2010 State of the Union Address, President Barack Obama referred to American education as once again having a "Sputnik" moment. As the pressures of standardized tests increase and change, educators attempt to align instruction and assessment practices to the

standardized test formats of their states. Assessment and accountability procedures are refined and redefined as social and cultural technologies advance. Educational shifts in writing assessments and instructional practices are changing to meet writing communication demands of modern learners. For example, the Pennsylvania Common Core Standards' draft for 2014 was aligned with the Pennsylvania System of School Assessment (PSSA) standards and was designed to prepare students for college and real work communication skills that incorporate the use of computer-based assessments (Pennsylvania Department of Education, 2012; United States Department of Education, 2012). According to the National Council of Teachers of English (NCTE) (2008), the ability to communicate to a particular audience is thought to be one of the most important writing skills at the university and the workplaces of professionals today. However, business owners and college faculties complain that written communication skills are poor among students and workers costing approximately $3.1 billion annually for remedial writing support and training programs (College Board, 2004). As a result, educational shifts in writing assessments and instructional practices are changing to meet writing communication demands of modern learners.

Today the chosen social and career-oriented forms of communication are primarily online platforms of the World Wide Web with live audiences. Therefore, elementary students may benefit from the inclusion of online practice and assessment during on demand writing experiences in school. The main question for this study is whether audience awareness affects elementary students' writing qualities when using offline writing tools, such as a word processor, when compared to online blogging platforms when given a narrative writing prompt. Since the writing process and assessment tools are rapidly changing to be inclusive of web-based technology, it is important to investigate best practices of instruction and appropriate assessment

tools that will promote written communication skills of distinction among our emergent writers in the elementary grades. To date, most standardized writing assessments have required elementary students to produce responses to open-ended prompts using traditional paper and pencil as the chosen assessment mode. However, more than 50% of the states have already shifted to some form of computerized writing assessment including both offline and online platforms (United States Department of Education, 2012).

According to the National Assessment Governing Board (2011) National Assessment of Educational Progress (NAEP) report of the United States Department of Education by 2019 computer-based on demand writing assessments will be given to students in grades 4, 8, and 12. A meta-analysis and review of research conducted by the United States Department of Education Office of Planning, Evaluation, and Policy Department (2010) indicated there are limited research studies comparing online and offline technology platforms, such as weblogs, and word processing computer software with elementary students. This research study contributes to the current research of national and international competitive education in technology and writing of elementary children.

Statement of the Problem

Accountability for academic success has become a focal point in the field of education both for student success and teacher performance. High stakes testing may someday change, but teacher and student accountability demands appear to be increasing according to the United States Department of Education (2010) and President Obama's Race to the Top Reform (2010). According to Linek, Fleener, Fazio, Raine, and Klakamp (2003), district, administrators, teachers, and colleges should shift the focus of education from teachers' performance to how students demonstrate their learning. Linek et al. (2003) stated, "What happens in public school

classrooms is directly related to how well prepared a teacher is to make a difference in a child's life" (p. 12). Educators and administrators need to be proactive in seeking and developing independent research studies to support education and instructional trends, such as best practices for instruction and assessment while meeting the needs and learning trends of modern students. What was once considered to be best practices for instruction and evaluation seems to be trending toward a blended instructional approach combining traditional practices and methodologies for instruction with computerized technology tools and social media networks (United States Department of Education, 2010).

Standardized tests are controversial issues in education today. Linek et al. (2003) suggests that the politicians, university administrators and faculty, and district administrators need to closely examine and actively attempt to solve the long-standing problems of public schools in our country, including assessment. The main objections to standardized testing revolve around two issues. One issue is that standardized tests create a pressurized learning system that promotes a "teach to the test" instructional design. The second issue is that too much time of the academic instructional day is spent on testing and not on direct or inquiry instruction in the K-12 classrooms. On the other hand, assessments have been recognized around the world as necessary components of education useful for monitoring student academic achievement across the grade levels K-12 (Luna & Turner, 2001; Troia, 2010).

Across the United States children in grades 4 through 12 take standardized writing tests and according to National Assessment Governing Board (2011) report and the Writing Next Study (Graham & Perin, 2007) American students demonstrate poor writing skills in the range of Basic or Below Basic writing performance. The fifth-grade students in the rural Western Pennsylvania school district in this study, according to the 2010 Pennsylvania System of School

Assessment (Pennsylvania Department of Education, 2011) have maintained acceptable performance levels in writing and have met the standards of Adequate Yearly Progress (AYP). However, since 2008, the writing scores for the school district in the study have demonstrated a regression in percentages of proficiency scores. The state average for Pennsylvania's writing assessment performance scores of fifth-grade students scoring proficient for 2010 was 61.8%. The PSSA Writing Test scores for 2010 revealed 44.8% of the fifth-grade students from the participating district in the study were proficient or advanced in their writing skills compared to a state wide average of 61.8%. In 2009, 45.8% of those students were proficient or advanced compared to 58.1% of the state's overall average performance. In 2008, 49.3% of the fifth-grade student population of the participating district demonstrated proficiency or advanced placement in writing compared to the state's average of 57.3% of the same age student population. The trend of students' writing performances across the different standardized writing assessments has demonstrated no growth with a downward trend of fewer proficient writers (Pennsylvania Department of Education, 2011). This is a call for educators to review instructional and assessment procedures.

Written communication skills are essential for academic success, future employment, and the development of building and maintaining world leaders (National Writing Project, 2010). Paper and pencil is most often used as the writing device to prepare for and respond to open-ended questions on standardized tests such as the PSSA Writing Test. The uses of traditional writing tools, such as paper/pencil, are not the preferred devices of technological skilled people. Since children today are one of the most technologically sophisticated generations (Tapscott, 1998), investigating the effects of the use of technology to create proficient PSSA writing samples is a practical and valuable study. Research suggests using technology can be motivating

to children and impacts academic success (Baek, 2008; Chen, 2008; Hofer & Swan, 2006; Keengwe & Anyanwu, 2007; Keengwe, Onchwari, & Wacharia, 2008; Mouza, 2008; Palak & Walls, 2009; Staples, Pugach, & DjHimes, 2005; Wang, Wang, Wang, & Huang, 2006; Williams & Kingham, 2003). Research consistently supports that teaching the writing process is an effective instructional method that can lead to enhanced performance on various types of assessments (Calfee & Miller, 2005; Indrisano & Paratore, 2005). However, using modern tools such as Web 2.0 social networks may be the connection 21st century students need to improve writing skills in and out of the classroom.

Statement of Purpose

The purpose of the study was to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing tools, for example, an offline word processing platform, such as Microsoft Word©, or an online digital platform of blogging, Kidblog©. The instrument used to evaluate the writing samples included the PSSA Writing Rubric 4 point rubric that evaluates the qualities of the writing in the areas of focus, content development, organization, style, and convention. Narrative writing was chosen as the writing genre for the study for several reasons. First, most state standardized tests require students to write narratives (Hillocks, 2007). Second, storytelling, the narration of our lives and who we are as humans, occurs naturally in human communication at any age and in any culture (Fisher, 1989; Graves, 1983). Graves stated that children want to write on the first day of formal school. They have already begun communicating who they are by drawing and making marks on walls, sidewalks, and papers with pencils, crayons, markers, and chalk. Today preschool children use computers to produce their writing designs independently using offline and online software programs that write, draw, and paint. Third, narratives are personal. According to Hillocks

(2007) writing "allows children to contribute to the body of literature they will study, understand more fully how the works of professional writers are constructed, and learn techniques that will be useful in other kinds of writing" (p. 1).

Writing research, especially in the area of assessment, has been the most neglected of reading, writing, and arithmetic (Troia, 2010). Currently, writing research has emerged to the frontlines of research (Graham & Perin, 2007b; MacArthur, Graham, & Fitzgerald, 2006). Explanations for the increased interest in best practices for writing instruction and assessment may be due to social and cultural changes surrounding communication tools in all aspects of daily living or may be due to the fact that the nature of writing evaluation is subjective (Hillocks, 2007). According to Arnie Duncan, United States Secretary of Education, the social trends of communication and technology are globally obvious. The three social trends in technology and communication guiding educational goals today are: (1) technology and communication are mobile and accessible to students 24 hours a day every day, (2) 60% of the population of teachers and students are active producers of digital content and publish online, and (3) social networking opportunities are increasing and provide instantaneous information, collaboration, and learning prospects for educators and learners (Duncan, 2010). As global societies and cultures explode with technology advancement, the definition of literacy will continually change and evolve to include the social and cultural movements of society. For example, according to *USA Today*, five year olds are rapidly becoming the largest age group of Internet users in the 21st century (Kessler, 2012). Consequently, redesigning writing instruction and assessment tools to incorporate modern methods of social media (i.e., weblogs) is at a critical turning point in American education.

Theoretical Foundation

The theoretical lens for this study included theory of transfer and sociocultural theory. Both theories focused on the importance of cultural and social influences on our lives as learners.

Theory of Transfer

Teaching for transfer is an important social and cultural goal of education. Dewey (1938) suggested true learning is evident when students can naturally transfer skills and knowledge from classroom instructional settings to and from real world situations. The learning is meaningful and is relevant beyond the walls of the classroom. From a behaviorist viewpoint, Edward Thorndike's theory of connectionism suggested transfer of learning is dependent upon the existence of practice and experience occurring with the use of equivalent features in both original and novel learning conditions (Thorndike, 1922). Although Thorndike's research and work focused on mathematics, spelling, and reading, it seems to relate well with the digital disconnect that exists in the 21st century writing classroom of student today. As cultural transformation of writing tools move further away from traditional written productions of pencil and paper to word processing and web-based communication, education must reassess and realign instructional methods and assessments of writing in grades K -12 in order to meet the growing demands of different writing platforms used for communication in the real world. Students are not meeting the social demands of the real world in the area of effective writing skills for communication. Colleges and employers of high school graduates major complaint is that schools are not adequately preparing graduates with real world written communication skills (College Board, 2004).

Sociocultural Theory

Vygotsky's sociocultural theory, based on constructivism, is becoming recognized as a framework supporting writing instruction and assessment since the process of writing has been deemed a social act by experts in the field of writing (Flower, 1994; Graves, 1983). This theory stresses the importance of relationship and the connection associated with relational, cultural, historical, and individual factors that influence human development. Vygotsky believed that the social setting impacts cognition through the use of cultural tools which could include, for example, machines, computers, or Internet. The pragmatics of writing and the Zone of Proximal Development (ZPD) seem to set a foundation by which to examine whether students' writings significantly differ when using offline or online writing platforms. Since online writing platforms provide opportunities for collaborative writing and instant feedback, they may be an effective alternative instructional and evaluative tool during instruction and assessment. ZPD is defined as, "the distance between the actual developmental level as determined by independent problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Cognitive adjustment happens in the ZPD as educators and students share cultural devices (Cobb, 1994).

Research Questions

The questions guiding the study included two primary questions.

1. When students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (3) convention?

2. Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

The PSSA Writing Rubric was used to rank the qualities of the participants' written responses to a narrative prompt. The PSSA Writing Rubric is a four point scoring guideline and is representative of most standardized tests. The Statistical Package for the Social Sciences (SPSS) was used to evaluate the findings of the quantitative study.

Hypotheses

The hypotheses guiding this study are:

- H_o There will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention.
- H_o Gender will not significantly influence the quality of writing in the areas of focus, content development, organization, style, and convention.

Significance of the Study

Writing platforms are changing due to cultural shifts in the paradigm of social writing networks used daily by today's youth. Writing is a complex task and requires continuous reflection, planning, and revision of effective writing instruction, assessment, and writing platform choices. Audience awareness is becoming a focal point in instruction and assessment (United States Department of Education, 2012). This investigative study provides educators with valuable information about how modern learners' writing is affected when given an opportunity

to produce written responses with interactive and authentic writing experiences during assessments. Educators continue to seek ways to engage learners in effective instruction to promote best practices in the classroom, and since today's youth use digital tools regularly in their daily lives it was reasonable to examine how those tools may also be used in assessment situations. According to Simpson (2006), today's students are reared in a technologically literate world where they spend 40-plus hours using technology media for pleasure and communication. Ornstein, Pajak, and Ornstein (2007) suggested that students are not motivated to learn through traditional classroom techniques of lecture, textbook-driven instruction, and worksheets. Accordingly, the 21st century learner of the Informational Era may benefit from instruction and assessment that are student-centered and networked to the real world effectively using computer-based and web-based tools to engage in active and meaningful learning and assessment experiences (Ornstein, Pajak, & Ornstein, 2007; Solomon & Schrum, 2010).

Research has established motivation as a key component that enhances students' academic success and achievement on standardized assessments (Baek, 2008; Chen, 2008; Dewey, 1938; Hofer & Swan, 2006; Keengewe & Anyanwu, 2007; Keengewe, Onchwari, & Wacharia, 2008; McComb, Daniels, & Perry, 2008; Palak & Walls, 2009; Wang et al. 2006; Zsolnai, 2002). In addition, the use of computerized technology has been strongly supported by researchers to be an effective tool to motivate student performance and academic success (Seifert, 2004; Turner & Patrick, 2008; Williams & Kingham, 2003; Zsolnai, 2002). As suggested by Dewey (1915), using relevant and authentic tools in education is important to the learning process. Even though it is not always clear how to produce, cultivate, inspire, or sustain motivation for learning each day for every student in the classroom, research supports that utilizing and maintaining status quo with outdated instructional strategies and assessment tools

will not enhance the motivational interest of technologically savvy students of the 21st century who use engaging and modern digital devices in their daily lives (National Writing Project, 2010). Dewey advocated that schools need to provide children with meaningful and germane learning experiences using applicable and authentic materials that are valued and of interest to the learners (Dewey, 1915, 1938).

Web-based tools, digital entertainment products and software, and communication devices that children use daily are highly interactive and self-indulgent. The web-based online tools are three-dimensional; offline word processing and paper pencil composition are one-dimensional. The "techno" audience is live and an instant response in real time is expected and anticipated as part of the modern writing process. When using online writing platforms the audience is not fictitious, ambiguous, or unknown. On the other hand, both writing with paper and pencil and offline word processor are isolated and unilateral processes (National Writing Project, 2010). Assessment procedures of students' writing abilities should mirror authentic and meaningful production modes for the writer in order to acquire an accurate perspective on individual writing aptitude. If the purpose of an evaluative assessment tool, like the PSSA rubric, is to measure student growth and proficiency, then the test should utilize appropriate methods of testing and evaluation tools of the era. Assessment and accountability components will continue to pressurize and challenge the American education system well beyond the 21st Century. Given that instruction and technology are considered integral components of the modern curriculum design, assessment techniques should align with the instructional methods that best fit the students' needs and are reflective of the culture of the society.

Consequently, as education continues to synchronize successfully with the digital culture of learners and instruction seeks new student-centered instructional and assessment approaches,

other areas of concern may become less problematic for America. For example, consider the alarming social trend of school dropouts that permeates our nation; currently about 7,000 students drop out of school daily (Snyder, Dillow, & Hoffman, 2009). This is a national crisis threatening the economic and international competiveness of the United States (Albright & Salmanowitz, 2009). According to the National Center for Education Statistics, 50% of United States' dropouts report that the main reason for dropping out of school is that they are bored (Snyder, Dillow, & Hoffman, 2009). Boredom is a learned attitude that American educators, administrators, and parents can no longer ignore. Educators cannot afford to ignore the need to discovery another way to motivate and engage students to do their best in the highly competitive academic world where accountability is measured by high stakes testing. All aspects of education, including standardized assessments, must move beyond traditional methods to modern means involving culturally relevant technology.

Definition of Terms

The key terms used in this study are defined as:

- Advanced - PSSA ranking and is acceptable performance ranking of above average for AYP;
- Adequate Yearly Progress - used to determine a school/district's student performance on academic skills based on student growth;
- Basic - PSSA low performance level, unacceptable for AYP;
- Below Basic – PSSA lowest performance level, unacceptable for AYP (Data Recognition Corporation, 2011);
- Boredom – Lack of enthusiasm or motivation and interest in something;
- Content development – Strong story line with illustrative details;

- Conventional writing – Hand written with pencil and paper (Data Recognition Corporation, 2011);
- Face-to-face – Instruction that occurs within the confines of the classroom.
- Focus - Sharp and distinct controlling point or theme (Data Recognition Corporation, 2011);
- Kidblog© – Free Internet connected collaborative social network writing platform software designed with safe guards for classroom use, type of weblog (blog);
- Microsoft Word© – Technology software program for writing;
- Narrative – A form of writing that narrates or tells about a particular event, time, place, or idea;
- Offline – Writing platform form not connected to the Internet as in word processing programs such as Microsoft Word©;
- On Demand Writing – Timed writing tasks required of students to produce a writing sample of a specific writing genre, i.e. narrative writing response;
- Online – Writing platform connected to the Internet (i.e. Kidblog©);
- Open-ended response – PSSA written prompt request to respond containing specific requirements (Data Recognition Corporation, 2011);
- Organization – Competent narrative pattern with clear and consistent sequencing of events, including the beginning, middle, and end (Data Recognition Corporation, 2011);
- Proficient – PSSA acceptable performance ranking, average acceptable for AYP (Data Recognition Corporation, 2011);

- PSSA - The Pennsylvania System of School Assessment (PSSA), a standards-based, criterion-referenced assessment;
- PSSA Informational Scoring Guide – A four point ranking scale, with four being the highest most precise writing measuring the focus, content development, organizational, style, and convention of the writing samples as designated by the PSSA measuring rubric;
- Style – Detailed control of language, literary procedures, and sentence structure that creates a consistent and effective point of view and tone (Data Recognition Corporation, 2011);
- Traditional writing - Hand written with paper and pencil;
- Weblog –Interactive Internet connected writing tool used in written communication that allows writers to instantly publish to the Internet from any Internet connection (i.e., Web 2.0 tool).

The term PSSA is an acronym for the Pennsylvania System of School Assessment test. PSSA is a state standards-based, criterion-referenced assessment used in grades 3 through 12, and it is unique to the state of Pennsylvania but is of similar design to other state standardized assessment tests. Students are required to demonstrate proficiency on the tests. Currently, the tests consist of reading, math, science, and writing. The school districts are expected to demonstrate adequate yearly progress (AYP) or risk being placed on the failing school list which could lead to intervening of the state government and takeover of the local district. The Writing test uses a four point rubric scale for assessing the four writing components. The first writing component is focus, a sharp and distinct controlling point or theme. The second writing component is content development which measures the strength of the story line with illustrative details. The third component is organization or the skillful and competent narrative pattern with clear and

consistent sequencing of events, including the beginning, middle, and end. The fourth component, style is the precise control of language, literary devices, and sentence structure that creates a consistent and effective point of view and tone of the story line. The fifth component is convention. Conventions include grammar and punctuation.

The PSSA ranks students as Below Basic, Basic, Proficient, or Advanced. Below Basic is the lowest performance level of the PSSA and is unacceptable for the demonstration of the district meeting AYP. Basic is an unacceptable score and is below average ranking. Proficient indicates an acceptable performance ranking. Scoring Advanced on the PSSA is an above average ranking of excellence for student performance. The scale used to determine these rankings is different for every content area and is inclusive of calculated ranges. The PSSA standards were set through piloted tests.

The PSSA for the Writing Assessment uses open-ended statements or written prompts that request students to respond to a scenario incorporating specific sets of details for a specific writing genre, often narrative is used on standardized tests. Other portions of the PSSA utilize multiple-choice questions to evaluate specific skills and conventions. The prompts chosen for students in this study required narrative responses. A narrative is a form of writing that narrates, tells, or reminisces about an actual proposed occurrence at a particular time in a particular place (Fisher, 1989). According to research, narrative responses are easier for children to produce (Fisher, 1989; Graves, 1983; Hillocks, 2007). The use of conventional or traditional handwriting refers to the use of paper and pencil to compose a written text. Microsoft Word©, an offline computer software, is used by students to produce written language through typing usually to an unknown, fictitious, or non-interactive audience. Kidblog©, an online writing platform, however,

requires students to type with the anticipation of an interactive audience which may or may not be known.

Assumptions

The following assumptions underlie the research: there will be differences among the study population due to variations in language and mental development, computer experience, and typing experience. Girls may perform better than boys on both writing platforms of online and offline writing due to level of interest in writing and socialization of writing. Another assumption is that teachers will provide writing instruction that focuses on the PSSA rubric areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention.

Limitations

The study has several limitations. First, the population sample size of students is limited to a rural area of students and is a small sample size consisting of 144 fifth-grade boys and girls. A second limitation is that students with special needs are not identified within the study group. Third, the study did not focus on instructional strategies or interventions that could affect the writing product produced by the students. A fourth limitation is that keyboard proficiency or training is not measured for each student. Finally, instructional strategies, requirements, and supports during writing instruction may vary from class to class and from school to school within this district due to fluctuating writing requirements of teachers and administrative instructional leaders.

Summary

Humans have recorded their existence with written symbols for centuries. The style, form, and tools of writing have changed with the evolution of society and its growing implementation of communication technology. Educational techniques, instructional practices, and assessments must continue to be aligned to the cultural setting of the learners' milieu so that

they can be competitive in an online world of written communication and become productive and effective communicators in the 21st century.

The study was designed to investigate if fifth-grade elementary students' writing quality would be affected when responding to the open-ended prompts of the PSSA for Writing if given the opportunity to use online writing platform, Kidblog© versus an offline writing platform, word processor Microsoft Word©. There are many federal and state initiatives for the advancement of technology integration into the school system across the curriculum and subject areas. Since high levels of value and accountability are placed upon the student performance on the standardized tests for both students and educators, determining the best mode to assess student achievement is valuable to the educational field today and in the future.

This quantitative research project focused on the comparison of students' writing performance using online and offline writing platforms of technology. The remainder of this dissertation includes: a review of literature in Chapter Two, a discussion of methodology is utilized in Chapter Three, research findings are discussed in Chapter Four, and conclusions and suggestions for further research comprises Chapter Five.

CHAPTER TWO

REVIEW OF LITERATURE

> A new youth culture is emerging . . . . This culture is rooted in the experience of being young and also in being part of the biggest generation ever. But most importantly, it is a culture that is stemming from the N-Gen use of interactive digital media. We should pay attention because the culture which flows from their experiences in cyberspace foreshadows the culture they will create as the leaders of tomorrow in the workplace and society. (Tapscott, 1998, p. 55)

Don Tapscott's quote continues to resonate an alarm for educators today to "pay attention" to the culture of digital media in our society, schools, and homes. The transition from traditional classroom instruction, assessment, and instructional tools to digital implementation of instruction and computerized apparatuses has been a slow process across the nation. According to the National Center for Education Statistics (2012) report, 98% of the nation's elementary schools are hardwired and have Internet connection.

In this chapter, a review of educational research is framed by theoretical and empirical literature relevant to educational applications of written composition and computer-mediated communication for use in instruction and assessment of writing in elementary classrooms. This literature review examines elementary instruction and assessment practices related to writing and literacy using offline and online writing platforms. First, a brief overview of the shifting writing paradigm of 21st century writing components of learning and literacy is examined. Second, a theoretical framework is presented. Third, social trends and cultural influences of writing platforms and how they affect students' writing in the classroom are discussed. Fourth, motivation and its relationship to writing, technology, and academic achievement findings are

reported. Fifth, technology and writing using online and offline writing platforms was researched and the potential educational influences for writing instruction, assessment, and curriculum development are reported. Sixth, this study examined current practices of writing instruction and assessment used in elementary classrooms. Finally, writing curriculum and assessment are discussed. The scholarly literature presented in this literature review offers discussion focused on cultural and social trends that influence best practices for writing instruction and assessment practices of elementary students in the 21st century.

The theories of transfer and sociocultural theory form the theoretical foundation for this study. Examining the relationship of motivation, elementary writing achievement, and the importance of using socially and culturally relevant writing tools for writing instruction and assessment in a computerized society may support future research efforts in writing. Within the philosophical foundation of the theory of transfer, learning must be oriented to a real life setting or activity related to or similar to the skills being "taught" (Perkins & Salomon, 1992). The sociocultural theory's perspective of literacy suggests that there is the capability to influence language and thought in an assortment of situations; it includes thinking and learning in the situations of real life (Langer, 1987, 1995). The act of communicating embraces both theories in the areas of development, practice, and implementation of language in a social context.

The Shifting Writing Paradigm of 21st Century

Writing research, according to the National Commission in America's Schools and Colleges (2003) has been the most neglected area of study as compared with research in reading and arithmetic. Juzwik, Wolbers, Moxley, Dimling, & Shankland (2006) and Troia (2010) agree and add writing assessment research as being neglected. Writing has long been established as a social act with the specific goal being to communicate; the function of communication is to address

specific audiences for specific purposes in everyday life (Flower, 1994; Graves, 1983; Troia, 2010). Today, the ability to communicate to an explicit audience is thought to be one of the most essential writing skills at the university and the workplaces of professionals today (NCTE, 2008; United States Department of Education, 2012). Consequently, educational shifts in writing assessments and instructional practices are slowly changing to meet writing communication demands and needs of modern learners.

Over the past decade, Internet connectivity in households has increased as the popularity of an online lifestyle becomes the norm in literate and technologically advanced societies. Many homes still have limited or no access to the Internet. However, approximately 68% of the homes in the United States have access to broadband Internet (United States Department of Commerce, 2011). This disparity, according to the Pew Research Center, has decreased over the last 10 years (Lenhart, Purcell, Smith, & Zickuhr, 2010). However, any lack of access is of potential educational concern because the lack of equity of opportunity and experience has the potential to negatively impact academic achievement among learners. School districts and homes with Internet capabilities in the early years had to deal with a multitude of unforeseen safety issues related to social media and Internet connection. However, safety issues were identified, school friendly Web 2.0 Internet emerged providing secure online capabilities teachers could monitor. These tools, such as Kidblog©, are revolutionizing the current movement and opportunity of using online platforms for instruction and assessment in the classrooms. A new dimension of audience awareness is evolving in the digital network of people.

Microsoft Word©, word processing, social networks, weblogs, and other forms of interactive digital social media communication platforms and Internet resources are used regularly outside of school by all ages. Online instruction within the classroom, however, has

created a need for Internet safety instruction and digital citizenship within the school setting adding yet another dimension to the instructional design of technology curriculum and pedagogy. Consequently, digital citizenship has been identified as an integral and necessary inclusion when schools incorporate online instruction (Ribble & Bailey, 2007). Digital citizenship teaches students social responsibility and appropriate social conduct for Internet use. Due to social and cultural trends of communicating with social media tools, the 21st century definition of literacy is changing. Today, the literate must have technology knowledge and the ability to read and write. "The literate of the twenty-first century must be able to download, upload, rip, burn, chat, save, blog, Skype, IM, and share" (Mullen & Wedwick, 2008, p. 66).

Since the measurement driven reform of the 1980s (Valencie & Wixson, 1999) and the enactment of *No Child Left Behind* (NCLB) legislation of 2001, standardized tests are mandated for reporting and tracking student performance and academic achievement nationally. Currently, about two-thirds of the states in the United States (Hillocks, 2002) use some sort of systematic standardized testing method across many grade levels in varying subjects including reading, writing, math, science, and social studies (Hillocks, 2002). Standardized assessments generally use multiple-choice questioning. One problem identified in many studies associated with the implementation of standardized tests is that teachers feel pressured to provide instruction that narrowly focuses on tested items and content specific drill and practice instead of promoting higher levels of thinking (Sacks, 1999).

To date, most standardized writing assessments require students to produce responses to open-ended prompts using paper and pencil as the chosen assessment mode. However, more than 50% of the states have already shifted to some form of computerized writing assessment including both offline and online platforms (United States Department of Education, 2011).

According to the National Center for Education Statistics (2012) and the National Assessment Governing Board (2011), by 2019 the computer-based on-demand writing assessments will be given to students in grades 4, 8 and 12 across the United States.

Research has suggested the current standardized writing assessments often negatively affect writing instruction in classrooms across the nation (Ares & Peercy, 2003). One explanation for the negative influence on writing instruction may be that teacher instruction is skill oriented and segmented for the purpose of assessment success. Also, teacher feedback generally focuses on the individual criteria or skill, instead of the holistic purpose of communicating to a specific audience. In other words, the idea of writing for specific or authentic audiences has not been as centrally focused in instruction or assessment as proposed by the 2014 Common Core State Standards (CCSS) for writing. However, changes in the NAEP writing framework (National Assessment Governing Board, 2011) and the Common Core State Standards (Pennsylvania Department of Education, 2011) have incorporated age-appropriate and grade appropriate audience specifications within the prompts and standard guidelines which were not previously emphasized as strongly in prior publications or earlier frameworks of either document.

A meta-analysis and review of research conducted by the United States Department of Education (2010), Office of Planning, Evaluation, and Policy Department indicated there are limited research studies comparing online and offline technology platforms, such as weblogs, and word processing computer software with elementary students. Using a web-based writing platform, such as a blog, for instruction and assessment may help prepare students for real life writing. Simulating authentic writing opportunities reflective of writing that happens outside of school hours of the contemporary learner in the digital era is important for understanding its

potential for education. Since writing is one of the areas assessed across the nation, examining students' writing qualities using online and offline writing modes is important. This study may contribute to the current research of technology and digital writing of elementary children.

Brief Overview: The Shifting Writing Paradigm

From the epochs of cave writing, cuneiform, and hieroglyphs to papyrus scrolls, and parchment paper to the modern day weblog, writing has been an intricate part of human existence. These forms of writings have left a human metacognitive hand print of informational and narrative stories surrounding the progression and development of societies around the world. The purpose of writing, to communicate, tell the story of life, and record the happenings on our earth, will continue throughout the coming centuries. However, the tools and ideas associated with writing and literacy will continue to be transformed to meet the technological advancement of mankind.

Writing, as an academic subject dates back to the time of Aristotelian rhetoric (Neel, 1995). During the 18th Century, Aristotelian rhetoric governed universities' instruction in literacy. Writing continued on this path of rhetoric through the 1960s. The shift of writing to discourse began to appear at the conclusion of the 19th century. A progressive movement of student-centered education research led by philosophical researchers like John Dewey, Carpenter, Baker, and Scott (Langer & Flihan, 2000) started to change the instructional focus of literacy. Most literacy research until this point focused on reading. However, the cognitive psychology and constructivist viewpoint began to intercept the reading research shifting the focus to how readers interact with text (Langer & Flihan, 2000).

Writing instruction and assessment prior to the 1980s focused on students' final written products. Writing was theorized as a three-part linear process. It began with prewriting activities,

then a writing activity, followed by some form of editing before handing in a final written product. Editing was usually neglected by the students (Langer & Flihan, 2000). Editing problems continue to exist today in the language arts writing classroom. Editing is not easily transferred from teacher-directed instruction (Culham, 2003; Graves, 1983) and guided practice to independent performance, especially at the elementary grades. Interestingly, prior to the 1980s writing instruction was not taught in elementary grades. It was taught at middle school and high school because writing instruction was not considered developmentally appropriate at the elementary grades until Clay (1982) and Graves (1983) argued that reading and writing should be an integrated aspect of literacy instruction at the elementary grades. Research began to recognize a relationship between writing and reading as cognitive and social processes of literacy. The shift of writing from product-oriented to process-oriented (Flower & Hayes, 1981) continues to be a controversial and salient debate for 21st century writers and researchers. A meta-analysis of research instruction for grades four and above showed that explicit strategy instruction of modeling, explanation, feedback, and other scaffolding techniques were effective techniques to help students identify misuse of writing strategies (Graham & Perin, 2007b). Implementing instructional practices of explicit writing instruction, such as Direct Instruction (DI), has shown effective with struggling writers and at risk populations (Engelmann, 2007; Graham & Perin, 2007a, 2007b; Troia, 2006).

Since the implementation of NCLB Act of 2001 legislation, schools across the country have been mandated to administer state standardized tests to students in the areas of reading, writing, math, and science. Heightened accountability for both teachers and students has created a teaching and learning environment of "teaching to the test" which was inspired by the measurement-driven reform of the 1980s (Valencia & Wixson, 1999). However, teaching to the

test becomes a problem when instruction is limited to be inclusive of only the test items or assessment design. For example, modeling and providing examples of expectations coupled with DI and scaffolding are considered essential elements of effective teaching (Engelmann, 2007; Graves & Rueda, 2010). However, beyond the initial journey of learning students need to be able to implement authentic application of what has been learned. Thus, transference of the learned information or skill should be able to be applied to new situations. Today printed and electronic social media communication writing platforms have merged creating new literacy opportunities for the young and the old.

During the course of the past five centuries, printed material has ruled and defined literacy. Print will not necessarily vanish, but may become dominated by computerized text and electronic media. According to Wysocki, Johnson-EiLoLa, Selfe, and Sirc (2004), the world of writing and communication is at a pivotal point where four momentous changes are occurring in the area of writing simultaneously: social, economic, communicational, and technological changes. The social changes to digital technology are altering the structure and framework of writing which have been fairly stable over the last 200 years (Wysocki et al. 2004). The global economy is shifting the uses and purposes of technological writing. Changes in communication include more images and connectability than in pre-Internet years, which according to Wysocki et al. (2004) changes the dominance of writing. Finally, technology is changing the role and importance of the main media of distribution (Wysocki et al. 2004).

Students in classrooms today are the first to have grown up with digital tools at their fingertips (Solomon & Schrum, 2010). As students and the world change, education faces new challenges addressing the shifting surges of new literacies: information literacy, visual literacy, and technological literacies (Johnson, Smith, & Smythe, 2009). Humans no longer use clay

tablets and chisels as their writing tools. Consequently, as writing continues to emerge with technological advancements of society the modern digital and computerized tools, social networking systems, and media sources are the new clay tablets transforming writing literacy skills for all ages, especially the youth of today. The technological tools, open-source social media platforms, and audience interaction are currently the most pronounced paradigm shifts of the 21st century.

The Read/Write Web (Richardson, 2010) has two developing trends involving these technologies. First, according to Alpert and Hajaj (2008) there are over a trillion pages on the Web. In addition, Google has transformed the bound text of books from five of the biggest research libraries in the world to digital online publications (Richardson, 2010). *USA Today* quoted Paul LeClere, CEO of the New York Public Library as stating that this feat was, "one of the most transformative events in history of information distribution since Gutenberg" (as cited in Graham, 2004). The second trend influencing education, politics, and the business world is the ease of creating content and the connectability the Web provides for collaboration and exchange of ideas with a diverse audience (Richardson, 2010; Solomon & Schrum, 2010). As 21st century students enter into their post-education and professional careers, they will need to, "read and write effectively in linked environments as they locate, analyze, remix, and share the best, most relevant content online for their own learning" (Richardson, 2010, p. 148).

Defining 21st Century Writing and Literacy

The term writing has many connotations. The context in which one refers to or inquires about writing can be categorized as a notational system, mode of production, or discourse style (Ravid & Tolchinsky, 2002). The act of writing has long been established as a social action with the specific goal being to communicate; the function of communication is to address specific

audiences for specific purposes in everyday life (Flower, 1994; Graves, 1983; Troia, 2010). Today, the ability to communicate to a specific audience is considered one of the most important writing skills at the university level and the workplaces of professionals (NCTE, 2008; United States Department of Education, 2012). The tools and writing platforms we use in everyday life continue to advance as electronic media advances.

Writing today must be examined more broadly than ever before. It is as though 21st century writers are bilingual writers using multiple tools to produce written communication (Troia, 2010). Paper and pencil are still rudimentary in the classroom. Yet, the word processor and web authoring need to be recognized as indispensable tools for classroom writing process, instruction, and assessment. The tool of writing is secondary to the writing process and instruction of writing (National Writing Project, 2010; Solomon & Schrum, 2010). The National Writing Project (2010) identifies three important best practices associated with effective writing instruction found throughout the research: (a) students demonstrate improvement in writing composition when the writing process is implemented using strategies for planning, revising, and editing; an established writing community provides opportunity for feedback and individual feedback enhancing students' writing skills, (b) studying the craft of writing and analyzing how different media, genres, purposes, and discourse communities use writing adds to students' growth in writing, and (c) assisting students in the analysis and understanding of rhetorical situations for their own writing in the areas of audience, purpose, form, and stance develops students' flexibility to transition to new occasions for writing (Devoss, Eidman-Aadall, & Hicks, 2010).

According to Langer's (1987) sociocognitive viewpoint, literacy is specific to individual cultures and, "involves higher intellectual skill appropriate to the culture, and is learned by

children as they interact with families and communities" (p. 2). Langer's analysis is similar with Collins' (1995) interpretation of the differences between the constant set of procedures and uses of language; there are recognizable phases and obvious consequences for society and dependent or situated literacies. Even though the skills, procedures, and interaction of reading and writing remain significant, they are less divergent than early researchers once thought. Therefore, the dominant emphasis of current literacy research inspects both reading and writing in social and cultural frameworks (Langer, 1987). Anthropology and ethnographic methods of research continue to influence literacy studies today and explore how, when, where, what, and who are reading and writing with a focus surrounding purpose for writing (Langer, 1987).

Contemporary students seem to be able to smoothly "code switch" when using the different digital writing tools, text messaging, Facebook, and e-mail. In their daily lives outside of school, the writing tool of choice may be texting, Facebook, or e-mail. All of these modern network systems use some form of keyboarding. However, whether students use conventional and traditional handwriting skills, texting, or keyboarding skills, the main purpose of the composition is to transform thought into written expression and communication. The differences between the methods of scripts include keyboarding requirements of letter recognition, selection and keyboarding, while handwriting requires letter production (Berninger, Garcia, & Abbott, 2010). The social media network of the Internet (i.e., Web 2.0 tools including weblogs) incorporates visual and audience interaction adding yet another dimension in the writing process for modern learners. According to MacArthur (2006), the increased use of visual displays along with linguistic text may have beneficial effects on cognitive processes and writing processes. However, research is limited in this area of writing and technology. Classrooms for writing instruction include forums open to conventional writing discourse, face-to-face oral discussions,

or a combination of conventional and web-based communication interaction. As Richardson (2010) stated, "If we fail to graduate students who are not able to create, sustain, and participate in these networks in safe, ethical, and effective ways, we've done them a disservice" (p. 149). Even though research concerning effectiveness in these individual settings is limited, it is promising in the area of blended instructional practices.

In 1998 the NAEP outlined instruction and assessment for effective writing structure; it has since served as a model design. The development of the NAEP writing framework is guided by research and theory with an emphasis on good writers' abilities to communicate effectively in a variety of methods and genres that utilize composing and revising (National Assessment Governing Board, 2011). Students' writing skills are measured by requiring students to write for different purposes, and a strong emphasis is placed on authentic writing written for a variety of audiences including online audiences. The instructional and assessment writing paradigm in education is shifting to the use of different software and technological platforms of online and offline writing tools in hopes of enhancing student writing experiences in a more authentic procedure relevant to modern digital writing (National Assessment Governing Board, 2011; National Writing Project, 2010).

The complexities of writing are broad and encompass many facets of the thinking processes including metacognition, motivation, language, and environmental experiences. Palak and Walls (2009) suggested that technology is a tool that modern learners value which helps to motivate students to attend to and engage in academic tasks. Consequently, comparing elementary students' writing differences during a simulated use of online and offline writing platforms may provide important instructional and assessment insight for future research areas in elementary writing. Writing continues to be a key form of communication; the tools and modes,

however, are changing. The pedagogy and assessment of writing is in need of realignment with modern social and cultural trends of online communication.

Theoretical Framework

Vygotsky's sociocultural theory, based on constructivism, is recognized as a framework for writing instruction and assessment since the process of writing has been deemed a social act (Flower, 1994; Graves, 1983). This theory stresses the importance of relationship and the connection associated with relational, cultural, historical, and individual factors that influence human development. Vygotsky believed that the social setting impacts cognition through the use of cultural tools. Since the 1980s, socialinguistic, sociocultural, and anthropological perspectives have become more significant in literacy research (Berninger, et al. 2010). Vygotsky (1978) believed the central inclination of the child's growth and maturity is not a slow socialization process introduced from the outside, but a steady internalized individualization that emerges from the groundwork of the child's inner abilities of socialization (John-Steiner & Mahn 1996). Research continues to develop from this positioning requiring reconsideration of previous perceptions of the relationship between writing and reading; reading and writing are observed as interweaving and inseparable linguistic tools (MacArthur et al. 2006; Shanahan, 2006). From this perspective, research reflects upon literate behaviors and the ways of thinking.

Thus, in a social perspective, literacy can be defined as the ability to control language and thought in a varying assortment of conditions; it encompasses thinking and learning in the setting of actual life situations (Langer, 1987, 1995). According to Langer (1989), how an individual behaves in any situation is influenced by the context of the situation and the interpretation of an individual. "Contexts control our behavior, and mindsets determine how we interpret each context" (Langer, 1989, p. 35). Writing is social. Individuals write to record or communicate

their thoughts, ideas, and feelings. The form of writing and communication valued among most ages today appears to be interactive social media platforms. Therefore, harnessing the interest, value, and energy many children and youth have for social media may give writing instruction and assessment another path to access and improve instructional and evaluative effectiveness. Using social media as the writing platform may increase individuals' mindfulness (Langer, 1989) of the processes and functions of writing because of the value and interest associated in modern societies with the use of social media communication platforms. Consequently, social media devices and images used in everyday life communication experiences of the 21st century children, youth, and adults has become a focus for many areas of educational research (John-Steiner & Mahn 1996; New London Group, 1996). A new culture of social communication and literacy is evident in how digital media and online technology is used in everyday life among all age groups of people.

John Dewey (1938) would maintain that every experience a person encounters builds an underpinning relationship for future experiences. Dewey suggests that experience has two characteristics of influence upon individuals. First, there is an immediate impact of positive or negative influence upon the individual's present situation. Second, the experience "will" impact future experiences that are either of similar or different structures (Dewey, 1938). This stand aligns with later offshoot theories of socialcultural theory such as situated learning (Lave & Wenger, 1991). The foundation of the socio-cultural view point is founded on the premise that learning is a process which takes place beyond the individual mind. Learning needs the reciprocal social interaction and experience within a participatory and social framework (Lave & Wenger, 1991). Dewey explicitly contends, however, that quality of the educational experience is essential. Just merely experiencing a connected interaction of social networking has the

potential to be “mis-educative” (Dewey, 1938 p. 25). The fundamental point in the consideration of best practices in any educational setting or subject is well stated by Dewey, “finding out just what education is and what conditions have to be satisfied in order that education may be a reality and not a name or a slogan” (Dewey, 1938, p. 91) is the primary concern of the process of education for all learners. Research across the decades has supported Dewey’s ideas of social connection, inquiry, reciprocal communication, and community of learners interacting in “real life” situations.

For example, Langer’s (1997) eight years of research explored how individuals in school and in school-like settings think and reason when they are involved with literature and how classroom discussion and exchanges of ideas may nurture the development of literate actions. Langer reports that literature classes invite students to be members of a social community creating a sharing of their thoughts with other members within the group that solicits individuals to “expect those differences to move their own thinking toward more individually rich, but never singular interpretations” (p. 10). This research demonstrates strong evidence that collaborative literature activities such as story writing/telling provided individuals of different ages, language, and cultural backgrounds with opportunities to experience discussions that nurture social and cultural conversations of discourse.

Similar literacy research supports that very young children also collaborate in group literacy activities (Dyson, 1989, 1992; Graves, 1983). For example, children often demonstrate collaboration and communication when they, “print to represent their ideas and to interact with other people" (Dyson, 1992, p. 4). Literacy develops when children doodle, draw pictures, produce, act out, or repeat stories (Graves, 1983). These are literate actions and behaviors vital to the development of language (Teale & Sulzby, 1986). Interestingly, Dyson (1989, 1992) submits

that children's literacy progress was directly "linked to the social practices that surrounded them, that is, to their discovery of literacy's rich relevance to their present interactions with friends and to their reflections on their experiences" (1989, p. 276). Literacy is not contained within the schoolhouse walls of formal education, but exists more importantly in how we use our learned information and skills in our everyday lives separate of the classroom and instruction. Thus, the theory of transfer and the sociocultural theory combined provide a supportive framework for the theoretical lens through which this study is grounded.

Theory of Transfer

The idea of transference is an aspiring, but sometimes silent, concept of education and learning theory (Detterman, 1996; Detterman & Sternberg, 1996). Students' abilities to assimilate learned knowledge and cognitive skills from the classroom and apply those skills and knowledge to similar or new circumstances is the ultimate dynamic goal behind the purpose of education. The definition of learning, within the theory of transfer, means that the act of learning within the classroom moves beyond the walls of the self-contained instructional setting (Perkins & Salomon, 1992). Caution must be taken to balance instruction and memorization (Detterman, 1996). Learning is not merely an ordinary act of traditional rote scholarship. However, rote memorization should not be disregarded because it is appropriate in various learning situations (Detterman, 1996).

According to the proponents of the theory of transfer, however, if learning has occurred then individuals possess the ability to assimilate, apply, synthesize, and evaluate near-or-far related situations to new experiences they may encounter (Perkins & Salomon, 1992). Within the philosophical foundation of the theory of transfer, learning must be oriented to a real life setting,

activity related to, or similar experience. This is referred to as near transfer or the skills being "taught." Far transfer of learning takes place when a "learned" skill can be integrated or applied to new situations or unrelated activities demonstrating increased skills of natural application across situations or transfer (Perkins & Salomon, 1992). For example, students spend hours learning grammatical rules for proper English. In school, the child passes the written test (an example of ordinary learning and near transfer) yet, does not use grammar correctly in everyday speech or writing. However, the purpose of the instruction has an attached outcome of hoped transfer, called far transfer. In this English grammar scenario transfer had not occurred. Often this seems to be the case in many contexts of education (Perkins & Salomon, 1992).

The theory of transfer is rooted in Thorndike's connectionism theory grounded in the stimulus-response framework of behavioral psychology (Thorndike, 1922). There are three primary laws governing the constructs of this theory: (a) law of effect – responses to a situation that are rewarding, (b) law of readiness – ability to chain responses for an ultimate goal, and (c) law of exercise – connections become strengthened through reward and chaining of responses (Thorndike, 1922). Research studies have both provided evidence supporting and debating whether the theory of transfer exists or if transfer of learning occurs (Perkins & Salomon, 1992). Regardless, considering the potential applications of near transfer, closely connected situations and performances, and far transfer, different situations and performances, seems to be a pertinent and applicable concept for education today.

Reflect for one moment how the advancement of electronic tools over the past century has transformed all aspects of human interactions. The social and cultural connections caused by the network influence of the Internet have changed how humans define literacy and communicate in daily lives. Mankind's advancements of new innovations and continuing

inventions provide evidence and support that transference of ideas exists as a tangible component of what it means to have learned and transferred those ideas to new related or unrelated contextual situations. The evidence of transference is reflected in the historical mirror of human advancement through its many technological developments.

Transfer is rare (Detterman, 1996) and does not happen automatically through all learning situations for all learners (Sternberg & Frensch, 1996). Yet, according to Perkins and Saloman (1992), the idea of transfer seems to be implied in most educational theories, instructional methodologies, and philosophies of education. If educators teach this, then students will be able to do "whatever." Quantifiably, research sustains the idea that the reciprocal act of instruction and student learning is the backbone of the classroom-learning environment (Detterman & Sternberg, 1996; Graham & Harris, 1989; Hillocks, 2007). However, Perkins and Salomon (1992) and Costa and Kalick (2008) suggest, traditional instructional processes work against both automatic and mindful transfer.

An important conclusion from research is that effective transfer needs an adequate amount of original learning (Detterman & Sternberg, 1996; Perkins & Salomon, 1992; Sternberg & Frensch, 1996). Also, individual mindset, encoding of information, organization of learning in the mind and memory, along with individual recall and discrimination abilities are important mechanisms for transfer to occur (Sternberg & Frensch, 1996). The lack of time has always been an issue as a barrier in the educational setting and claims about "transfer failure" has been linked to insufficient opportunities for people to learn (Littlefield, Lever, Bransford, Clayton, & Franks, 1988). In response to this quandary, Perkins and Salomon (1988) suggest instructional strategies of hugging and bridging can promote transfer. Hugging recommends instruction directly engage the learners in similar situations to the performances desired and are recognized as near transfer.

Bridging encourages learners to make connections, implement mindfulness, and apply metacognition of abstract context. Using an online writing platform with elementary students may be one tool that enhances the idea of hugging and bridging for developing writers as discussed by Perkins and Salomon (1988).

One important benefit the theory of transfer research offers to education is that there is value for and an apparent opportunity within the framework for different kinds of learning experiences (Perkins & Salomon, 1992). Different kinds of learning experiences can look identical given tests of memory; yet, these same learning experiences may look quite different on tests of transfer. A certain learning experience may look good or poor contingent on the testing situation (Bransford & Schwartz, 2001). Measures of transfer, however, provide an especially important way to evaluate educational success as individuals' progress into adulthood and real world situations of learned application (Salomon & Perkins, 1988). As an educator, measuring transference of learning is often difficult. One reason may be that evidence of transference occurs as students mature and as career orientation develops throughout adulthood of individual lives. The theory suggests students draw from their learning experiences, family values, social and cultural influences, and personal interests to guide them in their career choices (Salomon & Perkins, 1992). Transference is much like lifelong learning – it exists in the evidence of personal growth and change. As a fluid part of an individual's life, transference seems to have no ending. Maybe that explains why controversy of its existence permeates scholarly research.

Researchers Perkins and Salomon (1992) outline observable elements of transference. First, there are five conditions needed for transfer to occur: (a) thorough and diverse practice, (b) explicit abstraction, (c) active self-monitoring, (d) arousal of mindfulness, and (e) ability to use metaphors and analogies. Second, mechanisms of transfer psychological paths are identified as

essential components or prerequisites needed for transfer to occur for the learner. For example, the learner needs to be able to analyze and synthesize similarities among abstract elements in various contexts. Another component needed is transfer of affordance. Transfer of affordance occurs during the preliminary learning experience, the student acquires an action schema reactive to the learning situation. Finally, the high road transfer uses mindful abstractions that connect old learning to new unrelated situations utilizing application and synthesis process skills; while the low road transfer requires the learner to use reflective processes of closely related tasks. The low road and the high road are not necessarily separate from each other; they can work together. Perkins and Saloman (1992) suggested that connections can occur reflectively while others are pursued through thought. Only in principle are the low and high road of transfer distinct.

Earlier transfer theory frameworks in psychological studies have focused on a binary researchers' perspective of, "defining/identifying some common similarity across two tasks and then seeking evidence (or lack thereof) for transfer" (Royer, Mestre, & Defresne, 2005, p. xvii). Researchers following Thorndike and his studies of transfer including Beach (1999), Bransford and Schwartz (2001), Dyson (1999), Greeno, Smith, and Moore (1993), Lave (1888), Lave and Wenger (1991), expanded the traditional ideas of transference to include intervening influences that may inspire or effect individuals to apply prior learning in the process of transfer. Royer, Mestre, and Defresne (2005) suggest that understanding the factors that influence individuals' productive and unproductive transfer is more important for educational purposes because then "one can begin to think about instructional strategies that may be more conducive toward fostering productive transfer" (p. xvii). For this study, examining the online and offline writing platforms for possible effect or no effect may add to the current research in the area of writing and transference.

Consider Lobato's (2003) proposal of an "actor-oriented" model for studying transfer. In this model, Lobato suggests success or failure of transfer is irrelevant. The importance of investigating transfer is to understand how learners connect earlier learning in previous settings to new situations they encounter. Three specific differences notably exist between the traditional views of transfer of earlier researchers as compared to later researchers' interpretation of "actor-oriented" transfer. First, the perspective of traditional transfer occurs from the observer or expert's perspective compared to the learner's perspective of the "actor-oriented" transfer viewpoint. Second, the traditional approach of transfer examines what was obtained and what was facilitated during transfer. On the contrary, an "actor-oriented" transfer perspective examines what relationships were created and how those relationships were supported by the environment. Third, the "actor-oriented" model acknowledges that transfer is disseminated across, material, mental, cultural, and social dimensions of everyday life (Lobato, 2003).

Sociocultural Theory

The sociocultural theory searches to recognize how culturally and historically positioned meanings are created, rebuilt, and changed through social negotiations of human activity (Moll & Greenberg, 1990; Vygotsky, 1978; Wertsch, 1985, 1998). Sociocultural theory maintains actions are situated in tangible nearby relations that are simultaneously unplanned and facilitated by manufactured, historically provided apparatuses, and practices. Both Vygotsky and Dewey based their arguments of social and cultural influences in education on the premise that tools used in everyday life are social realities that influence learning naturally within the structured layers of society (Shultz, 1967) and culture (MacArthur et al. 2006). Seymour Papert, a professor at the Massachusetts Institute of Technology (MIT) and leading supporter of project-based learning, commented that if John Dewey had had modern computerized technology to launch his

theory of inquiry teaching, educators may have been more accepting of his ideas (Edutopia, 2001). Initially, with the introduction of electronic technology, laptops, and software products, research began through the lens of a constructivist learning approach. However, today sociocultural theory permeates collaborative social networking.

The sociocultural theory has been influenced and grown out of three collaborative traditions of thought: Marxism, pragmatics, and phenomenology (Prior, 2006). Each of these tenets combine key points while seeking to understand historical connections of human activity in everyday situations of living engrained in the artifacts of time. The fundamental themes the three traditions reflect upon include: (a) human thought and action are not comprehensible in terms of abstract universals, nor necessarily ruled by them, (b) the everyday world in which humans interact is historically rich and is continuously intertwined to the present and future, and (c) humans seek to intentionally grasp an understanding of the political and religious philosophies by concentrating on how people are socialized into cultural awareness, thought, and action (Prior, 2006). The sociocultural principle is identifiable in a number of other study overviews (Bruner, 1996; Cole, 1996; Gee, 2000, 2003; Goodwin & Duranti, 1992; Rogoff, 2003) signifying a deep reflective position and dependability of the conceptualization of the sociocultural theory and its relationship to 21st century writing platforms of the Internet (Prior, 2006).

Writing, according to the sociocultural perspective, is an inventive process of dialogue where texts are "artifacts-in-activity" (Prior, 2006, p. 58). The act of writing, as argued by researchers supporting sociocultural theory is not merely for communication purposes, but writing is a structure of social interaction (Flower & Hayes, 1981; MacArthur et al. 2006; Prior, 2006). Shultz' (1967) contemporary worldviews described division among the different facets

applied to daily living. These divisions can encompass face-to-face or distance productions of interactions between communications and productions of various written expression. Thus, even though the functions of writing may vary across settings, the written word is intended to be distributed and mediated by others. Consequently, the lens of sociocultural theory provides a perspective of writing as an action of socialization and cultural influences of the era.

The art of writing is not an isolated form of communication; it is an intentional social action dependent upon human interaction. Vygotsky (1978) describes learning as entrenched within social happenings and naturally occurring as children relate and interact with people, objects, and events in their surroundings. The two aspects of the Vygotskian approach of social learning unite the reciprocal cultural influences of individual's pragmatics of writing and the concept of the zone of proximal development (ZPD) (Vygotsky, 1978). The Scaffolding, hints or clues for problem solving of language, are also important principles of Vygotsky's sociocultural perspective. Scaffolding offers encouragement and strategies for improvement in writing activities. The pragmatics and development of language is fundamental to the sociocultural theory. Language needs a messenger and a receiver to develop comprehension and processing of communication skills in all levels of written and verbal expression. Vygotsky also viewed self-directed speech (think aloud) as self-directed regulation and communication important for comprehension and understanding of language and meaning of messages (Vygotsky, 1978; Woolfolk-Hoy, 2005). Research framed by the sociocultural theory has provided insight into the intricate roles and influences that social interaction, negotiation, and collaboration yield in learning and developmental processes of written expression and communication skills.

Social Trends and Cultural Influences

New Literacy and Writing Platforms

Students today seem to be swirling in a time warp literacy whirlpool, trapped between 100 year old literacy traditions inside of school, while outside of school cyberspace resounds as the communicative and literary devices of choice. Learners must be able to develop literacy skills that cross the centuries including conventional forms of literacy and communication of textbooks, newspapers, television, paper and pencil writing, landline telephones, word processors, and Internet. According to the Partnership for the Twenty-first Century Skills (2004), a program supported by the United States Department of Education, a gap exists in skills acquired in schools and skills needed in the workplace. Literacy today must incorporate the networked world with its benefits and confines in the areas of time used, data availability, size and scope of the accessible platforms, global connection, and audience experience available to learners of all ages on the continuum of digital technology.

The digital conversion within the schools has been an extremely slow and often misguided transition (Richardson, 2010). One explanation for the slow conversion process may be tied to the "digital disconnect" which refers to the absence of older teacher and parent generation's lack of experience with networked environments when they grew up to that of the youth of the 21st century (National Writing Project, 2010). A survey conducted by Levin, Arafeh, Lenhart, and Rainie in 2002 involving 3,000 public school students identified the existence of the digital disconnect within the schools (Pew Internet and American Life Project, 2002). Another factor contributing to the slow transition, especially of online social networks and computer-assisted instruction (CAI), is that unlike other learning tools in the classroom, they are vulnerable to outside influences beyond the teachers' control and governance. Students often have home

experience in the use of the Internet outside of school which may generally occur without adult supervision and often the home devices may lack proper security filter systems. Hence, the risk of unsafe social situations and conflicts has had to be addressed in the classroom; this process of identifying responsibilities social media use is called digital citizenship. Some situations that have led to this concern include: (a) pornography popups and inappropriate access to information and unacceptable language, (b) sexual predator and abduction issues, (c) cyber bullying, (d) vulnerability of personal and private issues revealed publicly, and (e) copyright and plagiarism issues. Consequently, schools are required by the *Child Internet Protection Act* (CIPA) to have a filter security system in place to protect minors when online (Federal Communication System Consumer and Government Affairs Bureau, 2003).

At first, in an effort to avoid conflict and problems, districts addressed these problems by blocking Weblog hosting sites like Blogster.com, Xanga.com, MySpace.com, and Facebook.com. Blocking access to the Web 2.0 tools did not eliminate inappropriate site access or popups during student or teacher usage. These occurrences of inappropriate media connections contributed to the validation of teachers' concerns and caused many teachers to avoid using the Web 2.0 tools or other online resources in the classroom. However, Internet safety is a 21st century reality children face in their everyday lives in and out of school. Ultimately, schools have a responsibility to protect students' privacies and secure their safety from harmful sites. At the same time no Internet filtering system is 100% secure. Therefore, it is important that schools maintain an effective filtering system and implement digital citizenship as part of the instructional curriculum, essential when preparing responsible digital users at home, work, and school (Greenhow, Robelia, & Hughes, 2009).

As schools implement digital literacy as part of the curriculum, the teaching of social responsibility, hereafter referred to as digital citizenship, must accompany the instruction and use of the digital tools especially when using online access (John & Wheeler, 2008; National Writing Project, 2010; Richardson, 2010). Initially, this component of technology usage was not clearly implemented and was often overlooked due to lack of forethought, time, and the practice of blocking or filtering Web sites with security filtering systems like Lightspeed. However, digital citizenship has become an important component of not only the classroom, but also society because cyberspace is an everyday aspect of life (Ribble & Bailey, 2007). Students are always connected to some form of collaborative social network through instant messaging (IM), texting, Twitter, My Space, or Blogging. These social network sites allow students to be "always on" (Richardson, 2010, p.5). For this reason digital citizenship becomes even more of necessity of our society and future leaders of global affairs as depicted in Figure 1.

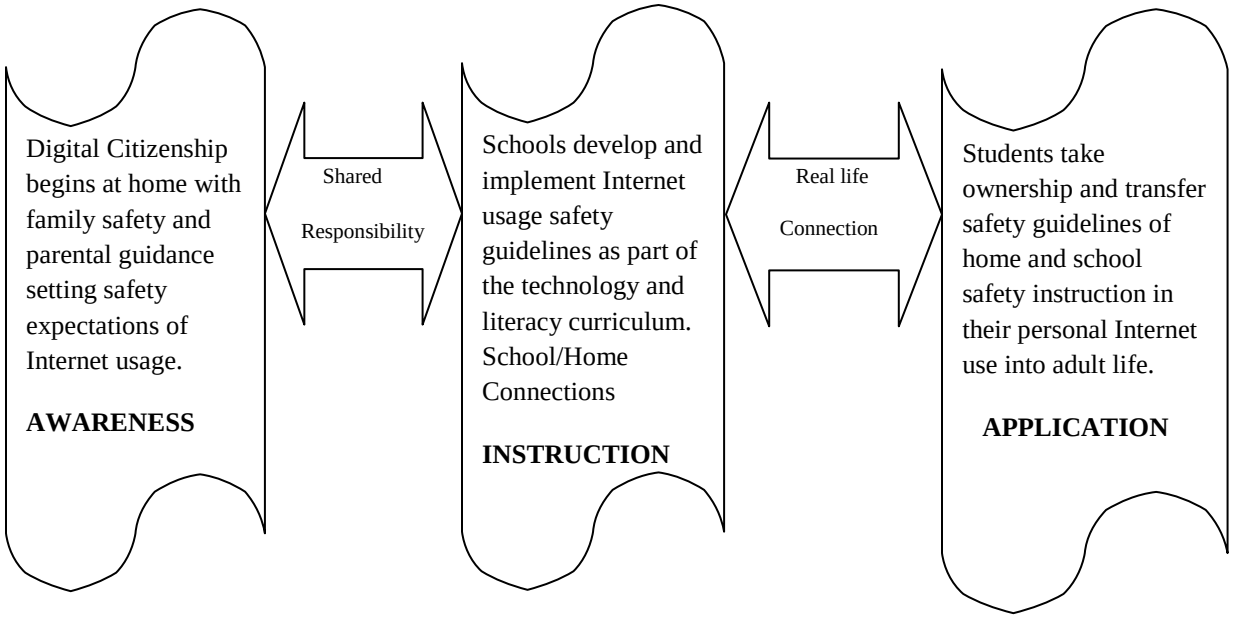


Figure 1. Digital Citizenship: A shared responsibility transferring to student ownership.

Figure 1 depicts a graphic representation created by the researcher reflective of the transfer of learning theory principles. According to Ribble and Bailey (2007) digital citizenship is comprised of nine essential elements:

1. Digital Access: participation in a socially connected environment connect to Internet
2. Digital Communication: exchanging information electronically
3. Digital Literacy: development of skills and knowledge on how and when to use digital technology
4. Digital Etiquette: application of proper usage conduct considered as standard and acceptable among all socially network participants
5. Digital Commerce: knowledge of use of how to buy and sell goods on line
6. Digital Law: understanding and knowledge of legal rights and restrictions regulating technology use
7. Digital Rights and Responsibilities: understanding the freedoms and rights of all users, and appropriate behavioral conduct that is expected when using the digital platforms
8. Digital Health and Wellness: understanding the responsibility to use appropriate elements of physical and psychological well-being in a public digital forum
9. Digital Security: application of necessary precautions for all users to creating a personally safe and secure network access

Comparing Offline to Online Writing Platforms

Society is moving away from passive writing platforms of paper and pencil and other offline computerized word processors with closed software programs and navigating toward open source and online software programs incorporating digital writing platforms of Web 2.0

tools. According to Heidi Hayes Jacob (2010), during the early years of computer education and instructional practices, elementary grade instruction mostly focused on which buttons to push. By pushing the appropriate buttons on the keyboard, students could access software functions to produce a written or graphic text as directed by an outlined integrated technology curriculum program or activity implemented and guided by the teacher. The audience was limited, and instruction was teacher-centered. However, with the inception of online Web 2.0 tools, writing is being transformed in a new era of entrepreneur authorship creating opportunities for writers of all ages to publish their written compositions and ideas.

According to Wilmarth (2010), the network tool or software is not the focus of the learning; the emphasis should be placed upon the relationships and interaction of the communication among the learners. A positive aspect of word processing and desktop publishing was that it provided easily accessible tools that helped writers create texts that were much more polished in design than that of the digital platforms of Web 2.0 tools (National Writing Project, 2010). Impressively however, Tyson (2010) stated in the book *Curriculum 21 Essential Education for a Changing World*, "For the first time in history, our students have the capacity to produce high-quality products that rival those of professional production companies" (p. 126).

It is important to delineate between computerized writing and digital writing connotations. Consequently, the greatest variance from desktop to web is the mode of distribution for publication (National Writing Project, 2010). Computerized writing is often associated with and defined as writing using a word processor and a keyboard. Conversely, digital writing is defined as, "compositions created with, and oftentimes for reading or viewing on, a computer or other device connected to the Internet" (National Writing Project, 2010). In digital writing the audience is multi-leveled and multidimensional and the anticipation of a

response is expected immediately, while the offline computerized audience is one dimensional and similar to paper and pencil. The audience is often limited to the teacher, the class, or a specific entity, or organization.

The digital writing created by online writing tools such as Wikis, Weblogs, Twitter, Social Bookmarking, Real Simple Syndication (RSS), Audio/Video Casting, Online Photo Galleries, and Social Networking Sites (i.e., Facebook and Ning.com) are important writing platforms in the daily lives of people and demonstrate academic potential for the modern classroom. According to Jenkins, Clinton, Purushotma, Robison, Weigel, and the John and Catherine T. MacArthur Foundation (2006) the new media literacies of the 21st Century support and demand a highly participatory culture unlike the Web 1.0 which was basically classified as a read only web–and used as informational access tool. The "new" Web 2.0 has opened an arena to a Read/Write Web (Richardson, 2010). Jenkins et al. (2006) stated:

> Participatory culture shifts the focus of literacy from one individual expression to community involvement. The new literacies almost all involve social skills developed through collaboration and network. These skills build on the foundation of traditional literacy, research skills, technical skills, and critical analysis skills taught in the classroom. (p. 4)

Obviously, Web 2.0 writing platforms have the potential to incorporate a synergetic relationship of reading and writing in a culturally effective format for the million plus youth who utilize these technology tools daily. Even though the Web is constantly changing with new tools emerging, the incorporation of these tools into the classrooms will remain an important component of modern education meeting the need for modern collaborative learning (Richardson, 2010). Currently, there are limitless Internet tools, including many different weblog sites, which can

easily be incorporated in classroom settings for educational purposes. However, the focus of this literature review is geared toward educational weblogs for elementary children.

Weblogs

Weblogs commonly referred to as blogs (John & Wheeler, 2008; National Writing Project, 2010; Richards 2010; Wysocki et al. 2004) are one of the many tools that teachers and students can access in and out of school collaboratively that have potential to enhance literacy skills for our youth (Richardson, 2010). Weblogs are the most widely used tool of the Read/Write Web and are already being incorporated in classrooms across the country by thousands of teachers (Richardson, 2010). Blogs use an easy access interface incorporating opportunities for feedback, dialog, and conversation. According to Hashemi and Najafi (2011) most blog users agree that it is easy to create, link to other files, and update written communication. Blogs are often used as a personal journal. They allow authors (students) to publish instantly to the Internet, and readers can instantly write comments and engage in discussions about the topic posted online. Blogs are primarily text oriented. However, they can include videos, charts, graphs, hyperlinks, photos, and podcasts (Solomon & Schrum, 2010). There are many public blogs online; however, for educational purposes at the elementary level, using an education friendly weblog is suggested for security reasons. Some content management systems with internal blogging abilities that are specifically designed for education include: Gaggle (www.gaggle.net), Class Blogmeister (www.classblogmeister.com), ePals (www.epals.com), 21Classes (www.21.classes.com), and Kidblog© (www.kidbog.com). Kidblog is specifically designed for elementary and middle school students (Solomon & Schrum, 2010). For this reason Kidblog© has been chosen as the writing platform for this study.

Blogs create an awareness of audience that is not always easily conveyed in traditional writing compositions within the confines of a classroom. Blogs have demonstrated powerful influences in social issues. For example, the open forum of blogs during the 2008 and 2012 presidential races and elections created a connective allegiance of opinion polling and has been identified by news media and political experts as an important media to inform and persuade voters prior to making final decisions. In the classroom, educators have identified blogs as being a useful writing tool for students (Solomon & Schrum, 2010). They offer students a place to display their writing publicly to a live audience, some being peers. Students post ideas, learn to critically read and write responses, and use written language effectively. "Readers develop analytical skills and writers learn to be better writers and communicators" (Solomon & Schrum, 2010, p. 19). Blogging is similar to journaling but a profound difference is found in an authentic audience online versus writing for classroom peers or the teacher. According to a survey conducted by the National Commission on Writing in 2008, teens stated that they are motivated to write when: (a) they can select topics that are related to their lives, (b) topics are of interest, (c) they can write creatively, (d) immediate and detailed feedback is given by teachers or other adults, and (e) they can write for an audience (Pew Internet & American Life Project, 2008).

Audience awareness is an abstract and difficult concept for emergent writers to comprehend (Lapp, Shea, & Wolsey (2011). Often young writers choose to report an experience briefly and basically without respect for the intended reader, readers' interaction, or perspective mostly due to developmental maturity. On the other hand, an experienced or expert writer demonstrates an awareness of and an understanding of the importance of an audience (Ede & Lunsford, 1984). As concluded by a case study conducted by Lapp et al. (2011), implementing a blog in a second grade class demonstrated an increased awareness of audience and self-reflection

of writing skills. With the increased audience awareness, there was an overall sense among the children that their writings could be improved upon. Most of the students were able to provide effective feedback to their classmates and self-editing motivation and performance increased among the students to revise and edit their own writing. The researchers related this effective feedback and increased motivation to the near-immediate peer feedback received from the blog feedback. There seemed to be some evidence that the awareness of audience also transferred to unpublished work of the second grade students.

If Web 2.0 tools would have existed during the time of early philosophers and psychologists like, Jerome Bruner, Jean Piaget, and Lev Vygotsky, the researcher of this study believes they would have embraced the weblog platform as an irrepressible arena for social learning experiences. The ideals of learning put forth by these pioneers maintained that certain elements were needed in a learning environment to promote scholarship. Learning conditions needed within the learning environment included the need for the learner to experience: (a) reinforcement and feedback, (b) connectivity, (c) active engagement, and (d) personal connection (Bruner, 1996; Dewey, 1938; Emig, 1977; Vygotsky; 1978). John Dewey (1915) addressed social and cultural issues germane to modern learning attitudes in existence today in his book entitled, *The School and Society & the Child and the Curriculum*. Dewey stated:

> From the standpoint of the child, the great waste in the school comes from his inability to utilize the experiences he gets outside of school in any complete and free way within the school itself; while, on the other hand, he is unable to apply in daily life what he is learning in school. That is the isolation of the school – its isolation from life. (p. 46)

As referenced throughout this chapter, examinations of how children learn today continues to reinforce the importance that exists for learners to be able to connect meaningful

school experiences to social and cultural application used and valued outside of the four walls of school (Costa & Kallick, 2008; Jacob, 2010; MacArthur et al. 2010; Solomon & Schrum, 2010; Tapscott, 1998). The difference appears to be what constitutes effective learning tools for the era and social development of the society. For example, several important attributes are associated with blogging and other Web 2.0 tools used in the classroom. First, students are actively engaged in reciprocal actions of reading and writing in a format similar to what they use outside of school. Another attribute of the Web 2.0 tools is the ability to incorporate images, which can enhance comprehension. Finally, students have the ability to engage in conversation with an opportunity to state ideas in words through writing and reading simultaneously (Emig, 1977). These writing and communication platforms make learning personal, collaborative, social, and more meaningful for individual learners (Greenhow, et al. 2009).

The use of blogs and other social network platforms of Web 2.0 transverse the domains of learning frameworks including: behaviorism, cognitivism, constructivism, and the sociocultural perspective (Crook, 2008). Since blogs are a social and cultural component of modern communication among all ages, there exists a natural inclination of interest in its use, especially among the youth according to the American Life Project research report Pew Internet (Lenhart, Arafeh, Smith, & Macgill, 2008). Interest levels have repeatedly been found in research as a positive and powerful influence on learning and academic achievement (Hidi & Renninger, 2006). However, one misconception of interpretation has been associated with interest research studies, especially those associated with vocational studies; if no interest in an activity is found, then it is determined that it cannot develop (Hidi & Renninger, 2006). Arguably, most of the interest studies merely record the existence of interest; they do not identify

the how or why interests may develop or be encouraged over time or from situation to situation (Hidi & Renninger, 2006).

Social and Cultural Divide

There is a cultural and social divide when it comes to writing tools young people use in their everyday lives compared to what they use in the classroom. Writing today is digital, written with digital tools, and disseminated in digital environments consumed across a wide range of digital platforms (National Writing Project, 2010). American students today use digital social media to communicate in their everyday life (Greenhow et al. 2009). According to the research conducted by the National Writing Project (2010), cultural and social shifts of writing tools have a direct impact on educational practices and pedagogies for writing today (DeVoss et al., 2010). Writing instruction, assessment, and teacher guidance and modeling remain important components for teaching writing in our schools. However, the most effective writing environment is no longer an isolated author with a pen or pencil in hand composing words on paper sitting in neatly arranged rows in a classroom. Paper, pencil, and the word processor are writing tools used today, however social digital media tools need to be included as a seamless ingredient of the in-school writing instruction and assessment.

A three-year ethnographic study reported in the Digital Youth Project looked at young people and digital media. It supported the notion that young people are always engaged in multipurpose and highly participatory relationships with digital media connected to a known audience, "always on" (Ito, Bittanti, Boyd, Herr-Stephenson, Lange, Pasco, et al. 2008). Schools, in contrast, are seriously not tuned-in and connected (National Writing Project, 2010). According to a survey report from the Pew Research Center's Internet & American Life Project (2010) about 93% of today's teens, ages 12-17, are online. This number has remained stable since

November 2006. According to this study, since 2006 blogging has decreased among teens and young adults. According to the 800 adolescents between the ages of 12 and 17 surveyed in 2009, 14% reported they blog. This is a 28% decline of teen Internet users reported in 2006. This drop was similar to a lower incidence of teens commenting on blogs within social networking websites; 52% reported they comment on friends' blogs in 2009. This is reflective of a downward trend from the 2006 survey of 76%. Interestingly, 73% of American teens use some form of social networking website. This is reflective of a significant increase from 2006 when 55% of teens reported they used social networking. Both adult and teen interactions with social networking sites have risen significantly. However, definite trends and shifts are occurring in the social networks of choice. The trend adjustments may be developing due to the increased ownership of cell phones among teens with 75% of American teens ages 12-17 owning cell phones. In 2004, 18% of 12-year olds owned a cell phone compared to the 2009 survey where 58% of the 12-year olds owned a cell phone. Researchers of the Pew Internet Center suggested, "as the tools and technology embedded in social networking sites change, the use of the sites continue to grow, the youth may be exchanging macro-blogging (online social media platforms) for microblogging (personal devices, i.e., cell phones) with status updates" (p. 2). Brown, Slagtervan Tryon (2010) suggested youthful social media is shifting to broader media platforms.

Social Networks: Harnessing Real Life Instruction

More than ever, social community groups need to seek out new understanding of opportunities, challenges, and barriers that inhibit educators, administrators, students, and families from connecting to the social network for instructional purposes. Historically, change within the structure of the educational setting has been extremely slow compared to societal change due to cultural and social barriers that exist between the generations. For instance, in the

classroom teachers continue to resist using technology as an integral component of curriculum and instruction (Leonard, Davis, & Sidler, 2005). Some reasons for this resistance include: (a) lack of availability to computers and equipment, (b) teacher's personal beliefs and pedagogy, (c) knowledge limitations of technology and content, (d) comfort level using technology, (e) lack of technician support, (f) high stake testing accountability stressors, (g) lack of effective professional development, and (h) time constraints to develop effective lessons using technology beyond presentation, demonstration, and drill and practice (Baek, 2008; Hofer & Swan, 2006; McDonald & Gibbons, 2009; Palak & Walls, 2009). However, as the digital disconnect among educators and learners decreases, the implementation of social network devices promises to become common practice in the schools. Adults will continually be more connected to social media as tools become more affordable and accessible on mobile devices. The Net Gen (Tapscott, 1998) is entering into the work arena of education and bringing their digital skills into the classroom as they become future educational leaders.

Web-based learning poses challenges within the student population. For example, web-based learning has experienced issues and difficulty in meeting the needs of different learning styles and learning environments of the educational systems' diverse population of learners (Wang, Wang, Wang, & Huang, 2006). According to Harryson, Svensk, and Johansson (2004), some common characteristics that cause technological challenges for people with physical and learning disabilities, cultural differences, or ELL learners include: (a) difficulties in entering text in search engine boxes and browser web address bars, (b) difficulties in choosing information from a great amount of text, and (c) difficulties in comprehending the text due to deficiencies in reading skill.

Software companies are addressing many of the technology issues mentioned in the preceding paragraph that may challenge people with handicaps and limit equal access to advanced technologies used in education and communication. For example, new iPhones are available with voice activated systems to replace or enhance touch screens. Also, Web 2.0 technologies such as Voice Thread and Screen Toaster incorporate voice recording options, instead of text only options.

A study conducted by Englert, Wu, and Zhao in 1996 using the Web-based software, Technology-Enhanced Learning Environments on the Web (TELE-Web), compared writing performances of 12 children with learning disabilities (LD) in grades four and five using paper and pencil and computer supported writing with and without a program design of remediation (voice-to-text prompts) and scaffolding (Englert, Wu, & Zhao, 2005). The results of the two-month study demonstrated that while overall structural production was not affected, the children identified with LD included more details related to their topics and organized their compositions with an introduction, body, and conclusion. The study did not include a comparison of student retention rates or transferability of writing skills into other content areas. Reasonably, technology may have the potential to enhance writing performances of students having specific learning disabilities by: (a) providing students with organizational framing for sequencing prompts easing the cognitive demands of writing, (b) providing remediation through voice-to-text speech or textual prompting for spelling and questioning prompts, and (c) providing on-line supports.

Educational research has contributed to breaking down the barriers associated with the inability to connect effective instructional practices with social networks. As new technologies, websites, and mobile devices emerge and continue to change, they promise to challenge the traditional delineations of literacy while simultaneously and naturally transforming the delivery

platforms and medians of future tools used in education, writing, reading, arithmetic, and communication production inside and outside the classroom walls. Research indicates teachers are the greatest determinant the transition to new writing platforms and technological success in the classroom (Baek, 2008; Hofer & Swan, 2006; McDonald & Gibbons, 2009; Palak & Walls, 2009). Research consistently supports the contention that effective instruction delivery has a direct impact on students' learning (Dewey, 1915, 1938; Engelmann, 2007) and it continues to be so with the infusion and blending of technology into the curriculum (Harris, Mishra, & Koehler, 2009; Mishra & Koehler, 2006; Spence, 2009).

Motivation: Writing, Technology, and Achievement

Writing Research and Motivation

During the past two and a half decades, the psychological concepts of motivation and theoretical views of writing have become deeply entrenched in the frameworks in which writing is a meaningful authentic activity (MacArthur et al. 2006). Reflecting upon Bandura's social cognitive learning theory, Green and Piel (2010) suggested the structure of the theory is limited in its consideration of age and developmental differences among learners. However, it does acknowledge observational learning of the novice learner without shaping and reinforcement, cognitive development on behavioral achievement and performance, and the relations of the mind and society; the motivational component of Bandura's theory is contained within the performance phase (Green & Piel, 2010). Performance driven motivation, however, appears to be more prominent for children under the fourth-grade level according to a longitudinal study conducted by Kinlaw and Kurtz-Costes (2007). Nonetheless, the definition of the social cognitive theory contains, "wanting to" do the task at hand (Green & Piel, 2010). So whether a student wants to do the activity (perform) or solve the pattern through application, synthesis, or

evaluation (learning), the prerequisite skill to engage in any activity, including writing, is motivation.

Motivational research related to writing began in the late 1980s. Earlier writing research focused on the cognitive domain of writing (Hidi & Boscolo., 2006). For example, the early cognitive model of the writing process introduced by Hayes and Flower (1980) looked at motivation only as a component of the writing-task environment. In this instance, the teacher set the writing expectation and provided stern encouragement to take the writing task seriously. Hayes and Flower (1980) set a new direction for future writing research implicitly in the area of motivational and affective aspects of the writing process. These studies highlighted the complexities and difficulty of the writing process by introducing metacognitive dimensions associated with writing. Research and revision of the writing process conducted by Hayes (1980) include motivational components as important variables of writing. Bruning and Horn (2000) claimed nurturing students' positive beliefs about writing, developing genuine writing goals and situations, supplying students with a supportive environment for writing, and establishing an encouraging classroom atmosphere are conditions that determine students' motivation to write. Their position reinforces the importance of student self-beliefs about writing abilities and indicates instructional and environmental influences play an important role in the sustainability of students' writing motivation and performance.

Hashemi and Najafi (2011) conducted a survey involving 60 Iranian English translation and literature students in an advanced English Writing course. Interestingly, about 80% of the surveyed Iranian students had never heard of blogging, and only two of the students had previously participated on a weblog. This is an example of cultural and societal influences. After participating in blogging every week for one semester, the students were asked to respond to a

self-reflective survey. The questionnaire revealed that all who blogged felt that blogging was an enjoyable project. When participants were asked what they had learned from their blogging interaction, the responses included that they: (a) learned from their classmates, (b) were motivated by the comments and responses to their blogs, (c) increased personal vocabulary development, (d) thought their personal writing skills had improved, and (e) felt that blogging was time consuming. Overall, the researchers concluded the Weblog was a useful tool promoting motivation and self-confidence among the writers (Hashemi & Najafi, 2011).

An important component of Bandura's theory includes self-efficacy, personal belief about one's capabilities to learn. Bandura, Caprara, Barbaranelli, Gerbino, and Patorelli (2003) stated, "Perceived self-efficacy plays a pivotal role in this process of self-management because it affects actions not only directly but also through its impact on cognitive, motivational, decisional, and affective determinates" (p. 769). Prior to reaching the age of adolescence, younger students have short-term motivation. Conversely, with age, maturity, and development of interests and goals comes the ability to sustain long-term motivation (Schunk, 2008). Student perception of self and environment, persistence in engaging in thinking and performance tasks, and goal oriented behaviors are basic characteristics that are prominent in individuals with high levels of motivation across age levels (Hadre, Davis, & Sullivan, 2008; Wolters, 2004). Motivation in general, matures with the individual's wants, desires, and needs. However, it is continually adjusting to age-appropriate environmental situations, interpersonal and intrapersonal experiences, and emotional states. All of these affective components play a role student's writing performances.

Zsolnai (2002) conducted a survey of 438 Hungarian students in 6^{th} and 10^{th} grades to measure the importance or presence of social competence, learning motivation, and school

achievement. To measure the students' learning motivation Zsolnai (2002) used the Motive to Learn Questionnaire (MLQ). The data collected suggest motivation to learn of sixth-graders is more affected and influenced positively by parent, teacher, and peer motivation when compared to motivation to learn of the tenth graders. These results tend to support the notion that schools, teachers, and parents impact student motivation to learn in younger grades and may promote the development of intrinsic motivation in learners as they get older and mature (Zsolnai, 2002).

Limited research studies have been conducted in the area of writing motivation (Hidi, Berndorff, & Ainley, 2002). However, there are many studies related to reading and motivation to read. Nolan (2003) suggested writers, in contrast to readers, produce texts rather than merely consume script. In other words, writers must generate ideas based on prior knowledge about a given topic applying metacognitive strategies. In addition, students are faced with the challenges of the writing task's complexity, writing independently, and staying persistently on task often without feedback with the expectation of maintaining a sustained effort in the writing assignment (Hidi & Boscolo, 2006). These characteristics reflect the processing skills needed and used in the act of writing that can adversely affect writers' motivation. Motivating students to write may well be teachers' greatest challenge in the classroom.

The Role of Motivation: Learning and Writing

Parents play an important part in students' motivational development in the early preschool and elementary years. However, the teacher and classroom's social environment can actually increase or decrease motivational desires as students' progress through the upper grade levels (Harde, Kendrick, Davis, & Sullivan, 2008). Educators and researchers recognize motivation as being crucial for academic engagement and achievement. Effective teachers, according to McCombs, Daniels, and Perry (2008) are aware of four domains that affect

learning, development, and motivation. Those four domains include: (a) cognitive and metacognition, (b) motivation and affective roles of emotion, (c) development and social factors, and (d) individual differences. Teachers often state that children are not motivated today. On the contrary, children are always motivated, but the need, want, or desire they are focused upon may not be the same motivation that the teacher has in mind (Seifert, 2004; Turner & Patrick, 2008; Zsolnai, 2002). It is not always clear how to produce, develop, or influence motivation every day for every student in the classroom to learn, and this is compounded in a classroom writing environment.

Developing writing proficiency among young learners has been a daunting task for teachers. Writing requires the ability to multi-task and process abstract mental ideas, feelings, and images into concrete written expressions of words in print that clearly convey a message. Graves (1983) suggested that writing is stifled when children enter formal schooling because, "we ignore the child's urge to show what he knows" (p. 3) and expect him/her to conform to our interpretation of "how to" construct written expression within a structured writing pattern, format, and step-by-step process. Educators take away the child's sense of control of his/her communicative abilities and place unnecessary confines in the way of the child's communicative objectives (Graves, 1983). Thus, teachers unintentionally send a message that the way the child writes is wrong; the teacher's way is right. Since young children tend to be "teacher pleasers," they begin to focus on the organization of the writing process or structured writing pattern instead of the communication or message aspect of writing. As a result, the child's motivation has been displaced, and writing lacks meaningful purpose.

Research continues to suggest that even though other styles of writing evaluation and instruction are encouraged across the grade levels, such as teacher and peer interaction, students

continue to lack motivation to produce quality writing (Dutro, Kazemi, & Balf, 2006). On the contrary, other researchers suggest that the interaction with peers does have a positive outcome in learning. Turner and Patrick (2008) found in their study that, "participation changes as beliefs develop and change in concert with opportunities are made available to, or required of students by other class participants" (p. 120). Simply stated, the social aspect of peer interaction, not the teacher, may have a greater influence on an individual or whole group's motivational level in academic performance and learning (Turner & Patrick, 2008).

Research has established motivation as a key component that enhances students' academic success and achievement on standardized assessments (Baek, 2008; Chen, 2008; Dewey, 1938; Hofer & Swan, 2006; Keengewe & Anyanwu, 2007; Keengewe, Onchwari, & Wacharia, 2008; McComb, Daniels, & Perry, 2008; Palak & Walls, 2009; Wang et al. 2006; Zsolnai, 2002). Accordingly, the use of computerized technology has been strongly supported by researchers to be an effective tool to motivate student performance and academic success (Seifert, 2004; Turner & Patrick, 2008; Williams & Kingham, 2003; Zsolnai, 2002). As suggested by Dewey (1915), using relevant and authentic tools in education is important to the learning process. Even though it is not always clear how to create, develop, influence, or sustain motivation for learning every day for every student in the classroom, research supports that utilizing and maintaining status quo with outdated instructional strategies and assessment tools will not enhance the motivational interest of technologically savvy students of the 21st century who use engaging and modern digital devices in their daily lives. Dewey advocated that schools need to provide children with meaningful and germane learning experiences using applicable and authentic materials that are valued and of interest to the learners (Dewey, 1915, 1938).

Understanding and identifying precursors of how students develop values, goals, beliefs, and why their motivation seems to change from time to time or place to place for the same student in the same day is beneficial and needed for the process of learning and teaching (Turner & Patrick, 2008; Zsolnai, 2002). Dewey (1938) argues that meaningful interactions between individuals (teachers and peers communicating) combined with hands-on minds-on instructional approaches are inseparable components that motivate students to learn. Educationally, teachers can benefit by observing and acknowledging the pivotal role that individual emotion, levels of self-competence, and need for control effects motivation. Seifert (2004) suggests motivation does not only encompass self-efficacy, but also provides protection of individual self-worth or dignity especially during a performance activity. For example, a child may say or indicate that he/she does not know how to do something; this personal perception of inability may not necessarily hinder the child because the child may be simply declaring the task as challenge or as issuing a self-protective mechanism against failure (Seifert, 2004).

Avoidance behaviors may also be evident during assessments. For example, a child may incorporate avoidance behavior during a test that requires responding to a prompt. Rather than attending to the task, the child may employ avoidance behavior that affects the assessment score. The teacher scolds the child by saying, "with a little effort you could have done better or passed." The child could actually be content with the outcome because it has just reinforced his or her own negative perception of his/her competency and self-worth image by placing the blame on lack of effort, not on ability or lack of ability (Seifert, 2004). In other words, the student's unmotivated effort to take the test or write a narrative is reinforced, and the child will most likely approach the next writing task in the same manner. The teacher unintentionally reinforces the child's lack of confidence.

Knowing and understanding the child's needs, learning style, and level of self-confidence aids teachers' word choice to best provide instructional feedback. This understanding promotes a positive and meaningful learning experience for the child can be of assistance in designing a supportive and meaningful writing environment within the classroom. As Hidi and Boscolo (2006) suggests, "school writing experience is often not attractive to students, who may come to view writing as both a difficult academic activity and a threatening one, due to teachers' evaluations" (p. 154). Graves (1983) came to a similar conclusion about kindergarten children entering school knowing how to communicate with text or pictures; however, the structured and conformed writing instruction imposed upon them during writing activities and lessons becomes threatening and out of their control. Incorporating writing tools and platforms students use and appreciate in writing classes and other subject areas may be a key for reckoning the digital divide to enhance meaningful writing experiences in the classroom.

The patterning of students' behaviors and teachers' behaviors during instruction affects academic achievement for individual students. There are five basic student behavioral patterns within the classroom according to Seifert (2004). The first pattern is a mastery pattern. Students demonstrating this type of behavior have a high level of persistence, self-confidence, and self-determination. The second pattern is failure avoidance; students portraying this type of behavior make many negative self-concepts and avoid work to evade the threat of failure and lessen the threat to their own self-worth. The third pattern is learned helplessness. This child is unwilling to participate or complete assigned work. The student believes that the learning is out of his or her control. Even when successful, this child feels like a failure and often does not take any credit for success; "They experience much shame and humiliation, boredom, and hopelessness" (Seifert, 2004, p. 146). The fourth pattern of behavior is work avoidance. This is the bright child who

avoids work and only does enough work to get by. Research has suggested that this student does not value the work and is bored because it appears to be something already known. The fifth pattern of behavior is the hostile work-avoidant student. This student demonstrates very little effort and appears to be angry with the teacher. In the book, *Why Don't Students Like School?*, Willingham (2009) explains from a cognitive viewpoint why it is so difficult for teachers to make school gratifying for students:

> People like to solve problems, but not work on unsolvable problems. If schoolwork is always a bit too difficult for a student, it should be no surprise that she doesn't like school much . . . . People are naturally curious, but we are not naturally good thinkers; unless the cognitive conditions are right, we will avoid thinking. (Willingham, 2009, p. 3)

The development of motivation is influenced by many environmental factors throughout an individual's life. Motivation is continually adjusting to age appropriate situations, interpersonal and intrapersonal experiences, and emotional states (Schunk, 2008). Parental interactions and relationships influence preschoolers' motivational development (Gonida & Urdan, 2007). Teachers and peers, however, may have a greater influence during the elementary grades (McCombs et al. 2008). However, this influence can be positive or negative.

According to Turner and Patrick (2008), researchers need to develop a greater awareness in the development and the change of motivation among students. In addition, teachers would benefit from action research focusing on specific interpersonal and intrapersonal classroom interactions and interventions that help develop persistence and intrinsic motivation in students. Research supports that teacher to student interaction is a critical factor in developing competence and autonomy (Kinlaw & Kurtz-Costes, 2007; McCombs et al. 2008); both are crucial in motivation and academic achievement for elementary students. Paying more attention to the

motivational development of elementary learners and providing meaningful feedback could help to promote the development of intrinsic motivation in high school students (Zsolnai, 2002).

In order to extinguish avoidance behavior and help the child develop self-confidence, the teacher needs to apply a strategy that the child may deem as less of a confirmation of the child's perceived self-image and help the child to attend to the task of becoming more competent in test taking or composition writing. For example, since the child did poorly on the test or written response, the teacher could have the student redo the test or response. Research supports other ways to improve student performance and motivation through immediate feedback, prompting and encouragement, peer tutoring, metacognition, and chunking work. Research conducted by McCombs et al. (2008) involving 21,000 students and 124 teachers report that when students' perception of their classroom environment includes (a) positive interpersonal relationships and climate, (b) motivational supports for learning, and (c) opportunities for thinking about thinking and learning (metacognition) students demonstrate higher interests in school tasks and maintain a personal perception of self-confidence.

Self-Efficacy: Writing, Personal Interests, and Knowledge

Self-efficacy is a cognitive idea that characterizes individuals' beliefs and personal judgments about their ability to perform at a certain level and affects choice of activities, effort, and performance (Bandura, 1986, 1997; Pajares, 1996; Shunck & Swartz, 1993; Zimmerman, 1989, 2000). Self-efficacy in writing refers to individuals' perceptions of their capability to create certain kinds of writing tasks among a variety of genres and types of texts. Arguably, many researchers assert that a mutual relationship exists between increased self-efficacy and motivation consequently resulting in an increase of interest (Bandura & Schunk, 1981; Hidi et al. 2002; Zimmerman & Kisantas, 1999). An empirical research study conducted by Hidi et al.

(2002) validates their hypothesis that interest and self-efficacy are closely related. Their study of 180 sixth-grade students' argument writing examined whether writing self-efficacy and "liking" are general or genre-specific, and whether these variables are related to general interest in writing. After examining the study's results, the researchers suggested there were implications from a developmental perspective, that students' interest or liking and self-efficacy were genre' specific. Thus, designing writing activities of interest and assigning specific writing genres should meet both the developmental and interest criteria suggested by the researchers. According to Hidi et al. (2002) interest is defined as a motivational variable and a psychological state of being that occurs when people interact with their environment. It is described as a state of increased attention, concentration, and affective elements (Hidi et al. 2002). When an attitude of interest is present within, the learner seems more likely to engage in the idea or event (MacArthur et al. 2006). According to Hidi (2002), however, two critical features set interest theories apart from motivational theories. Interest theories include the ideas that affect is an intrinsic element of interest and it has a biological foundation, not merely an environmental foundation. Hidi and McLaren (1991) asked sixth-grade students to write on topics of both high interest and low interest topics. The students had previously rated the topics of interest. The data evaluation from the study indicated students' motivation to write increases when given topics of interest; however, the existence of motivation does not inevitably result in writing performance enhancement. A limitation of the Hidi and McLaren's study was that only triggered or maintained situational interest was measured.

Careful examination of research suggests another factor negatively influencing writing is lack of background knowledge. Lack of background knowledge of the subject, experience, language, and genre for instance, limits novice writers' ability to produce fluently written text

(McCutchen, 2011). Consequently, if students struggle with oral language, composing a well-organized and expressive written text is even more difficult for novice writers and may seem impossible for them to master. The increased stress alone can create mental writing blocks.

Several studies demonstrate positive outcomes when novice writers have both interest and knowledge in the topic. Renninger, Ewen, and Lasher (2002) gave 11-year old emergent writing students and well developed writing students' topics, and asked them to write compositions. The students had both interest in and knowledge of the topics. The research indicates that students are inclined to write longer reconstructive recalls and attend better to text meaning when both interest and knowledge were present. Benton, Corkill, Sharp, Downey, & Khramtsova (1995) conducted a study on interest, knowledge, and narrative writing of ninth-grade students and undergraduate college students. In this study, interest and knowledge were measured separately. All participants were asked to write a story about baseball. Students were inventoried according to their interest and knowledge of baseball. After the compositions were written, their knowledge and interest in the topic of baseball were evaluated using a seven-point scale to measure interest, and five questions were asked to rank their experiences with playing or watching baseball. The interest evaluation placed the participants either in a high-or-low interest group. The findings indicated there was a positive correlation between knowledge and interest that affects writing performance. There was evidence that interest and knowledge in the topic influenced the planning process; however, only the knowledge predicted a high level of interesting written text. The finding of the study suggests knowledge about a topic may be ranked above mere interest in a topic.

According to Hidi and Renninger (2006), research grounded in interest finds that interest levels influence three areas of education: (a) attention, (b) goal setting, and (c) learning. Building

upon the three phase model of interest developed by Krapp in 2002, Hidi and Renninger (2006) proposed a four-phase model for interest development. They suggested understanding interest as a motivational variable may aid educators in educational interventions. The four phases of Hidi and Renninger (2006) were grounded in psychological and neuroscientific data and included:

- Phase One: Triggered Situational Interest – is influenced by environmental or textual factors and instructional conditions or learning environments that can trigger situational interest including group work and computers.
- Phase Two: Maintained Situational Interest – involves learner persistence and engagement in the situation that reoccurs consistently. Some instructional learning environments supporting evidence of phase two include project-based learning, cooperative learning groups, peer tutoring, and networking.
- Phase Three: Emerging Individual Interest – is a psychological state of choice where repeated engagement in an activity is student directed and students opt to work in these and similar situations on their own both in and outside of school.
- Phase Four: Well-Developed Individual Interest – is characterized by the emergence of personal interest, positive feelings, and knowledge (Hidi & Renninger, 2006).

The influences of these four domains or phases can be negative or positive depending on the individual learner's level of acceptance, knowledge, and value of the learning engagement.

In general, past research evidence supports the concept that focusing on attention, goal setting, and learning strategy development is valuable in examining how to improve educational practices (Hidi & Renninger, 2006). For example, Renninger et al. (2002) examined 11-13-year old students who were labeled low ability according to achievement tests but demonstrated a

high interest for reading and mathematics. The researchers found students are more likely to connect to the meaning and essence of the passages and the problems that they solve when compared to other students who have less developed interest in the subjects. Findings from this study provided evidence to support that during the implementation of educational practices educators can: (a) help students maintain attention for tasks even when there is a great amount of difficulty, (b) provide opportunities for students to ask inquiring questions, and (c) sustain students' attention thus providing an experience that could possibly trigger a situational interest that the student may never have encountered on his/her own (Hidi & Renninger, 2006). Concepts of situational interest apply to the current blogging study in the form of student preparation prior to the implementation of the online/offline writing activity.

The past 20 years of research provides evidence of a positive relationship between self-efficacy for writing and writing results. One study conducted by Schunk and Swartz (1993) explored the relationship between fourth- and fifth-graders' writing skills. The researchers reported self-efficacy is highly predictive of both writing skills and strategy application during the writing process. The summary of the study's findings states, "Learners who feel competent about writing should be more likely to choose to write, expend effort, and persist at writing tasks than students who doubt their capabilities" (p 338). Another interesting finding of the study is that a process goal and progress feedback given to students enhances the transfer of writing strategies in the areas of application, ability, and self-efficacy.

According to research conducted by Piazza, Siebert, and Carl (2008), past research inclusive of affective effects has mostly focused on self-reported surveys, scales to elicit writers' perceptions and general attitude toward writing, or questionnaires. Self-reporting data should be examined with caution and evaluated for any misguided interpretations containing bias related to

the reporters' realistic conceptions of writing knowledge and ability. For example, Graham and Harris (1989) examined the accuracy of students' judgment in regards to individual self-efficacy. Their findings indicate students with learning disabilities have unrealistically high self-efficacy reporting of their capabilities for creative writing. Conversely, the study demonstrated self-instructional strategy training of learning disabled fifth- and sixth-grade students produces meaningful and lasting improvements in their composition skills and significantly increases their attitudes of self-efficacy. The past decade of writing research implies both social and cognitive factors may be linked to the affective sphere associated with student writing performance. According to Piazza, Siebert, and Carl (2008), "quantifying these constructs would enable a more consistent set of principles for predicting writing competence and explaining events under certain conditions" (p. 2). However, researchers have recognized over the years that educators intuitively identify students' affective states as influences of academic achievement, judgments, attitudes, efforts, and sustainability of on-task behaviors across the content subjects including writing (Heath, 1983; Piazza, Siebert, & Carl, 2008).

Cultural and social values influence the world of academia and the writing process. For example, an interesting study conducted by Dekker and Fischer (2008) on cultural differences examined diverse societies. A main objective of the study was to gain insight on how, if at all, culture affects learning attitudes and motivation. The study involved 36,985 students from 13 societies. The findings suggest that achievement goals are deeply rooted in cultural values and social relationships. Interestingly Dekker and Fischer (2008) found that when people in a society are closely connected within the society, they display high academic achievement and motivation because of a desire to demonstrate proficiency and gain social acceptance and approval. On the contrary, in a democratic or egalitarian society, adolescents and students exemplify elevated

academic achievement and motivation due to the aspiration to accomplish with mastery challenging learning tasks (Dekker & Fischer, 2008). However, performance avoidance goals do not appear to be significantly linked to societal values. There is limited research in this area. As a result, future research should focus on how cultural differences affect academic motivation among learners. The act of blogging in an elementary classroom may possess intrinsic motivation for writing and may add to the research in this area.

Technology and Writing Using Online Writing Platforms

Writing itself is a technology. It is composed of symbol systems representative of an understandable language within a social and cultural group and can be created in a variety of production modes (MacArthur, 2006; MacArthur et al. 2006). The development of the alphabet, printing press, paper, and pencil extended the frontiers of literacy to the whole of society, not just for the elite few. Electronic technologies are rapidly changing the mode in which people communicate with one another. Thus, electronic technologies are opening the pathways of literacy opportunities even more. However, despite broad and interesting theoretical claims, empirical research on the cognitive and social effects of technology is limited, and results available are sometimes contradictive (National Writing Project, 2010). As contradictive as the findings may be, however, research studies aid in educators' deeper understanding of the complexities of the effects that electronic technology may have on learning inside and outside of the classroom. Educational settings are shaped by the changing culture of our world.

Cultural and social shifts of communicative tools has created a "digital disconnect" (National Writing Project, 2010, p. 25) between technology used inside and outside of school in thought and action by all stakeholders, even youth. For example, Pew Internet & American Life Project (2008) report Writing's Technology and Teens found even though 85% of teenagers

surveyed between the ages of 12-17 used some form of personal electronic device employing instant messaging, phone texting, email, and social networking sites; they do not view this form of communication as writing (Lenhart, Arafeh, Smith, & Rankin, 2008). This is a paradox of the digital age where teens are writing to communicate in everyday life but do not see the connection to school instruction or implementation of school writing as "writing." In addition, part of the disconnection in the classroom and at home occurs because teachers and parents of these digital learners have not grown up with Internet connections; thus knowledge of and value of the tools are approached from different viewpoints.

Student Achievement and Technology

Some interesting findings of technology research in the following four longitudinal studies involving relatively large population samples of elementary children provide important insight into positive influences that electronic technology seems to have on academic achievement and elementary-aged students. First, according to Hannafin (2008), balanced infusion of technology combined with traditional and student-centered learning increases students' academic performances. The three-year study in Tennessee, Tennessee EdTech Launch (TnETL), involving 26 schools and 12,420 students in K-12 found providing full time technology coaches to assist in preparing integrated technology lessons engaging students in critical thinking skills demonstrate a positive trend of academic achievement. Researchers concluded that the program students out-performed or performed as well as the control group on achievement tests in all areas (Lowther, Inan, Strahl, & Ross, 2008).

In today's economic financial crisis, coaches are being cut from district budgets. However, according to Jenkins et al. (2006) teachers and students must network cooperatively and form partnerships promoting participatory learning environments. Participatory learning

cultures encourage and recognize participants' contributions of knowledge and skill of each of the stakeholders within the school and or work place (Jenkins, et al. 2006). This approach of shared value of expertise is opposite of traditional instruction where teachers are considered the "expert" in skill and knowledge transmitting information, while students are the receptors.

A second study examined in the longitudinal studies concluded using computerized technology can positively affect student academic achievement. During 2002-2003, 25 Texas districts participated in a study to determine if technology programs integrated into first- and second-grade reading instruction would improve reading skills utilizing pre- and post-test evaluations (Knezek & Christensen, 2007). The findings concluded there were no gender differences and both first and second grade level students' reading accuracy significantly improved. However, only the second grade students demonstrated improvement in the area of reading comprehension (Knezek & Christensen, 2007). This could be attributed to developmental readiness.

A third study reviewed, Microsoft's Anytime, Anywhere Learning program (Mouza, 2008) was qualitative in design involving one-on-one laptops in an elementary setting. The study was conducted in an urban New York City elementary K-5 school serving 1,277 under-privileged students during 2002-2003. The initiative of Microsoft's Anytime, Anywhere Learning program demonstrated positive outcomes upon student achievement and motivation when student laptops were included in daily instructional practices with student-centered instruction. Three classrooms of grades three through five participated in the laptop study. Each teacher utilized the laptops throughout different content subjects. Qualitative results demonstrated that using laptops increased students' motivation, engagement in learning activities, and academic gains in writing and mathematics. It is important to note, however, that

the laptops in this study were not Internet accessible. They did have productivity software programs installed for student activities and production of work (Mouza, 2008).

The fourth study examined the effects of online elementary students' Internet usage and social and communication skills. A Japanese Panel Study conducted in 2002 and 2004 involving 702 elementary-aged children found when children use online Internet more frequently as in gaming, chatting, e-mailing, designing Web sites, viewing Web sites, posting messages, or reading e-mail, or newsletters, social skills and their communication of information were affected positively. Work sampling demonstrated an improvement in sub-skill areas of collecting, judging, and expressing information effectively. However, students did not show an increased ability in creating or processing information. Thus, the researchers concluded Internet use on a daily basis does not automatically develop the skills necessary to create and evaluate information (Takahira, Ando, & Sakamoto, 2007). Consequently, instruction, guidance, feedback, conferencing, practice, and scaffolding as well as teacher expertise are necessary elements of learning and gaining knowledge and skills in the writing process continue to be needed in the digital world of writing instruction for young writers (Culham, 2003; Graham & Perin, 2007b; Hayes & Flower, 1986). Whether students are writing online or offline in the classroom, effective writing instructional strategies remain the same; only the tools are different.

Limited independent studies have provided encouraging and measurable results supporting the notion that technology infusion promotes increased academic skills for elementary students through effective integration using a constructivist and sociocultural learning approaches. A meta-analysis and review of research conducted by the United States Department of Education Office of Planning, Evaluation, and Policy Department, 2010 indicates there are limited research studies comparing online and offline technology platforms, such as

weblogs, and word processing computer software with elementary students. The findings summarized the data:

> The computerized searches of online databases and citations in prior meta-analyses of distance learning as well as a manual search of the last three years of key journals returned 1,132 abstracts. In two stages of screening of the abstracts and full texts of the articles, 176 online learning research studies published between 1996 and 2008 were identified that used an experimental or quasi-experimental design and objectively measured student learning outcomes. Of these 176 studies, 99 had at least one contrast between an included online or blended learning condition and face-to-face (offline) instruction that potentially could be used in the quantitative meta-analysis. Just nine of these 99 involved K-12 learners. The 77 studies with face-to-face condition compared different variations of online learning (without face-to-face control) and were set aside for narrative synthesis. (United States Department of Education, 2010, p. xii)

However, with the rapid development of social networks and new media platforms, researchers have expanded their focus to include the social and cultural impact social networking has had on studentship within our schools and society. Interestingly, according to the United States Department of Education (2010) and Mouza (2008) additional quantitative studies are needed in the field of technological integration across the grade levels but, especially in the elementary grade levels.

Current Practices of Writing Instruction and Assessment

The focus of this study is writing assessment and student performance responding to prompts using computerized offline and online writing platforms. However, the study of writing assessment cannot be examined in isolation from writing instruction because of the presence of a

symbiotic relationship that exists (National Writing Project, 2010; Troia, 2010). If writing is mentioned among educators and researchers, many terminologies inundate the mind. For example, some common terms associated with writing include: free writing, process, product, genre specific, beginning/middle/end, purpose, voice, communication, rubric, print, text, digital media, word processing, audience, developmental age appropriate ability, linguistics, writing across the curriculum (WAC), writing workshop, writing strategies, discourse, rhetoric, keyboarding, paper and pencil, proficient performance on standardized writing tests, and continues to change as new forms of writing tools emerge. Research presented in this literature review supports that effective writing instruction involves simultaneous and ongoing formative writing assessment. Instruction of writing is as complex as the process of writing or composing.

Judith Langer (2001) reported on a two-year longitudinal study investigating characteristics of instruction that corresponded to student achievement in reading, writing, and English among middle school-aged children. The study included 25 schools across four states. The findings of the study identify six instructional elements that prevail in high achieving schools. First, knowledge and skills are taught in multiple types of lessons. Second, tests were analyzed and "unpacked" to guide curriculum and instruction. Third, coherence of content and structure are connected within the curriculum and during instruction. Fourth, emphasis is placed upon thinking and how to strategies. Fifth, generative learning is encouraged. Finally, classrooms are organized to nurture collaboration and shared cognition. Proposing the use of weblogs as an instructional tool in elementary classrooms has potential merit to fill many, if not all, the components suggested by Langer.

Children are required to demonstrate proficiency in writing skills on standardized tests similar to the NAEP Writing Assessment, which are comparable to PSSA writing assessment,

throughout the 50 states of America. The PSSA evaluates children's writing aptitudes in grades 5, 8, and 11. With the inception of the Pennsylvania Common Core State Standards (CCSS) writing assessments, standardized testing will begin in grade three and continue throughout the grade levels until graduation. Currently, the written portion of the PSSA requires students to use the writing process to produce a traditional handwritten (paper and pencil) writing response to an open-ended prompt. Students are ranked as Advanced, Proficient, Basic, or Below Basic using a four-point writing rubric to assess the written response in the areas of focus, content development, organization, style, and convention (see Appendix F; Appendix G). According to the 2011 PSSA Writing Schoolwide Level Proficiency Results for elementary grade five students (Pennsylvania Department of Education, 2012), 186 of the 501 districts in Pennsylvania had 30% to 78.1% of the students scoring Basic or lower on the standardized test. Regardless of whether it is a state or national standardized test, findings are consistent demonstrating a large number of students nationwide are falling well below the ranking of Proficiency (National Center for Education Statistics, 2012).

These findings are consistent with findings in the Writing Next Study examined by Graham and Perin. Graham and Perin's (2007a) Writing Next Study examined quantitative data of experimental and quasi-experimental writing research in hopes of establishing guidelines for effective writing instruction. Over 50% of the students in grades 4, 8, and 12 scored Basic on the 2002 NAEP writing assessment. Over 165,000 8^{th} and 12^{th} graders participated in the 2007 NAEP writing assessment (National Center for Education and Statistics, 2008). However, no elementary grades (fourth grade) were given the test at the time. Students' writing performance in 2007 for grades 8 and 12 ranked at or Above Basic ranking was higher than 1998 and 2002,

but there were no significant changes in the number of students performing at Proficiency ranking or above since the 2002 assessment (National Center for Education and Statistics, 2008).

The results of the 2011 PSSA for the Western Pennsylvanian rural school district where the study was conducted reported the following Proficiency results in 2011 for 159 fifth-grade student participants: 0.0% scored Advanced, 57.2 % scored Proficient, 41.5% scored Basic, and 1.3% scored Below Basic. Based on the assessment results, 42.8% of the fifth-grade students in the rural school district are not acquiring or mastering the skills needed for writing Proficiency as measured by the PSSA Writing Rubric in the areas of focus, content development, organization, style, and convention (Pennsylvania Department of Education, 2011). However, each year since 2008, the district has maintained acceptable performance levels in writing and has met the standards of AYP. Females have historically scored higher on standardized tests than males.

Gender has been identified as a factor that may influence students' writing performances (Pajores & Valiante, 2006). Generally, researchers have identified that girls demonstrate a stronger confidence in their writing performance than boys, especially in middle school. However, Pajores and Valiante (2001) conducted a study to examine whether gender differences are function of gender-stereotypical beliefs rather than gender. The results of the research study suggested that when gender-orientation beliefs were controlled, there were no significant differences noticed in the areas of writing achievement, perceived value of writing, task goal orientation of writing, self-efficacy for self-regulation, writing self-confidence, and self-efficacy (Pajores & Valiante, 2001). The researchers suggest that educators need to focus on broadening writing opportunities that are open to both female and male interest and address areas that may assist in altering students' perception that writing is a feminine activity so that writing can be valued and relevant for both boys and girls.

Gender and many other factors seem to influence writing instruction including assessment. For example, throughout this literature review eight recurrent themes consistently emerge about writing. These eight themes of the literature build a quandary of issues that complicate an already complex and inconsistent writing practice that exists in the modern classroom for students, teachers, and parents. Figure 2, created by the researcher, summarizes the recurrent themes researchers suggest affect writing achievement in education today (Hillocks,2002; Jacob, 2010; John & Wheeler, 2008; MacArthur et al, 2006; National Writing Project, 2010; Pitler, Hubbell, Kuhn, & Malenoski, 2007; Richardson, 2010; Solomon & Schrum, 2010; Tapscott, 1998; Troia, 2010; Wysocki, et al. 2004).

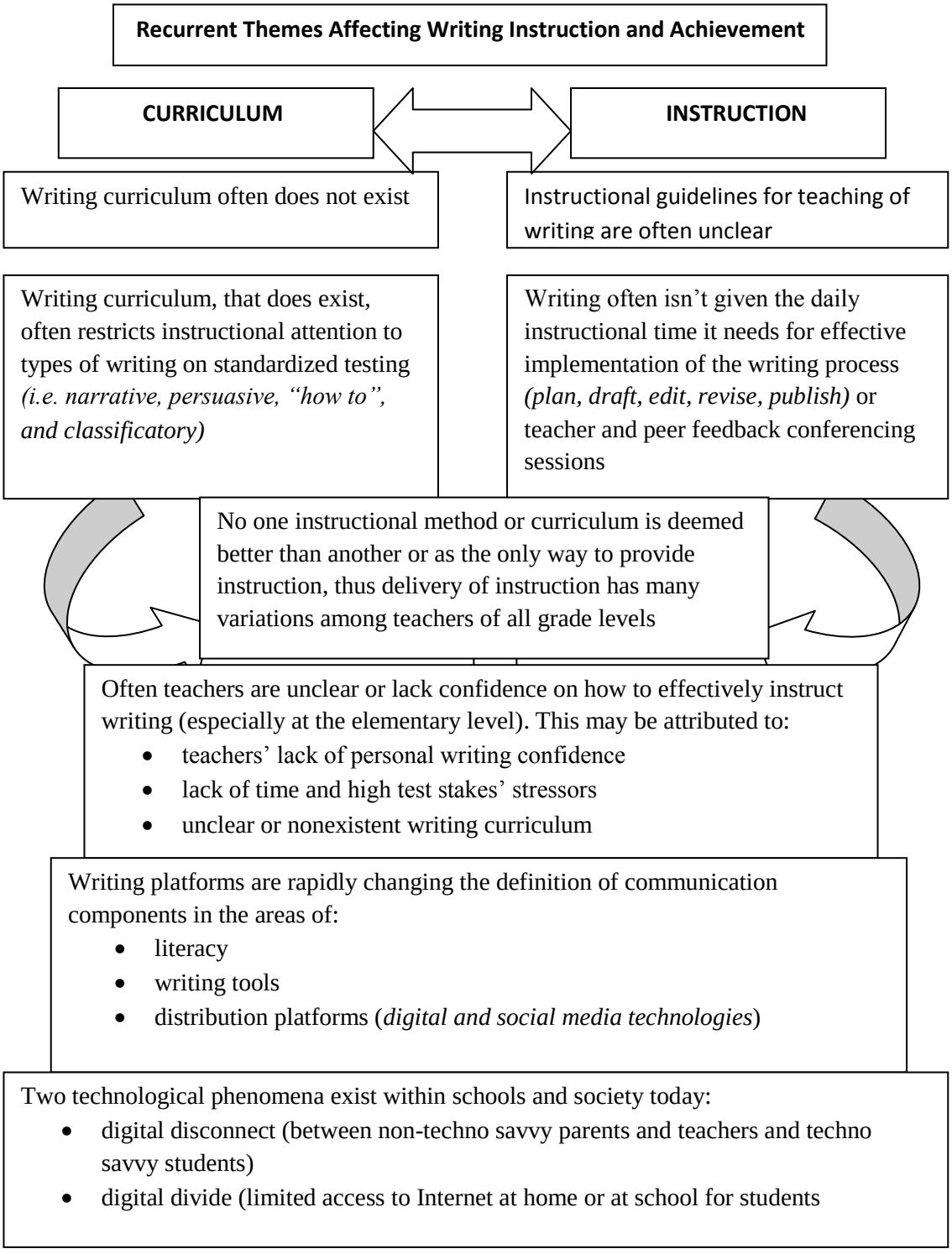


Figure 2. Recurrent themes affecting writing instruction and achievement.

Instruction Assisting Competent Writers

Writing instruction should incorporate scaffolding and age-appropriate teacher guidance (Graham, 2006). As mentioned earlier in the literature review, Graves (1983) cautions educators of preschool children to use developmentally appropriate writing guidance so as not to stifle the writing knowledge and enthusiasm students demonstrate upon entering formal education. As educators prepare to implement writing instruction, several learner conceptualizations need to be taken into account: (a) learner differences exist and are influenced by environmental factors and genetic abilities, (b) writing instruction and instructional tools need to be used to support children in their writing style and guide them to improvement, (c) observing writing behaviors exhibited by students is important in developing an instructional approach, and (d) having knowledge of the current brain research evidence of how humans process writing may help teachers better prepare instruction (MacArthur et al. 2006). The role of writing is experiential. Emig (1977) pointed out that the philosophies of Vygotsky, Bruner, and Luria suggested that synthesis and analysis seem to "develop most fully only with the support system of verbal language—particularly, it seems, of written language" (p.122).

The ultimate outcome of any educational implementation of teaching and learning should be evident in the learners' abilities to apply concepts from the classroom into real life situations. If writing instructional practices implemented in the classroom setting are truly effective, the learner will be able to produce written communication using a variety of writing platforms clearly to express authentic ideas, opinions, and responses to others. If this is demonstrated then transformation of information as situated in the theory of transfer has occurred. Students may then become cognizant and able to identify texting, email, or Facebook as writing.

What quantifies best practices in writing instruction? There are many researched ideas, interventions, methodologies, and strategies available for educators and administrators to review and use to instruct children during writing. These options have caused some challenges for educators as they strive to assist students with the necessary skills needed to demonstrate writing proficiency during daily writing activities and standardized tests. For example, the lack of developed writing curriculum in many elementary settings adds to the disconnected writing instruction that often occurs in schools (Hillocks, 2002, 2007). Also, the implementation of best practices for writing is customarily not fully understood by educators. Research suggests skilled writers demonstrate flexibility, goal orientation, and scaffolding of planning, production, and revision during writing (Graham & Harris, 1989; Hayes & Flower, 1980; Hillocks, 2007). Similarly, research solidifies the importance of self-regulation among skillful writers (Flower & Hayes, 1981; Graves, 1983). According to Zemelman, Daniels, and Hyde (2012), addressing these skills and developing the abilities for each individual is central to the best practices of writing.

Much research has established a strong foundation supporting the effectiveness of using a word processor in multiple areas of writing (MacArthur, 2006; MacArthur, 2010; Troia, 2010). In general, word processing research studies have suggested that word processing has a positive effect on planning, revising, and the length and quality of texts. The improvements however, were greater for struggling writers than average writers (MacArthur, et al. 2006). Evaluative tools are not the only elements influencing writing success among learners; teachers' instructional methods, technology application, and use of formative assessment strategies such as teacher and peer feed-back are critical to students' writing success (Benson & Campbell, 2010; Culham, 2003; Flower, 1994; Graves, 1983; Troia, 2010; Zemelman et al. 2012). For example,

John Dewey argued that the meaningful interaction between individuals, especially teachers and peers within the classroom combined with hand-on and minds-on instructional practices are inseparable components of education that motivate students' natural desire to learn (Dewey, 1938).

The use of technology has often been used as a push-in tool instead of an infused component of instruction. However, the Technological Pedagogical Content Knowledge (TPACK) curriculum model established by Schulman in 1986 and refined by Harris, Mishra, and Koehler in 2009 centralizes technology as one of three unified sectors of curricular development; technology, pedagogical content, and knowledge. Writing tools and writing platforms are important components of writing instruction in the 21st century classroom. However, changing how educators incorporate effective writing tools with grounded and researched instructional strategies and techniques with technology, according to Costa and Kallick (2008) in the book, *Learning and Leading with Habits of Mind 16 Essential Characteristics of Success*, will require open-mindedness, patience, courage, and flexibility of transformational educational leadership.

Nonetheless, the focus of this section of the literature review is not to prescribe one writing curriculum or method over another, but to present an opportunity to examine possible options available that may bridge traditional instructional writing approaches into a cultural and social learning environment for digital natives. Utilizing sound researched instructional practices of effective writing in digital writing arenas available in Web 2.0 tools while continually implementing sound philosophical and experiential learning methodologies may provide a writing environment that bridges or eliminates the digital disconnect referred to earlier. Solomon and Schrum (2010) stated, "The point isn't the number of tools or where they exist now, but that the future, students (with teacher guidance) will be able to find and use the kinds of tools that fit

their learning style" (p. 15). Consider Dewey's statement in the conclusion of his book *Experience & Education* almost 100 years ago, "it is not new versus old education nor of progressive against traditional education" (Dewy 1938, p. 90) that promotes quality education or answers the questions on how to improve the conflicting issues within education. The problem of education will not be solved with a new program, methodology, curriculum, "name or a slogan" (Dewey, 1938). Experience is a fundamental component of learning (Dewey, 1915, 1916, 1938; MacArthur, et al. 2006; Thorndike, 1922). Ultimately, teachers' expertise and knowledge of writing instruction combined with a friendly, safe, and encouraging environment in the classroom influences instructional effectiveness for learners (Applebee & Langer, 2006; Culham, 2003; Graves 1983; Hillocks, 2002, 2007).

Educators, administrators, and policy makers continually attempt to develop cohesive instructional plans and curricular maps for K-12 writing benchmarks. Realigning the Common Core State Standards will not ensure effective teaching and learning in the classroom. In addition, merely using computerized technologies of both offline and online writing platforms will not guarantee improvement in student writing as mentioned earlier in the study of Takahira et al. (2007). Solomon and Schrum (2010) suggest unless teachers understand how to apply and implement writing instruction blending digital tools effectively in 21st century learning environments; the writing standardized test results will likely remain stagnant demonstrating limited or no growth among emergent writers.

Teaching language arts in the elementary grades often focuses on isolated language skill instruction and segmented drill and practice designed around a grammar workbook (Graves, 1983; Zemelman et al. 2012). Teachers are often left to design and implement their own writing activities or instructional practices, especially in the elementary grades (Graham, Olinghouse,

Harris, 2010). The Collins Writing Program is used in K-12 in the district where this study was conducted. The Collins Writing Program (Collins Education Associates, 2009) is a writing model that incorporates philosophies and strategies associated with writing-to-learn (WTL), writing process, and writing across the curriculum (WAC). The program uses a reflective student portfolio requiring students to choose three of their favorite writing pieces to save in the portfolio and reflect upon the focus corrective areas (FCAs). The program provides five types of writing assignments educators can use to guide students' writing activities and has been deemed by the company's researchers as an effective program to increase student achievement (Collins Education Associates, 2009).

The Collins writing program incorporates prompt feedback from peers and teachers. It incorporates a stepped process through the five types of writing that can easily be modified in all subject areas and encourages production of written text. The Type V writing phase of Collins Writing contains elements of the five paragraph essay model and the writing process combined with peer conferencing and editing. The strategies used in this program contain many qualities that correspond to what researchers in the writing field express as *effective writing strategies* and could easily be implemented when using computerized technology writing tools and platforms such as e-portfolios, weblogs, or word processing tools. Figure 3 represents key components of the five types of writing productions. This figure was adapted by the researcher based on key components in the Collins writing program used in the school district where the study was conducted.

Writing Type	Explanation	Evaluation
TYPE I (Capture Ideas)	**Brain Storming** Activity (timed, requires a specific number of items or lines). Write on every other line.	**Check mark - correct** **Check mark - incorrect**
TYPE II (Respond Correctly)	**Students respond by writing** about a topic or thought (draft only) Write on every other line.	**Graded correct or incorrect** **Based on content information** (categorized as a quiz)
TYPE III **(**Edit for FCAs)	Edit for **Focus Correction Areas** (FCA) FCA- specific assigned standards Listed on the top left-hand side of paper. Limit (3 FCAs)	**Meets the following Criteria**: -Completed assignment - Read out loud demonstrates fluency in writing -Meets teacher determined FCAs **Student papers saved and used for editing**
TYPE IV (Peer Editing)	**Revision and editing** done on the original draft (only one draft) **Read out loud and critiqued** by a Peer (2 drafts). FCAs on top left-hand side of paper. (Type IV writing is Type III writing with peer editing and revising with two drafts)	**Editing done by peer and revision using suggestions** **Student papers saved and used for editing**
TYPE V (Publish) Error free writing Publishable quality	**Multiple drafts** All writing projects are kept in a writing portfolio	**Error free and publishable** **Single spaced if handwritten** **Double spaced if typed**

Figure 3. Collins Five Types of Writing. Adapted from Collins Education Association (2009).

An argument against the Collins' Writing Program would be that at times the activities or types of writing seem to be focused on the product instead of the process. This seems especially true in Type I and Type II. However, if the program is implemented as a recursive and cyclic process of the types of writing instead of a linear process then there is a relationship to the writing process as described by Emig (1977; 1982) and Flower and Hayes (1981). Research provides evidence that the five stages of the writing process are not fixed or linear during writing; they are more accurately described as overlapping of one another and often repeated throughout the writing process and development of a composition (Flower & Hayes, 1981).

Writing Curriculum and Assessment

Many policymakers seem to believe that the only way to improve what is being taught in our schools is to continue to increase the demands of the high-stakes reform (Calfee & Miller, 2005; Indrisano & Paratore, 2005). However, literary experts like George Hillocks (2002) argue high-stakes assessments may influence what is taught in the classroom, but does not teach educators "how" to teach and argue instruction is the foundation of literacy in schools. Standardized exams have become a heated topic of discussion among educational and political leaders. Testing has and continues to dominate the direction of instruction in basic education since the 1980s with standards based education and reform. Importantly, developing literacy skills remain the focus of NCLB, the national standards movement, since the mid-1990s. Yet, writing has not been a central focus of the national testing movement and received little attention compared to that of reading and mathematics (National Writing Project, 2010; The College Board, 2004; Troia, 2010). Often a claim is made that students cannot write. A more accurate statement based on research submitted by the College Board (2004), would be most students cannot write well. Consequently, students graduating from basic education do not have the skills

to write well enough to meet the demands of higher education and the evolving work environment (College Board, 2004).

Writing research, especially in the area of assessment, has been the most neglected of reading, writing, and arithmetic (Troia, 2010). Currently, writing research has emerged to the frontlines of research (Graham & Perin, 2007a; MacArthur, et al. 2006). Explanations for the increased interest in best practices for writing instruction and assessment may be due to social and cultural changes surrounding communication tools in all aspects of daily living or may be due to the fact that the nature of writing evaluation is subjective (Hillocks, 2007).

The challenges associated with assessing students' writing exist because writing is a complex process causing the evaluation of the writing to be multifaceted (Hillocks, 2007). There are several areas challenging writing assessment procedures. First, there are varying interpretations of what proficiency in writing means among evaluators, and this is compounded by the need to consider the writers' ages. Next, researchers also agree that no one instructional method provides effective instructional strategies for all learners (Flower, 1994; Graves, 1983; Hillocks, 2007). Another challenge is that there is no established writing curriculum for districts to implement (Jacob, 2010). Consequently, this may contribute to inconsistent writing instructional and assessment practices exist across the grade levels.

Benson and Campbell (2010), for example, outlined four challenges associated with writing assessment. First, the multi-layered combination of skills and processes are difficult to quantify. Secondly, deciding on components to be measured is difficult. Consequently, writing assessments often use two methods to assess writing: indirect methods and direct methods (Breland, 1999). The indirect method of assessment usually employs multiple choice questions requiring students to identify errors, correct errors in text, or make a judgment about a written

text. The direct method of writing assessment requires students to create original written works, usually a response to a prompt (Miller & Crocker, 1990). Direct writing assessments use a scoring rubric to quantify writing samples. A third area of struggle is determining which components of writing can be consistently and genuinely measured and which components should be measured (Deno & Fuchs, 1987). The final area that is problematic in writing assessment is that most available writing measures are not connected to a specific writing curriculum. Furthermore, teachers tend to base writing assessment on observations of student performance instead of assessment data (Troia, 2010). Troia (2010) recommended further research examining computer-generated student writing versus handwriting would be valuable to the current collection of writing assessment research.

Consequently, educational shifts in writing assessments and instructional practices are changing to meet writing communication demands of modern learners. The Pennsylvania Common Core State Standards' draft for 2014, was aligned with the PSSA standards, is geared toward preparing students for college and real work communication skills that incorporate the use of computer-based assessments (Pennsylvania Department of Education, 2012; United States Department of Education, 2012). To date, most standardized writing assessments have required elementary students to produce responses to open-ended prompts using paper and pencil as the chosen assessment mode. However, more than 50% of the states have already shifted to some form of computerized writing assessment including both offline and online platforms (United States Department of Education, 2012). According to the National Assessment Governing Board (2011) NAEP report of the United States Department of Education by 2019 computer-based on-demand writing assessments will be given to students in grades 4, 8, and 12. A meta-analysis and review of research conducted by the United States Department of Education Office of Planning,

Evaluation, and Policy Department (2010) indicated there are limited research studies comparing online and offline technology platforms, such as weblogs, and word processing computer software with elementary students.

The Purpose of Writing Assessments

It is important to examine some of the potentially negative influences of standardized testing as well as to identify the positive aspects of it. Standardized testing is a component of the United States and international global competitive education that will continue to affect instruction and educational outcomes for many generations to come. Examining historical, social, and political influences of standardized assessment equips educators with reflective background to aid in the consideration of the value of standardized testing in modern education. Research has established over the decades that testing drives school curriculum and is an important component for instruction (Troia, 2010).

However, often the preoccupation of high-stakes standards and one-size-fits-all testing is in opposition with what current research studies demonstrate about learning and teaching. According to Berninger and Richards (2002), the notion of benchmarking an entire population as an effective assessment is at odds with what is known about biodiversity of student population and the needs of society. Students are poor writers for many reasons beyond the scope of what a single test can measure with accuracy (Beringer & Richards, 2002). Therefore, according to Graham and Perin (2007b), effective writing assessments should include the following criteria: (a) developmental and individual differences of the writers, (b) individual profiles of strengths and weaknesses of every student, and (c) evidence-based interventions linked to evidence-based assessment results.

Historical Overview of Standardized Testing

Standardized testing began in the mid-19th century. The idea that students should be ranked and grouped according to academic achievement and ability is the foundation of modern education in most schools in the world (Edwards, 2006). By 1929, implementation of student tracking within the public school system began. Students in high school and middle school were tracked into different curricula based on student abilities (Gallagher, 2003). After World War II and the Cold War, international competition was on the rise challenging academic supremacy globally. Not only were children's academic achievements and learned knowledge being evaluated, the quality of the schools began to be analyzed as well.

The first federal laws mandating standardized tests were passed in 1965 (Nagy; 2000; Scott, 2004). Federal money began to flow into under-funded schools from the Elementary and Secondary Education Act, also known as Title I. This design was expected to ensure access to educational opportunities nationwide (Scott, 2004). However, receiving funding required school districts to provide evidence that Title I money was being appropriately dispersed. Title I legislation required that standardized tests had to be administered and the scores were required to be reported to the national government to maintain federal funding. Accountability in education increased during the 1970s (Nagy, 2000; Savage, 2003). Even then, teachers and school administrators were held accountable for students' poor assessment scores. The same accountability continues into the 21st century education forum.

Educators must balance instructional time of test preparation to preserve that deep learning remains the major function of schools (Nagy, 2000; Savage, 2003). Learning and testing are not necessarily identical entities of what it means to have demonstrated academic achievement for individuals; caution must be implemented to ensure that testing does not

become an end in itself because the potential of narrowing the curriculum exists and lessens the educational experience to be one of "teaching to the test" (Edwards, 2006). A balance between classroom learning and testing is a significant component of curricular design that needs to be imparted within the instructional setting. Researchers in the field of writing agree a possible cause for the decline in writing instruction and tasks within the school is directly related to the onset of standardized tests, resulting in the elimination of effective writing instruction and activities that research repeatedly supports as key for the promotion and development of writing skills for students (Applebee & Langer, 2006).

The history of standardized assessment continues to focus on the need for accountability in the classroom inclusive of all stakeholders. The testing pendulum dilemma spans across an array of multifaceted factors: often formal testing has been over emphasized. However, when misuse becomes noticeable, the pendulum swings in the opposite direction (Edwards, 2006). Since, *A Nation At Risk* published by the National Commission on Excellence in Education (NCEE) in 1983 the educational restructuring of academics has stressed the need for rigorous standardized testing to measure academic success. Numerous states use the competency-based approach to education which leads many states to use standardized assessments to track stakeholders' accountability, promote students, and guide the curriculum (Luna & Turner, 2001). Also, Luna and Turner (2001) maintained high stakes tests have potential to assist in maintaining high expectations, encouragement for both teachers and students, and may possibly aid in closing the achievement gap among diverse student groups. Standardized tests can provide a clear focus and specific goals for students to strive toward and can provide teachers with curricular guidance. Standardized testing has continued into the 21st century with the onset of the Common Core Standards and the words "increased rigor" resonate from political and educational leaders.

Standardized Assessment: Pros and Cons

Classroom writing assessments and standardized writing tests are controversial topics among educators, administrators, parents, students, and politicians. There are many reasons to assess writing. Some assessments are useful for diagnostic and instructional purposes, while others may be useful for measuring ability, growth, and proficiency. Luna and Turner (2001) suggested there are positive aspects of standardized tests. The positive aspects of standardized testing include: (a) expectations of accountability for teachers and students, (b) a clear focus of material to be learned, and (c) explicit goals for students to strive to accomplish (Zemelman, Daniels, & Hyde, 2012). Most researchers concur assessments can be useful tools for instruction if used as diagnostic and prescriptive tools. Some negative aspects of standardized testing are suggested by many researchers. For example Alfie Kohn (2004) suggests some disadvantages of standardized tests include: (a) the multiple choice test limits or eliminates students' ability to generate ideas based on their understanding, (b) the timed factor adds undesirable stress for many students and seems to add pressure on test takers and this has the potential to negatively affect their scores while it, "promotes speed over thoughtfulness" (p. 29), and (c) the one size fits all standard provides only one snapshot of students' performances.

The questions of how to improve writing across the different grade levels is apparent in the various discussions of writing research (MacArthur et al. 2006). The on-demand of standardized assessment format tends to be contrary to what researchers consider to be effective writing instruction and evaluation. However, educators are trapped in the political arena of standardized assessment and must recognize both its limitations and potential value it may interject into the educational setting. Research, for instance over the past two decades, resonates with common characteristics of effective writing. Effective writing: (a) occurs over long periods

of time, (b) has been proof read and presented to an audience for feedback and suggestions for improvement, and (c) involves editing, revising, and more feedback are essential components that are not offered in criterion referenced standardized tests. Whether using standardized tests or curriculum-based assessments (CBA), formative or summative, the assessments should be age appropriate, align with instruction, and provide diagnostic and instructional information for the student and teacher concerning individual progress in writing. Many researchers agree that using a holistic approach for writing instruction, one that combines formative assessment as instructional feedback by teachers and peers and summative assessments is helpful in establishing a prescriptive and diagnostic writing environment (Hillocks, 2007; MacArthur et al. 2006). Providing consistent instructional feedback by teachers enhances students' writing performances across various genres. No one assessment can measure an individual's growth and ability with absolute reliability and validity (MacArthur et al. 2006; Troia, 2010). Consequently, assessment should not be confined to one instructional tool or type. According to Zemelman et al. (2012), best practices should encompass student-centered learning, cognition, and interactive principles. Powerful learning occurs in student-centered learning environments. Teachers facilitate and encourage authentic work, sociability, and reflective opportunities activating students' prior knowledge while mentoring self-monitoring skills. Figure 4, a graphic representation, generated by the researcher provides an overview of some writing tools, evaluative tools, and methods used for assessment and instruction (Zemelman, 2012).

Assessment	Type	Instructional Use
e-Portfolio	➢ Formative	➢ Writing Process Tool
Traditional Portfolio	➢ Formative	➢ Writing Process Tool
6+ 1 Traits of Writing	➢ Formative	➢ Instructional Model
Five Paragraph Essay	➢ Formative	➢ Instructional Model
Rubrics	➢ Formative/Summative	➢ Evaluative Tool for Writing ➢ Standardized/Teacher Designed
Multiple Choice Tests	➢ Summative	➢ Evaluation of Mechanics Grammar Usage
Standardized Tests	➢ Summative	➢ National/ State Criterion Referenced ➢ National/ International Norm Ranking

Figure 4. Assessments - instructional purpose and use.

Perrone (1991) strongly suggests testing young children may do more harm than good because the information can be used to retain or promote students in the elementary grades. At the same time, Perrone (1991) also suggests standardization of writing normalizes literacy and eliminates the social and cultural components of learning and developmental stages. Even though great effort is placed upon incorporating reliability and validity elements to safeguard against such biases; standardized testing is not full proof. Another negative aspect to be considered is

that educational systems and policy makers have created a foundation to categorize individual's intelligence, educability, and the potential future earning power in the labor force at an age that most educators consider to be a developmental age of learning. Regardless of the pros and cons of testing, assessments are here to stay. However, the function of standardized tests may best serve the educational arena as a tool for accountability, instructional diagnosis, and "gatekeeping" (Nagy, 2000).

George Hillocks, Jr. (2002) conducted an in-depth qualitative analysis study on standardized writing assessments across different states. First, he collected writing assessments for examination from all the states; at the time of the study 37 out of the 50 states performed some type of assessment of writing. Five states were then targeted as the focus group for the study: Texas, New York, Illinois, Kentucky, and Ohio. Even though the state tests were developed independently from each other, the conceptual components of the writing assessments were similar. The structure of the tests consisted of writing, standards, specific testing conditions and procedures, response prompts, standardized scoring, multiple choice questions, and a set of criteria assigned to the various genre of writing tasks required. Teachers from each of the five states were interviewed. The interviews were designed to lead discussion on topics of what types of writing were taught, beliefs about important methods of teaching writing, how writing assessment supported the writing curriculum that teachers would like to see in place, attitudes toward writing assessment, pressures of students and teachers, and teacher training in writing.

He used extensive interview procedures and quantifiable coding to interpret the findings of the study. The purpose of the study was to reveal common aspects of writing assessments and how the implementation of assessment influenced the teaching of writing. The elements of the study focused on the examination of theories of writing fundamental to assessment and

instruction, the types of writing tested, scoring procedures and criteria, teacher writing material, and teacher-reported practices. In general, Hillocks found that most state assessments tested the genres of personal narrative, persuasion, and exposition. At this juncture, Hillocks (2007) argued writing assessments are limiting: "There are many other kinds of writing that do not fall in these categories: drama, poetry, fiction, for example. If an assessment severely restricts the kinds of writing with which students work, it also restricts students' development as writers" (p. 19). However, choosing a writing assessment genre should be developmentally age appropriate; the narrative genre meets this criterion for emergent writers (Graves, 1983; Hillocks, 2007).

21st Century: Writing Assessments, Curriculum, and Instruction

Good writing assessments empower teachers to recognize and observe what students know and are able to do. Assessments aid in planning instruction and implementing curriculum so students continue to demonstrate academic growth in learning how to write well preparing them to meet and exceed writing standards (Culham, 2003). Assessments should guide and build the writing curriculum to meet the needs of writers. Research continually supports that effective writing assessment demands ongoing formative assessment to encourage young writers to grow in their ability to effectively communicate through written expression (Culham, 2003; Dyson, 1989, 1992; Graves, 1983; Hillocks, 2007; National Writing Project, 2010,).

According to Culham (2003) and Hillocks (2007), the lack of writing curriculum in our schools is one of the many challenges that limit effective writing instruction. There are writing models and programs available to assist in building a curriculum, yet too often districts or teachers simply buy into the programs comparable to Collins Writing, Five Paragraph Essay, and 6+1 TRAIT, to name a few, and the models, programs, or the state standards become the writing curriculum. These writing programs, methodologies, or models are the tools available to use for

assisting and guiding writing curriculum; they are not intended to be the curriculum. For example, the 6+1 TRAIT model, "provides us with a framework for examining the curriculum and ensuring that our students write in a variety of genres and modes and for a variety of purposes and audiences" (Chen, 2003, p. 5). Cumbersomely, there is no "silver bullet" for effective writing instruction and "no one way" of teaching that will be effective for all students (Culham, 2003, p. 19). However, instructional practices utilizing a variety of instructional tools, models, frameworks, and methodologies promises to create effective teaching environments for writing. Creating a safe writing environment for elementary students is the first step needed in preparing for effective writing instruction. Also, providing constructive and effective guidance through teacher and peer feedback, modeling, and establishing a consistent language of writing traits that writers are expected to develop and use enhances effective instruction (Culham, 2003). Choosing timely writing tools is important, but they are secondary to the establishment of a safe writing climate and good teaching (Culham, 2003; Solomon & Schrum, 2010; Zemelman et al. 2006).

The national and state standards for writing are intended to provide educators with a concrete expectation and indicators of writing skills students need to develop. Best practices for writing instruction are not new; only the tools have changed. Some of the best practices for writing instruction mentioned from throughout this literature review include: (a) engaging students in prewriting activities, (b) instructing and providing constructive teacher and peer feedback during the writing process of planning, revising, and editing, (d) creating a safe environment for writers to write collaboratively and cooperatively, (e) providing work samples of good writers' for students, (f) writing across the curriculum, (g) engaging students in writing

choices, (h) providing opportunities for inquiry in writing, where students can research and write topics of interest (Culham, 2003; Graham & Perin, 2007b; Zemelman, et al. 2012).

Research steadfastly supports the use of technology and writing as inseparable partners of learning and the writing process for 21st century learners. Heidi Hayes Jacob (2010) suggests curriculum does not need to integrate technology; technology needs to replace the antiquated system of the 1800s.The Technological Pedagogical Content Knowledge (TPACK) depicted in Figure 5 (Mishra, & Koehler, 2006) combined with Wiggins and McTighe's (2005) *Understanding by Design* (UbD), a conceptual framework for curriculum design, may be components to assist with such a curricular transformation across the subject content areas and written expression now and in the future (see Figure 5).

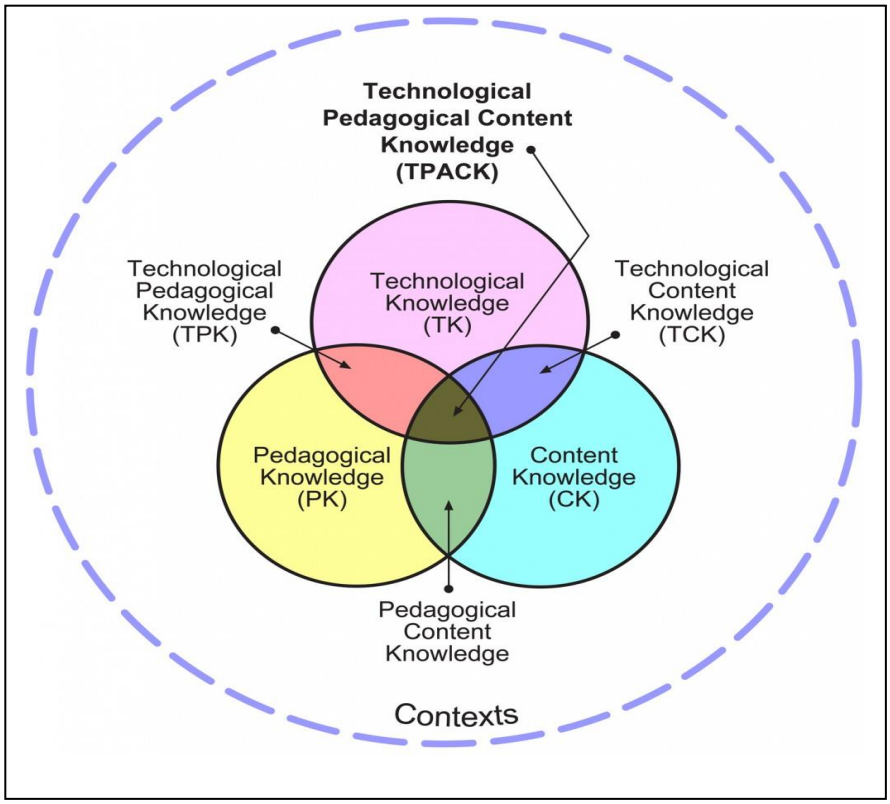


Figure 5. Technological Pedagogical Content Knowledge (TPACK). TPACK Image (rights free) - http://tpack.org/

The TPACK model depicted in Figure 5 moves technology beyond a "push-in model" to that of an integral component of the curriculum across the areas of study. Incorporating the UbD template, designed to deepen students' understandings of "big ideas," and focusing on central performance tasks of a chosen topic is fundamental for learners today. Curriculum should outline the most effective ways of achieving specific outcomes. In other words, what do we want students to know or do at the end of the instruction? *Understanding by Design* (backwards design) starts with a statement of, "desired results – the priority *learning*s – and to derive the curriculum from the performances called for or implied in the goals" (Wiggins & McTighe, 2005 p. 17). Utilizing the TPACK model and The UbD will take open mindedness and change in educational habits. Costa and Kallick (2008) suggested instead of educators "covering" the curriculum, educators need to, "deepen students' knowledge by allowing students to 'uncover' the curriculum" (p. 45). This concept can easily be carried over into the process of writing.

Summary

Whether with paper and pencil or on the screen utilizing computerized or digital writing platforms, writing has been the most neglected and least researched of the three R's - reading, writing, and arithmetic (College Board, 2003; 2006; Hillocks, 2007; Juzwik et al. 2006; Troia, 2010). Even though effective writing and communication skills have been and continue to be one of the most important components of education and work place, research has strongly established that it has also been given the least amount of instructional time in the classroom (Applebee & Langer, 2006; Hillocks, 2002; Troia, 2010).

Writing instruction needs to build on students' interest; using Weblogs "blogging" and "instant messaging" (IM) and other Web 2.0 tools in the classroom may provide meaningful avenues for 21st century writers to develop their students' writing competencies. In order to make

this happen, curricular design will need to be addressed to meet cultural and social demands of infused digital tools in writing and content subjects as students produce authentic writing experiences with broader audiences increasing writing across the curriculum. Teachers and educational leaders need to continue professional development in the areas of writing instruction, assessment, and digital writing platforms.

It was once thought by educators and politicians within the learning communities of education that new media of social networking negatively affected our daily lives in the area of socialization and communication within our face-to-face social settings. On the contrary, the 2011 Pew Research Center's recent study, Portrait of Who Uses Social networks in the U S (And How Social Media Affects Our Lives), reveals some interesting findings to counter public opinion of social network ruining socialization skills. The study provides evidence suggesting social network systems do not hamper offline relationships; they actually help develop and form stronger relationships in the real world through the easy access of "connectability" (Finn, 2011).

Not only is research and instructional time compromised for writing, which is often influenced by standardized test stressors and other influences as mentioned throughout this literature review, educators' assessments of writing often lacks important components of formative assessment and feedback that researchers emphatically stress as crucial elements in promoting writing growth among students. Research continually supports that effective writing assessment demands ongoing formative assessment to encourage young writers to grow in their ability to effectively communicate through written expression (Culham, 2003; Dyson, 1989, 1992; Graves, 1983; Hillocks, 2007; National Writing Project, 2010). One important conclusion of the literature review is regardless of whether writing is produced digitally, with paper and pencil, or word processor, common characteristics of effective writing remain constant. Those

common characteristics included students writing experiences should: (a) occur over long periods of time, (b) be proofread and presented to an audience for feedback and suggestions for improvement, and (c) involve editing, revising, and feedback given immediately after each revision process. These characteristics apply to writing regardless of which writing platform or instructional practice is used.

In Chapter Three, the purpose of the study and methodologies used in the study will be discussed. The design of the study focuses on how to analyze the following research questions:

1. When students are given the opportunity to use offline word processing to respond to a narrative prompt versus an online digital platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?
2. Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Analysis of fifth-grade students' written responses to a narrative prompt when utilizing online and offline digital and computerized writing platforms, may establish a relationship related to writing quality when students are engaged in a social and cultural writing practice reflective of their private writing experiences in daily living. In Chapter Four and Chapter Five, the data collected from this study is represented and analyzed with implications and conclusions of data analysis with suggestions for future research following in Chapter Five.

CHAPTER THREE

METHODOLOGY

The quantitative research design and methodology selected for directing this study of fifth-grade elementary students' writing using online and offline writing platforms is discussed in this chapter. First, the purpose of the study is delineated. Second, the research questions and hypotheses are presented. Third, the research design is discussed. Fourth, targeted population and participation selection is outlined and presented discussing participants' background, setting, school culture, and writing instructional program used within the district where the study was conducted. Fifth, the materials and procedures of analysis used in the data analysis were outlined. Finally, the summary and expected findings are offered. It is hoped that this study will identify whether a significant difference exists in fifth-grade elementary students' writing quality when students write using an online writing platform, Kidblog© compared to an offline writing platform, Microsoft Word©.

Purpose of Study

The purpose of the study is to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing tools, for example, an offline word processing platform, Microsoft Word© and an online digital platform of blogging, Kidblog©. Narrative writing was chosen as the writing genre for the study for several reasons. First, most state standardized tests require students to write narratives (Hillocks, 2007). Second, storytelling, narration of our lives and who we are as humans, occurs naturally in human communication at any age and in any culture (Fisher, 1989; Graves, 1983). Graves (1983) stated that children want to write on the first day of formal school, especially about their life. Upon entrance to primary school young children have already begun communicating who they

are by drawing and making marks on walls, sidewalks, and papers with pencils, crayons, markers, and chalk. Today preschool children use computers to produce their writing designs independently using offline and online software programs that write, draw, and paint. Third, narratives are personal. Finally, according to Hillocks (2007) writing, "allows children to contribute to the body of literature they will study, understand more fully how the works of professional writers are constructed, and learn techniques that will be useful in other kinds of writing" (p. 1).

The social trends of communication and technology are globally obvious. The three social trends in technology and communication guiding educational goals today are: (1) technology and communication are mobile and accessible to students 365 days a year, 24 hours a day, and 7 days a week, (2) 60% of the population of teachers and students are active producers of digital content and publish online, and (3) social networking opportunities are increasing and provide instantaneous information, collaboration, and learning prospects for educators and learners (Duncan, 2010). As global societies and cultures explode with technology advancement, the definition of literacy will continually change and evolve to include the social and cultural activities used for communication within societies. For example, according to *USA Today*, five year olds are the fastest-growing age group of Internet users in the 21st century (Kessler, 2012). Consequently, redesigning writing instruction and assessment tools to incorporate modern methods of social media (i.e., weblogs and other Web 2.0 tools) is at a critical turning point in American education.

Research Questions and Hypotheses

Research Questions

The following research questions guided this study:

- When students are given the opportunity to use offline word processing to respond to a narrative prompt versus an online digital platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?
- Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Hypotheses

The null hypotheses that guided this study were:

- H_o There will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention.
- H_o Gender will not significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a prompt versus an online digital writing platform of blogging in the areas of focus, content development, organization, style, and convention.

Research Design

This study used a repeated measures design. The repeated-measure design is an experimental design where each subject receives all levels of at least one independent variable (Howell, 2011). A repeated measures design's intent is to collect statistical measurements on the same subjects over time or over conditions (Howell, 2011). In this study, the dependent variable is the student's written response; while the independent variable is the writing platform. Since only one group is being studied, this study is a within-group design. The computer program SPSS and an ANOVA using analysis of variance with repeated measures and counterbalanced design were used to analyze the quantitative data.

"Validity in quantitative research refers to whether one can draw meaningful and useful inferences from scores on particular instruments" (Creswell, 2009, p. 235). Validity, in part, is affected by participants' history, maturation, selection process, and distribution of treatment (Creswell, 2009). Several steps were taken to minimize internal and external validity threats that could interfere with data interpretation. First, the researcher of this study, and the technology coach from the district provided individual training sessions as needed for fifth-grade teachers in the functions of Kidblog© and the processes of the study. Then, one Kidblog© instructional time was implemented by all classroom teachers for the fifth-grade participants prior to implementing the study. By providing teacher training and student instruction and practice using Kidblog©, ambiguity of the existence of prior experience with and knowledge of the act of blogging was eliminated. All participants were provided with an opportunity to experience blogging prior to the first study writing session. Second, online and offline participant selections were randomly chosen from the entire participating student population by the researcher (see Appendix H).

Random participant selection increases the probability that characteristics are equally distributed among the experimental groups (Creswell, 2009). Finally, the participants responded to the same prompt that was used during both research study sessions throughout both writing platforms. Thirty days occurred between each writing session. Content and construct validly was addressed by using previously field tested PSSA narrative prompts (see Appendix P) and utilizing the PSSA writing rubrics (see Appendix F; Appendix G) as the instruments for data collection and data analysis.

For this study, the researcher used inter-rater reliability to assess students' written responses. Every narrative written response from each writing platform with proper consent and assent forms returned to the researcher was read and scored by three scorers independently who were previously trained in scoring PSSA written responses. The scores were then recorded by the researcher (see Appendix M). The narrative written topic responses' scores were ranked using a four point scale according to the PSSA Narrative Scoring Guidelines in the areas of: (a) focus, (b) content development, (c) organization, and (d) style (see Appendix F). The writing conventions were ranked using a four point scale according the PSSA Convention Scoring Guideline Rubric (see Appendix G) in the area of (a) sentence formation, (b) grammar usage, (c) spelling, and (d) punctuation. The inter-rater scorers were provided with the PSSA Performance Level Descriptors (PLD) (see Appendix I) and the Academic Standards for PSSA (see Appendix J) Quality of Writing guide to use during scoring evaluation. The independent scorers used the Scorer Review Sheets to record ranking for both topic and idea and conventions (see Appendix K; Appendix L). The researcher analyzed the scores and included only the written responses whose evaluation forms were the same from at least two of the three independent scores into the SPSS data system. "A measurement procedure is considered reliable to the extent that it

produces stable, consistent measurements" (Gravetter & Wallnau, 2005). One advantage of repeated measures design for experimental studies is fewer subjects are required and power is not sacrificed (Howell, 2011). A disadvantage of using repeated-measures design is the threat of carry-over effects from one trial to the next limiting the validity and reliability of the results. However, by implementing a counterbalance, this problem can be reduced (Gravetter & Wallneau, 2005; Howell, 2011).

Since standardized testing has state, national, and international importance, utilizing writing prompts and the narrative writing rubric from the Pennsylvania's state writing assessment, PSSA, was chosen as the assessment tool for this study. Using both the offline computerized writing platform, Microsoft Word©, and the online writing platform of Kidblog© provided students with different audience awareness associated with the each of the writing platforms. Traditionally, the teacher or classmates are the known audience. However, social media broadens the audience awareness to include others beyond the teacher and classroom instantly with the availability for immediate feedback and conversation.

Motivating students to write continues to be a problem in the classroom for teachers (Graves, 1983; Hillocks, 2007; Langer, 1987; 1997; 2001). According to a survey conducted by the National Commission on Writing in 2008, teens stated that they are motivated to write when: (a) they can select topics that are relevant to their lives, (b) topics are of interest, (c) they can write creatively, (d) they receive immediate and detailed feedback by teachers or other adults, and (e) they can write for an audience (Pew Internet & American Life Project, 2008). The researcher chose to use different writing platforms for this writing study, offline and online, because of the different audiences each provided and the future trend of standardized writing proposal for online assessments. The offline writing platform is closed and often limited to

teacher and peers while the online writing platform has an open audience with the potential for immediate feedback and conversation. The researcher also identified several motivating writing criteria mentioned in the 2008 Pew Internet & American Life Project survey that were included in this study. They included: (a) the narrative writing genre is open for creative writing using either writing platform, (b) availability of immediate feedback is available online, but was not offline, (c) audience awareness difference exists between online and offline writing platforms, and (d) the prompt chosen for the study about heroes provided a broad writing theme for fifth-grade participants to pull from personal interests, knowledge, and experiences. Therefore, comparing different computerized writing platforms using online and offline software of fifth-grade students' narrative writing responses may add to the current research in writing.

Target Population and Participant Selection

Background

Participants included in this study were fifth-grade elementary aged students. The participants of the study were enrolled in a rural Northwestern Pennsylvania public school district that covers 195.1 square miles with four elementary schools and one high school/middle school. The school district in which this study was conducted had closed two elementary schools at the end of the 2011-2012 school year and merged the students into two existing schools within the rural city limits due to a decline in student population and economical struggles. Currently, the total student enrollment of this study's school district K-12 is 1,980 students. There were 1,047 elementary students in the district at the time the study was conducted and four elementary schools with eight fifth-grade classrooms. Forty-seven percent of the elementary school aged children qualified for free and reduced lunch. Of the 1,047 elementary student population, 144 students were in the fifth-grade. The 144 students in the fifth-grade were invited to participate in

this study. The school district qualified as a Title I school district at the beginning of the 2012-2013 school year. Prior to the implementation of any portion of the study the researcher received site approval from the District Superintendent and the school board (see Appendix C).

Setting and School Culture

The study took place in four rural elementary schools within the same Northwestern public school district in Pennsylvania. There are approximately 195.1 square miles in the school district. All stakeholders' including: principals, teachers, parents, and students participated in the study voluntarily (see Appendix A; Appendix B; Appendix C; Appendix D). The researcher of this study is a sixth-grade teacher in the district where the study was conducted. The fifth-grade classes of the district were chosen to participate in this writing study to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing tools, for example, offline word processing platform, Microsoft Word© and an online digital platform of blogging, Kidblog©. The findings of this study may provide valuable information for the district's teachers and administrators to improve current writing instruction and assessment across the grade levels or design and implement new instructional and assessment practices to best meet the writing needs of the 21st century fifth-grade students of the district and others in the future.

For this study, students were evaluated throughout the regularly scheduled instructional school hours between 8:00 a.m. and 3:02 p.m. The study was conducted in the computer lab of each individual elementary building during individual teacher assigned computer lab time as determined by the teacher. Each elementary school has at least one computer lab located within each of the elementary buildings. The computer labs vary slightly in location and the number of computers that are within each building's computer lab. However, most computer labs have at

least 30 computers organized with tables and chairs for students. Each student had access to an individual computer. A computer station within each lab is designated as the teacher's computer station.

Participants

Fifth-grade students were chosen for this study because they are required to take the PSSA writing test. The researcher provided each classroom teacher with voluntary parental consent (see Appendix A) and fifth-grade student participant assent forms (see Appendix B) for all fifth-grade students attending school in the district where the writing study was conducted. There are four elementary buildings within the district where the study took place. Three principals (see Appendix D) and eight fifth-grade teachers (see Appendix E) were also provided with voluntary consent letters prior to the study. Principal and teacher participation was voluntary (see Appendicx D; Appendix E).

The student enrollment of the first school stood at 409 students with 69.3% of the student body eligible for free and reduced lunch. Fifty students were enrolled in the fifth-grade class and of the fifth-grade class from school one (SC1), 58% of the fifth-grade population participated in free and reduced lunch program. School one's fifth-grade class consisted of 24 males and 26 females. Seventeen of the students of school one qualified for learning support.

The student enrollment of the second school stood at 326 students with 40.7% of the student body eligible for free and reduced lunch. Forty-six students were enrolled in the fifth-grade class and of the fifth-grade class from school two, 36% of the fifth-grade population participated in free and reduced lunch program. School two's (SC2) fifth-grade class consisted of 21 males and 23 females. Eighteen of the students of school two qualified for learning support.

The student enrollment of the third school stood at 228 students with 43.3% of the student body eligible for free and reduced lunch. Thirty-six students were enrolled in the fifth-grade class and of the fifth-grade class from school three, 56% of the fifth-grade population participated in free and reduced lunch program. School three's (SC3) fifth-grade class consisted of 22 males and 14 females. Eight of the students of school three qualified for learning support.

The student enrollment of the fourth school stood at 89 students, with 40.2% of the student body eligible for free and reduced lunch. Twelve students were enrolled in the fifth-grade class and of the fifth-grade class from school four, 41% of the fifth-grade population participated in free and reduced lunch program. School four's (SC4) fifth-grade class consisted of six males and six females. Four of the students of school four qualified for learning support. Learning support students from all four elementary schools were included in this study, but were not specifically identified. There was a total of 144 students from grade five invited to participate in this study. A total of 84 students, approximately 60% of the fifth grade students invited to participate, participated in the study. Table 1, designed by the researcher, provides a graphic representation summary of the fifth-grade students participating in this study.

Table 1

Study Subjects – Fifth-Grade Student Participants of a Northwest Pennsylvania School District

School	Total Participants Invited	Actual Participants	Males	Females	Learning Support	Free/Reduced Lunch Program
SC1	50	31	24	26	17	28
SC2	46	15	21	23	18	16
SC3	36	28	22	14	8	20
SC4	12	10	6	6	4	5
Total	141	84	73	69	47	69

Note. Summary of the study participants designed by researcher.

Writing Instructional Program

The elementary fifth-grade classroom teachers in the school district incorporate a variety of writing instruction throughout the year integrating the writing process across the subject areas using Writing Across the Curriculum (WAC). A common formative writing guide, the Collins Writing Program, is used district wide K-12. One feature of the Collins Writing Program is that it uses a portfolio system that is passed on to the next grade from kindergarten to 12th grade. The elementary writing program within the district has other unifying instructional practices. First, fifth-grade teachers enter their students' thematic narrative and persuasive writings in local writing competitions sponsored by local businesses and colleges several times each year. Thus, students were provided with opportunities throughout the year to produce authentic written compositions for audiences beyond the classroom. Second, the district's Title I program has invited authors and illustrators to the elementary schools. During three different years since 2008, two authors, Peter Catalanotto and Kendall Haven guided students in grades K-6 through

the writing process from an author's perspective while modeling instructional practices for teachers. During those years, each student wrote and illustrated his/her own book and author Peter Catalanotto guided the students in grades K-6 through discussion and conferencing of each individual student's writing. Third, all students have had computer access since kindergarten and have used Microsoft Word© software. Finally, fifth-grade teachers provided explicit writing instruction using the PSSA writing rubric as the evaluative tool throughout the school year. Students regularly practice in-class writing responding to narrative, persuasive, and expository writing prompts in preparation for the on demand PSSA writing assessment throughout the year.

Materials and Instrumentation

The materials and instrumentation utilized for this study were the PSSA Narrative Prompts, PSSA Narrative Scoring Guideline (see Appendix F) and the PSSA Scoring Guideline for Convention (see Appendix G), known as rubrics, were used to rank the qualities of the participants' written responses to a narrative prompt for both online and offline responses. The study's narrative prompts were selected for the instructional practice session and this study have been used in earlier published PSSA Writing tests (see Appendix P). The writing prompts used for this study were:

1. Prompt One (practice only) –"Think about a time when you were given the opportunity to care for something. Write a story that tells what you had to do and how it made you feel" (Pennsylvania Department of Education, 2008).
2. Prompt Two (study prompt) – "At different times, people face situations in which they need to be brave. Write about a time when someone needed to be brave and why bravery was needed" (Pennsylvania Department of Education Division of Evaluation and Reports, 2002).

For this study, the PSSA Writing Rubric was chosen as the evaluative tool for writing because it has been established and accepted by state authorities as a reliable and valid measurement for students' writing compositions and is representative of most standardized writing evaluative assessments across the United States (Data Recognition Corporation, 2011; Hillocks, 2002). The PSSA Narrative Writing Rubric (see Appendix D) and Convention Writing Rubric (see Appendix E) were developed to measure written composition as specified by the Academic Standards 1.4-C with further clarification in Academic Standards 1.5A-G (see Appendix H). The writing areas include: (a) focus, (b) content development, (c) organization, (d) style, and (e) convention. The four point PSSA Writing Rubrics for narrative writing and convention were used to evaluate students' written narrative responses of the online and offline written compositions of the students. The PSSA numerical scoring system of (1-4) corresponds with the performance level descriptors (PLD) of below basic, basic, proficient, and advanced. The numerical and PLD are interpreted as: (1) indicating below basic, (2) indicating basic, (3) indicating proficient, and (4) indicating advanced (see Appendix G).

Narrative prompts were chosen for the study because according to research the narrative genre is developmentally appropriate for young writers (Graves, 1983; Hillocks, 2007). The narrative prompts used in this study were previously published and used in earlier years on PSSA writing assessments. Prompt One was used as an instructional prompt to introduce online writing to all students creating equal access and opportunity of blogging for all participants prior to the implementation of data collection. This prompt was not evaluated for the current study. Prompt Two, however, was used for both writing platforms at 30 day intervals in the study.

The PSSA operative design was developed through the cooperative efforts of Data Recognition Corporation (DRC), the National Center for Improvement of Educational

Assessment (NCIEA), and the Pennsylvania Department of Education (PDE) (Data Recognition Corporation (DRC), 2011). The PSSA plan was then evaluated and approved by PDE. The PSSA Writing Assessment's reliability was addressed through a stratified coefficient alpha, standard errors of measure (SEM) conditional standard errors of measure (CSEM) with Rasch, decision consistency, and rater agreement. Validity of the PSSA addressed the areas of: (a) test content, (b) response processes, (c) relationships between test scores and other variables, (d) internal structure, and (e) the consequences of testing. Test items were also submitted to a Bias, Fairness, and Sensitivity Committee for review. The test items underwent field tests and the Bias, Fairness, and Sensitivity Committee reviewed items for concerns related to diversity, gender, and other relevant factors (Data Recognition Corporation, 2011).

The Pennsylvania Department of Education adopted academic standards for writing in 1999. In 2006, the writing portion of the PSSA was realigned to the writing standards. Currently, the state writing assessment is undergoing another transition as it is presented in the 2012 Pennsylvania Common Core State Standards (CCSS) draft. Currently, every student in public education in Pennsylvania is assessed in the area of writing in grades 5, 8, and 11. This will change with the enactment of CCSS. School districts must design writing curriculum and instruction to assist students in meeting the standards' associated with the PSSA Writing Assessment.

The PSSA is a standards-based criterion-referenced assessment (Pennsylvania Department of Education Assessment, 2009). The purpose of the Pennsylvania State Assessment is to provide uniform information to teachers and schools to guide the improvement of curricula and instructional strategies to enable students to achieve the academic standards (Data Recognition Corporation, 2011).

Procedures

Students were asked to participate voluntarily and confidentially in this study. Appropriate notification, and consent and assent forms on behalf of all stakeholders; parent/guardian/students/teachers/district administrators (see Appendix A), student participants (see Appendix B), school district (see Appendix C), principals (see Appendix D), and teachers (see Appendix E) were collected and confirmed before student participation began. Teachers were provided with Kidblog© training and students were given an opportunity to experience blogging prior to the implementation of the study. As a standard yearly procedure, all students and parents were required by the school district at the beginning of the school year 2012-2013 to sign a technology usage agreement (see Appendix O) designed by the district's school board and technology administrator for the use of Internet and computer software programs within the school setting for instructional purposes.

All study participants were given a code name including school number, class number, and writing platform letter (see Appendix F). Then, each student slip was placed into a container and was randomly drawn by the researcher and assigned to either an "W" for Microsoft Word or a "B" for Kidblog© until all participants were provided a prompt assignment. The Ws would write their narrative written responses with the Microsoft Word© writing platform and the Bs would use the Kidblog© writing platform. A fifth-grade class blog was established on the secure Kidblog© website with all students' confidential codes prior to the study. The narrative writing prompts one and two were posted on Kidblog© by the researcher for the participating students right before each session was conducted. Once Prompt One was completed by the students and the written responses were printed out and coded, the researcher archived the responses on Kidblog© and classroom teachers deleted all Microsoft© responses. Prompt Two was not posted

to Kidblog© until the week the study was scheduled to begin for either of the two writing sessions.

Each teacher was provided with his/her coded classroom list with each student's assigned writing platform. However, only the researcher knew for sure the names of the students officially participating in the study. Teachers assigned each student to a writing platform according to the list, Microsoft Word© or Kidblog©. All participating students logged onto the computers using their individual school user name and password. Once logged on, students went to the fifth-grade shortcut icon on the desktop and accessed the Word Document titled Prompt Two. Simultaneously, students using the Kidblog© writing platform at, www.Kidblog.org logged onto to the Internet site, signed-in using their individual coded names with assigned login from Kidblog© provided to the classroom teachers and fifth-grade students by the researcher. Once each student was properly connected to the correct writing platform, teachers gave each student a copy of the PSSA Writing Rubric Guide for personal reference of writing requirements (see Appendix D; Appendix E). Then teachers read the scripted directions (see Appendix I) to the entire class. The students had 30 minutes to respond to the narrative prompt using the assigned writing platform during session one and session two response writing.

At the end of both writing response sessions, each student would be reminded to sign their written response with their code number only. The teacher checked to be sure each response had the code number of each student's response. Then students were given individual permission to print out his/her written response on the printer located inside the computer lab. The printed responses were collected by the teacher, labeled with each student's correct coded name provided by the researcher and then placed inside the confidential envelop and sent to the researcher via inner-school mail. Students were asked to delete the Microsoft Word© written

response immediately. Teachers confirmed each student's written response was deleted from students' files. The Kidblog© responses were archived within 24 after receiving the final teacher's sealed confidential envelope of the students' written response by researcher.

Thirty days later the process was repeated. However, each student used the opposite writing platform not used in first session. For example, if student 1 used Microsoft Word© writing platform in the first session, he/she would use Kidblog© writing platform for the second session. The teachers were supplied with a coded student list for each session in advance at the beginning of the study from the researcher to assure accuracy of assignments. If students were absent from either session it was noted by the classroom teacher and no retake sessions were administered. Data were taken from students in attendance of school the day of the implementation of each study session.

The study was conducted during regular school hours under the direction of the individual classroom teachers in the elementary classrooms or computer labs during two separate settings 30 school days apart. The digital tools used by the fifth-grade students were computers with word processing software, Microsoft Word©, an offline writing platform, and the social media tool, Kidblog©, an online writing platform requiring Internet access. Students were given a time limit of 30 minutes to respond to the narrative writing prompt 2. Teachers read scripted directions (see Appendix N) and encouraged students to proofread and edit their written responses according to PSSA writing requirements. No assistance was given to students as they navigated through the Kidblog© webpage. Student participants did not have access to read other online writer's posts to their work at the time of the study. As part of Internet safety, teachers would have to have manually accepted other students' posts to student written narrative responses to prompt 2. The researcher manually approved each comment from an offsite Internet

connection. Some students did take time to respond to classmates during the study session and even after the sessions were concluded. This was not part of the current study. Students using the offline writing platform of Microsoft Word© were given the same accommodations, tools, instructions, and time limits. No assistance was given to students as they navigated through the Microsoft Word© software. At the end of the writing session students were asked to print their responses and the teachers collected the responses and placed all responses into the secure envelope to be sent to the researcher. There were no teacher or peer feedbacks available for the offline writing platform of Microsoft Word©.

Data Analysis

Classroom teachers placed students' printed narrative responses of each of the three sessions into a confidential envelope at the end of each session. The envelopes were sealed and all students' written responses were sent to the researcher via inner-school mail. Prompt One was not scored, just collected and locked securely in a storage area located in the researcher's office. This prompt was not scored by any scorer or used in any portion of this study's analysis or interpreted data collection (see Appendix P). Prompt Two responses were used in the study. Students' written responses were collected at the end of each of the study sessions of Prompt Two. The students' narrative written responses from Prompt Two were read and scored by all three independent scorers who were previously trained in scoring PSSA written responses (see Appendix D; Appendix E). The same students' written responses from the alternate writing platform from the second session 30 days later were scored by the same three scorers. The students' written responses were evaluated with the PSSA Writing Rubric (see Appendix F; Appendix G) in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention. Data were collected in the same school year after PSSA writing assessments had

been administered. Then, the researcher culminated the data scoring and the data were analyzed with the appropriate tools from SPSS using an ANOVA an analysis of variance with repeated measures in a counter balanced design and other relevant analysis suggested during the process.

Summary

Today, the ability to communicate to a specific audience is considered one of the most important writing skills at universities and workplaces of professionals (NCTE, 2008; United States Department of Education, 2012). Most communication in technologically advanced societies is done via social media today. However, whether students are writing online or offline in the classroom, effective writing instructional strategies remain the same; the writing tools change with technological advancements. Various writing platforms may affect students' writing qualities. Establishing culturally acceptable writing tools in modern classrooms to meet the demands of the technically modern society is critical in education. Today educators know proficient writers use a variety of writing strategies. They demonstrate flexibility, goal orientation, and scaffolding of planning, production, and revision (Graham & Harris, 1989; Hayes & Flower, 1980; Hillocks, 2007). Some of the best practices for writing instruction mentioned throughout writing research has included: (a) engaging students in prewriting activities, (b) instructing and providing constructive teacher and peer feedback during the writing process of planning, revising, and editing, (c) creating a safe environment for writers to write collaboratively and cooperatively, (d) providing work samples of good writers' for students, (e) writing across the curriculum, (f) engaging students in writing choices and, (g) providing opportunities for inquiry in writing, where students can research and write on topics of interest (Graham & Perin, 2007; Zemelman, et al. 2012). Yet, when students are assessed for writing ability on standardized tests many of the best practices are not effectively addressed in the

evaluation of the writing responses. Nonetheless, the reality of how writing assessments are structured on standardized tests is part of American education and is a valid component for this study since online writing assessments are proposed for the future and this study is examining if online or offline writing platforms significantly differ in quality as rated on the PSSA Writing Rubric.

The purpose of this quantitative study was to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing platforms, for example, offline word processing platform, Microsoft Word© and an online digital platform of blogging, Kidblog©. Data collected examined students' written narrative responses in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention using the PSSA Writing Rubric. The computer program SPSS and an ANOVA using analysis of variance with repeated measures and counterbalanced design were used to analyze the quantitative data.

Expected Findings

This quantitative study was designed to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing platforms, for example, offline word processing platform, Microsoft Word© and an online digital platform of blogging, Kidblog©. After examining the data collected from the study, the researcher hopes to be able to support or not support the null hypotheses as stated below:

- H_o There will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention.

- H_o Gender will not significantly influence the quality of writing in the areas of focus, content development, organization, style, and convention.

In addition, the researcher hopes the research study will contribute useful findings for future elementary writing studies.

In Chapter Four, data are presented from the results of student participant responses from PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (3) convention. The findings of significant differences or not were analyzed using appropriate statistical techniques from the statistical software SPSS, ANOVA using analysis of variance with repeated measures and counterbalanced design were used to analyze the quantitative data, and the PSSA Writing Rubric. These techniques are described more in-depth in Chapter Four.

CHAPTER FOUR

DATA AND ANALYSIS

The purpose of the study was to explore if significant differences exist between how fifth-grade students produce a written response to a narrative prompt using different writing tools, for example, offline word processing platform, Microsoft Word©, and an online digital platform of blogging, Kidblog©. The instrument used to evaluate the writing samples was the PSSA Writing Rubric in the areas of Topic and Idea and Convention, a two part four point rubric, (see Appendix F; Appendix G) which evaluates the qualities of the writing in the areas of focus, content development, organization, style, and convention. The researcher hypothesized that there would be no significant difference in students' written performance in the areas of focus, content, development, organization, style, and convention as evaluated by the PSSA Writing Rubric for Topic/Idea and Convention when students used different writing platforms of online versus offline writing platforms. Also, the researcher hypothesized that gender would not demonstrate a significant influence in students' writing qualities as measured by the PSSA Writing Rubric. The computer program SPSS and a mixed between-within subjects analysis of variance (ANOVA) with repeated measures and counterbalanced design were used to analyze the quantitative data.

An experimental, quantitative research design was used to examine whether a significant difference existed in fifth-grade students' written performance while using an offline versus an online writing platform. The independent variables include gender [male and female] and platforms [online versus offline writing platforms]. The dependent variable was the score of the students' written responses. Chapter Four presents findings of this quantitative study by exploring each research question along with descriptive statistics and data analysis specific to the

two research questions that guided this study. The level of confidence, or alpha level, was set at $p < .05$.

Demographic information about the fifth-grade student population was collected from the school district where the study was conducted and from classroom teachers as discussed in Chapter Three. Students' genders were identified by their names on their consent and assent forms. If clarification was needed for gender, the classroom teachers were specifically asked by the researcher for gender verification. There were 49 female and 35 male participants in this study. During the data collection process, all teachers unexpectedly voluntarily stated whether their fifth-grade students had ever used an online blog during class instruction prior to the implementation of the study, which led the researcher to investigate if prior classroom experience affected student participants' written performance. Since this information was not part of the initial study, the results from additional t-tests are presented in Chapter Five. The objective of the statistical data represented in this study was to answer the following research questions:

3. When students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?
4. Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked

on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Data were collected using the PSSA Writing Rubric for Topic/Idea and Convention (see Appendix K, Appendix L). The writing performance components for Topic and Idea include: (a) focus, (b) content development, (c) organization, and (d) style. The writing performance components of convention include: (a) sentence formation, (b) grammar, (c) usage, (d) spelling, and (e) punctuation. The PSSA, a public domain document, is a standards-based criterion-referenced assessment (Pennsylvania Department of Education Assessment, 2009). The purpose of the PSSA is to provide uniform information to teachers and schools to guide the improvement of curricula and instructional strategies to enable students to achieve the academic standards (Data Recognition Corporation, 2011). The PSSA Narrative Writing Rubric (see Appendix D) and Convention Writing Rubric (see Appendix E) were developed to measure written composition as specified by the Academic Standards 1.4-C with further clarification in Academic Standards 1.5A-G (see Appendix H). The writing areas include: (a) focus, (b) content development, (c) organization, (d) style, and (e) convention. The PSSA numerical scoring system of 1-4 corresponds with the performance level descriptors (PLD) of below basic, basic, proficient, and advanced. The numerical and PLD are interpreted as: (1) indicating below basic, (2) indicating basic, (3) indicating proficient, and (4) indicating advanced (see Appendix G).

The PSSA design was established through the cooperative efforts of Data Recognition Corporation (DRC), the National Center for Improvement of Educational Assessment (NCIEA), and the Pennsylvania Department of Education (PDE), Data Recognition Corporation (DRC), 2011). The PSSA plan was then evaluated and approved by PDE. The PSSA Writing Assessment's reliability was addressed through a stratified coefficient alpha, standard errors of

measure (SEM), conditional standard errors of measure (CSEM) with Rasch, decision consistency, and rater agreement. Validity of the PSSA addressed the areas of: (a) test content, (b) response processes, (c) relationships between test scores and other variables, (d) internal structure, and (e) the consequences of testing. PSSA test items were also submitted to a Bias, Fairness, and Sensitivity Committee for review. The PSSA test items underwent field tests and the Bias, Fairness, and Sensitivity Committee reviewed items for concerns related to diversity, gender, and other relevant factors (Data Recognition Corporation, 2011). The hypotheses guiding this study are:

- H_o There will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention.
- H_o Gender will not significantly influence the quality of writing in the areas of focus, content development, organization, style, and convention.

Participants

The participants in this study included 144 fifth-grade students and their 8 classroom teachers from a rural school district in Northwestern Pennsylvania. Of the eight fifth-grade classroom teachers invited to participate, seven teachers volunteered to participate in this study. Consequently, 1 class of 24 students was excluded from the study, leaving a remaining 120 students to be invited to participate in the study. Of the 120 students invited to participate, 98 parental consent and study participant assent forms were signed and returned to the researcher indicating a willingness to participate. Twenty-one students did not return their consent and assent participation forms and they were excluded from the study. During the study, 14 students were absent for at least one of the written response sessions and they were excluded from the

study, leaving 84 students participating in this study. Table 2 depicts participant gender classification and total participants of the study group of fifth-grade students from designated elementary schools within the district that the study was conducted.

Table 2

Participants

School	Total Participants	Males	Females
SC 1	31	12	19
SC 2	15	6	9
SC 3	28	12	16
SC 4	10	5	5
Total	84	35	49

Among the participants, (n = 35) males and (n = 49) females volunteered to respond to the narrative prompt in this study.

Participants in this study responded to an open-ended narrative writing prompt: "At different times, people face situations in which they need to be brave. Write about a time when someone needed to be brave and why bravery was needed" (Pennsylvania Department of Education Division of Evaluation and Reports, 2002). All names of the participating fifth-grade teachers' intact fifth-grade classes were placed into a container and randomly assigned to respond to the narrative prompt using an offline word processor Microsoft Word© or the online social digital media Kidblog© for the first writing session. Participants' names were then assigned codes. Thirty days later, the fifth-grade students were asked to respond to the same prompt using the alternate writing platform from the first session. For this study, the researcher used inter-rater reliability to assess students' written responses. The students' narrative written

responses were read and scored by three outside scorers who were previously trained in scoring PSSA written responses. The students' written responses from both the Kidblog© and Microsoft Word© were converted into identically formatted hard copies for each of the outside scorers' evaluation. This was implemented to eliminate potential influence of scorer bias based on online/offline writing platform preference. Thus, scorers were unaware of which written response was a blog or a word processing document. Only the researcher knew the difference. Each student's written response was recorded on a data sheet created by the researcher for platform and student identification. Only the written responses with at least two scorers' reporting the same score were included in the evaluative analysis conducted by the researcher (see Appendix F; Appendix G; Appendix H; Appendix I; Appendix J; Appendix K; Appendix L; Appendix M). "A measurement procedure is considered reliable to the extent that it produces stable, consistent measurements" (Gravetter & Wallnau, 2005). Eighty-four participants' scores were included in the study. All 84 students completed both writing sessions and met the scoring criteria of at least 2 scorers' reporting the same score in the areas of: (a) focus, (b) content development, (c) organization, (d) style, and (e) convention.

Prior to conducting an ANOVA using analysis of variance with repeated measures and counterbalanced, design descriptive statistics were conducted, which included mean (M), standard deviation (SD), and number (n) of participants. Then several tests were conducted to assure test assumptions were not violated. The tests included Mauchly's Test of Spericity, Levene's Test of Equality of Error Variances, and Box's Test of Equality of Covariance Matrices were conducted to assess homogeneity of variances. No violations of assumptions occurred. Finally, tests of Between-Subjects Effects were analyzed for grouping effects. In order to assess interaction effects, Multivariate Tests using Wilks' Lambda values were conducted where $p <$

.05, and Partial Eta Squared values were examined to determine effect size for platform intervention on Topic and Idea, Convention, and Gender. When reporting effect sizes, the researcher used Cohen's (1988) guidelines for interpreting Partial Eta Squared values where .01 = small effect, .06 = moderate effect, and .14 = large effect.

Results

Data Analysis of Research Question Number 1 and Number 2

1. When students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?
2. Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Topic and Idea Convention and Gender

Topic/Idea Score Across Platform Intervention, Order, and Gender

The writing platform group sessions 1 and 2 for Topic/Idea represent order of counterbalance design of repeated measures. For example, Word1/Blog2 shows students in this group of session 1 responded to the open-ended prompt using word processor, Microsoft Word©, writing platform during session 1. In session 2 these students responded to the same

open-ended prompt, but used the alternate writing platform as indicated, for example, for session two (Word1/Blog2).

A mixed between-within subjects analysis of variance (ANOVA) was conducted to assess the effects of the input of two altered interventions of technology writing platforms [offline word processing (Microsoft Word©) and online blogging (Kidblog©)], order of interventions [Blog1/Word2 versus Word1/Blog2], and gender on students' written scores of Topic/Idea. There was no significant interaction effect between intervention [online versus offline writing platform] and order of intervention, Wilk's Lambda = .991, F (1, 80) = .716, *p* = 40, partial eta squared = .009. There was no significant interaction between intervention and gender for topic and idea. Wilk's Lambda = .999, F (1, 80) = .106, *p* = .746 and partial eta squared = .001. There was no significant interaction among intervention, order intervention, and gender for topic and idea, Wilk's Lambda = .963, F (1, 80) = 3.089, *p* = .083, partial eta squared =.037. There was no significant main effect for intervention, Wilk's Lambda = .981, F (1, 80) = 1.53, *p* = .22, partial eta squared = .019, suggesting no significant difference in the area of intervention on Topic/Idea scores. Since *p* value was greater than .05 for these areas there were no significant differences.

The main effect of comparing the platform order [Word1/Blog2 versus Blog1/Word2] was significant, F (1, 80) = 4.05, $p < .05$, partial eta squared = .048, suggesting a small effect size. The participants' blog topic scores were significantly higher for Word1/Blog2 order (M = 2.86, SD = .795) than in the Blog1/Word2 order (M = 2.63, SD = .925); the participants' word topic scores were significantly higher for Word1/Blog2 order (M = 2.86, SD = .824) than the Blog1/Word2 order (M = 2.40, SD = .778).

The main effect for between-subjects effects for gender score was also significant, F (1, 80) = 11.826, $p < .005$, partial eta squared = .129, suggesting a moderate effect size (see Figure 6). Females scored (M = 2.98, SD =.75) significantly higher than males (M = 2.43, SD = .917) for the Blog Topic Score. The word topic score for females (M = 2.86, SD = .764) scored significantly higher for the word topic score than males (M = 2.34, SD = .838). There was no significant interaction effect between order and gender, F (1, 80) = .025, $p = .875$, partial eta squared < .001.

Table 3 displays the descriptive statistic topic scores across platform intervention, order, and gender. The data in Table 3 provide the Mean (M), Standard Deviation (SD), and number (n) of participants of the Descriptive Statistics for Topic and Idea scores reported from the three independent scorers as ranked according to the PSSA Topic/Idea Rubric (see Appendix K) . Table 4 shows results of Multivariate Data Writing Platform for Topic/Idea online (Kidblog©) vs. offline (Microsoft Word©).

Table 3

Descriptive Statistics Topic Score Across Platform Intervention Order and Gender

	Order	Gender	Mean	SD	N
Blog Topic Score	Word1/Blog2	Male	2.62	.806	16
		Female	3.00	.770	28
		Total	2.86	.795	44
	Blog1/Word2	Male	2.26	.991	19
		Female	2.95	.740	21
		Total	2.63	.925	40
	Total	Male	2.43	.917	35
		Female	2.98	.750	49
		Total	2.75	.863	84
Word Topic Score	Word1/Blog2	Male	2.44	.814	16
		Female	3.11	.737	28
		Total	2.86	.824	44
	Blog1/Word2	Male	2.26	.872	19
		Female	2.52	.680	21
		Total	2.40	.778	40
	Total	Male	2.34	.838	35
		Female	2.86	.764	49
		Total	2.64	.831	84

Note. Descriptive statistics for offline word processing platform, Microsoft Word©, and online writing platforms, Kidblog© for Topic and Idea.

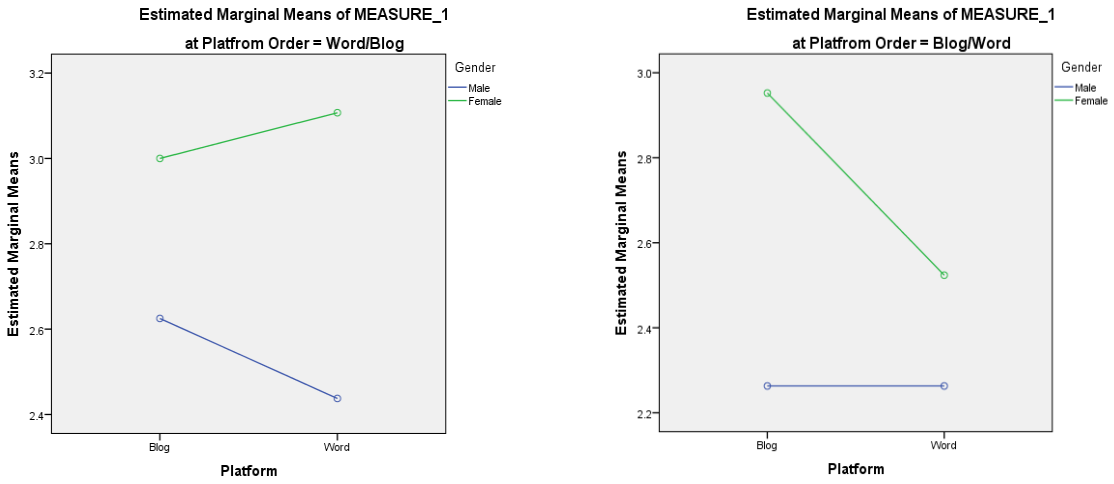
Table 4

Topic Score Across Platform Intervention Order and Gender Topic/Idea Online (Kidblog©) vs. Offline (Microsoft Word©)

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Platform Wilks' Lambda	.981	1.530[a]	1.000	80.000	.220	.019
Platform *BlogFirst Wilks' Lambda	.991	.716[a]	1.000	80.000	.400	.009
Platform *Female Wilks' Lambda	.999	.106[a]	1.000	80.000	.746	.001
Platform *BlogFirst *Female	.963	3.089[a]	1.000	80.000	.083	.037

Note. Multivariate Test table for Topic and Idea online (Kidblog©) versus offline (Microsoft Word©) platforms.

Figure 6 provides a visual display of data, the main effect for between-subjects effects for gender score for the Blog Topic and Word Topic Scores across different writing platforms of Microsoft Word© and Kidblog©.



Note. Females scores were higher than males for both Microsoft Word© and Kidblog© writing platforms.

Figure 6. Topic/Idea Scores Main Effect for Between-Subjects Effects for Gender.

Convention

The writing platform group Sessions 1 and 2 for Convention are the same as stated earlier for Topic/Idea representing the order of the counterbalance design of repeated measures. For example, Word1/Blog2 shows students in this group of session 1 responded to the open-ended prompt using word processor, Microsoft Word©, writing platform during session 1. In session 2 these students responded to the same open-ended prompt, but used the alternate writing platform as indicated, for example, by session two Word1/Blog2. Convention data in reference to the PSSA Writing Rubric include sentence formation; grammar usage, spelling, and punctuation (see Appendix L).

Prior to conducting an ANOVA using analysis of variance with repeated measures and counterbalanced design assumptions of sphericity were met using Mauchly's Test of Sphericity. With only two values, the Mauchly's Test of Sphericity does not report a *p* value. Assumptions were tested using Levene's Test of Equality of Error Variances and Box's Test of Equality of Covariance Matrices. Levene's Test of Equality of Error Variances reported a *p* value of .08 for Blog Convention Score and a *p* value of .09 for Word Convention Score. The value of each variable was greater than the alpha value of .05. Box's Test of Equality of Covariance Matrices reported a *p* value of .51. This is greater than the alpha value of .001. The assumption of homogeneity of variance was not violated based on these two tests. The dependent variables were equal across groups.

A mixed between-within subjects analysis of variance (ANOVA) was conducted to assess the effects of the input of two altered interventions of technology writing platforms [offline word processing (Microsoft Word©) and online blogging (Kidblog©)], order of interventions [Blog1/Word2 versus Word1/Blog2], and gender on students' written scores of convention. Assessing Conventions there was no significant interaction effect between intervention and order of intervention, Wilk's Lambda = 1.000, F. (1, 80) = .025, *p* = .875, partial eta squared < .302, *p* = .584, partial eta squared = .004.

There was a significant main effect for intervention, Wilk's Lambda = .922, F (1, 80) = 6.768, *p* < .05, partial eta squared = .078, suggesting a moderate effect size in the area of intervention on Convention scores. The main effect of comparing the order [Word1/Blog2 versus Blog1/Word2] was significant, F (1, 80) = 5.561, *p* < .05, partial eta squared = .065, suggesting a moderate effect size. The participants' Blog Convention scores were significantly higher for Word1/Blog2 order (M = 3.00, SD = .647) than in the Blog1/Word2 order (M = 2.63, SD =

.807); the participants' Word Convention scores were significantly higher for Word1/Blog2 order (M = 2.77, SD = .743) than the Blog1/Word2 order (M = 2.42, SD = .781).

The main effect for between-subjects effects for gender score was also significant, F (1, 80) = 6.504, p < .05, partial eta squared = .075, suggesting a moderate effect size. Females scored (M = 2.96, SD = .676) significantly higher than males (M = 2.63, SD = .808) for the Blog Convention Score. The Word Convention Score for females (M = 2.80, SD = .676) scored significantly higher for the Word Convention Score than males (M = 2.34, SD = .838).

There was no significant interaction effect between order and gender, F (1, 80) = .095, *p* = .759, partial eta squared = .001. Descriptive statistics for offline word processing platform, Microsoft Word©, and online writing platform, Kidblog© for Conventions across platform intervention order and gender are included in Table 5. Table 5 shows the descriptive statistics of Convention scores across intervention order and gender. The data in Table 5 provide the Mean (M), Standard Deviation (SD), and number (n) of participants of the descriptive statistics for Convention scores as scored by the three independent scores and ranked according to the PSSA Convention Rubric (Appendix L).

Table 5

Descriptive Statistics Convention Scores Across Platform Intervention Order and Gender

	Order	Gender	Mean	SD	n
Blog Convention Score	Word1/Blog2	Male	2.81	.655	16
		Female	3.11	.629	28
		Total	3.00	.647	44
	Blog1/Word2	Male	2.47	.905	19
		Female	2.76	.700	21
		Total	2.63	.807	40
	Total	Male	2.63	.808	35
		Female	2.96	.676	49
		Total	2.82	.747	84
Word Convention Score	Word1/Blog2	Male	2.56	.727	16
		Female	2.89	.737	28
		Total	2.77	.743	44
	Blog1/Word2	Male	2.16	.898	19
		Female	2.67	.577	21
		Total	2.42	.781	40
	Total	Male	2.34	.838	35
		Female	2.80	.676	49
		Total	2.61	.776	84

Note. Descriptive statistics for offline word processing platform, Microsoft Word©, and online writing platform, Kidblog© for Convention.

Multivariate Tests in the area of Convention for offline word processing platform, Microsoft Word©, and online writing platforms, Kidblog© for conventions score across platform intervention order and gender are included in Table 6.

Table 6

Convention Scores Across Platform Intervention Order and Gender Online (Kidblog©) vs. Offline (Microsoft Word©)

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Platform Wilks' Lambda	.922	6.768	1.000	80.000	.011	.078
Platform *BlogFirst Wilks' Lambda	1.000	.025	1.000	80.000	.875	.000
Platform *Female Wilks' Lambda	.993	.580	1.000	80.000	.448	.007
Platform *BlogFirst *Female	.996	.302	1.000	80.000	.584	.004

Note. Multivariate Test table for Convention online (Kidblog©) versus offline (Microsoft Word©) platforms.

Figure 7 depicts the interaction effects of males and female written response scores across the two writing platforms in the area of convention.

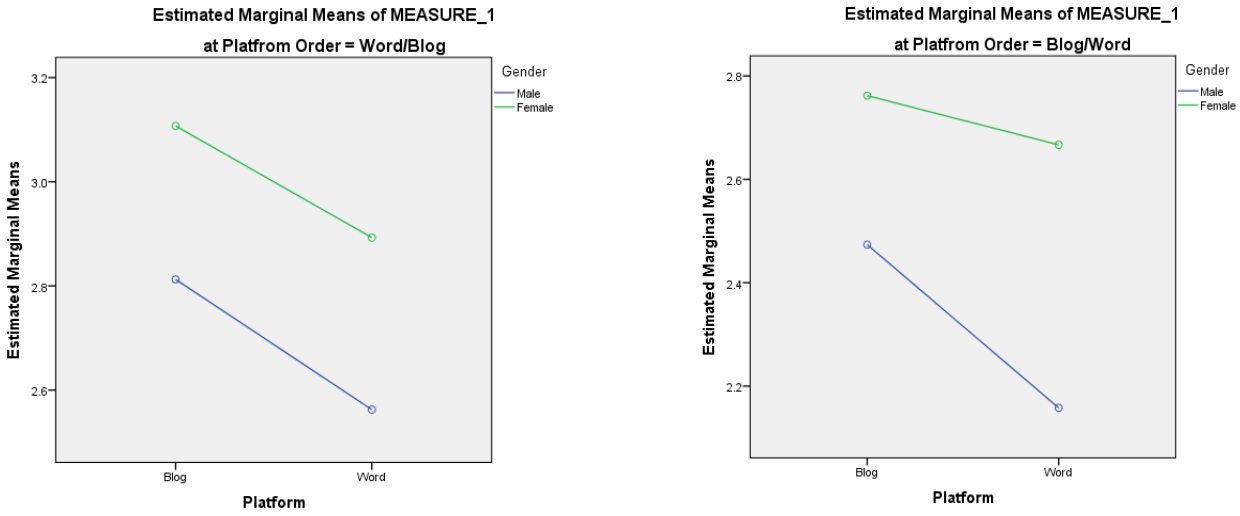


Figure 7. Interaction effects of male and female written response scores across the two writing platforms in the area of convention.

The line graphs in Figure 6 and Figure 7 clearly illustrates the SPSS data; females scored higher than males in both platform areas of Topic/Idea and Convention overall. Also both males and females scored higher when responding using the blog (online) platform compared to word processing (offline) platform on conventions. In topic/idea (see Figure 6), when students went from Word1/Blog2 both males and females scored higher for the blog session. However, Blog1/Word2 males' scores remained stable, while female scores decreased from blogging to word processing.

Summary

In summation of Chapter Four data and analysis, the participants in the study responded to a narrative prompt using online [Kidblog©] versus offline writing platforms [Microsoft Word©]. A mixed between-within subjects analysis of variance ANOVA with repeated measures

and counterbalanced design were used to analyze the quantitative data collected from the participants' written responses to the same narrative prompt (see Appendix P) during two different sessions, 30 days apart, during the study. The written responses were analyzed in the areas of: (a) focus, (b) content development, (c) organization, (d) style, and (e) convention using the guidelines and two part rubric of the PSSA Writing Rubric. Three outside scorers scored the participants' written responses to the prompt using the PSSA Writing Rubric for Idea and Topic and Convention (see Appendix K; Appendix L).

Analysis of data in the area of Topic and Idea showed the main effect of comparing the platform order [Word1/Blog2 versus Blog1/Word2] in Topic and Idea was significant, $F (1, 80) = 4.05$, $p < .05$, partial eta squared = .048, suggesting a small effect size. The participants' blog topic scores were significantly higher for Word1/Blog2 order ($M = 2.86$, $SD = .795$) than in the Blog1/Word2 order ($M = 2.63$, $SD = .925$); the participants' word topic scores were significantly higher for Word1/Blog2 order ($M = 2.86$, $SD = .824$) than the Blog1/Word2 order ($M = 2.40$, $SD = .778$). The main effect for between-subjects effects for gender score was also significant, $F (1, 80) = 11.826$, $p < .005$, partial eta squared = .129, suggesting a moderate effect size (see Figure 6). Females scored ($M = 2.98$, $SD = .75$) significantly higher than males ($M = 2.43$, $SD = .917$) for the Blog Topic Score. The word topic score for females ($M = 2.86$, $SD = .764$) scored significantly higher for the word topic score than males ($M = 2.34$, $SD = .838$). All other effects for Topic and Idea were not significant.

Analysis of the data in the area of Convention revealed a significant main effect for intervention, Wilk's Lambda = .922, $F (1, 80) = 6.768$, $p < .05$, partial eta squared = .078, suggesting a moderate effect size in the area of intervention on Convention scores. The main effect of comparing the order [Word1/Blog2 versus Blog1/Word2] was significant, $F (1, 80) =$

5.561, $p < .05$, partial eta squared = .065, suggesting a moderate effect size. The participants' Blog Convention scores were significantly higher for Word1/Blog2 order ($M = 3.00$, $SD = .647$) than in the Blog1/Word2 order ($M = 2.63$, $SD = .807$); the participants' Word Convention scores were significantly higher for Word1/Blog2 order ($M = 2.77$, $SD = .743$) than the Blog1/Word2 order ($M = 2.42$, $SD = .781$). The main effect for between-subjects effects for gender score was also significant, $F (1, 80) = 6.504$, $p < .05$, partial eta squared = .075, suggesting a moderate effect size. Females scored ($M = 2.96$, $SD = .676$) significantly higher than males ($M = 2.63$, $SD = .808$) for the Blog Convention Score. The Word Convention Score for females ($M = 2.80$, $SD = .676$) scored significantly higher for the Word Convention Score than males ($M = 2.34$, $SD = .838$). All other effects for Convention were not significant.

Chapter Five will offer a synthesis of the literature reviewed earlier in this study. The data are analyzed and presented in this chapter. Conclusions are considered and recommendations made for both educators and future researchers are discussed.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This research study examined participants fifth-grade students' written responses to a narrative prompt using online versus offline writing platforms in a simulated standardized test setting; the Pennsylvania System of School Assessment (PSSA) Narrative Writing Rubric was used to evaluate the written responses in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention. The PSSA, a public domain document, Writing Assessment's reliability was established through a stratified coefficient alpha, standard errors of measure (SEM) conditional standard errors of measure (CSEM) with Rasch, decision consistency, and rater agreement (Data Recognition Corporation, 2011). PSSA is a standards-based criterion-referenced assessment (Pennsylvania Department of Education Assessment, 2009).The purpose of the PSSA is to provide uniform information to teachers and schools. It is intended to assist and guide improvement of curricula and instructional strategies enabling students to achieve academic standards (Data Recognition Corporation, 2011). During this study, participants' responded to the same narrative prompt (see Appendix P) during two different sessions via online writing platform, Kidblog© or offline writing platform Microsoft Word©. Initially, the fifth-grade participants were randomly assigned to one of the writing platforms for the first session. Then, 30 days after the first writing session the participants responded to the same prompt using the alternate writing platform they had not used in the first session. Finally, three outside scorers scored the participants' written responses to the prompt using the PSSA Writing Rubric for Idea and Topic and Convention (see Appendix K; Appendix L). The written responses were analyzed in the areas of: (a) focus, (b) content development, (c) organization, (d) style, and (e) convention using the guidelines and rubrics of the PSSA Writing Rubric. Finally,

only the written responses with at least two scorers reporting the same score were included in the evaluative analysis conducted by the researcher (see Appendix F; Appendix G; Appendix H; Appendix I; Appendix J; Appendix K; Appendix L; Appendix M). "A measurement procedure is considered reliable to the extent that it produces stable, consistent measurements" (Gravetter & Wallnau, 2005). Interestingly, 100% of the 84 participants met the scoring criteria set of 2 out of 3 scorers recording equal scores of numeric evaluation for the written narrative responses to the writing prompt.

The purpose of the study was to explore if significant differences exist between how fifth-grade students produce a written response to a narrative prompt using different writing tools, for example, offline word processing platform, Microsoft Word©, and an online digital platform of blogging, Kidblog©. The results presented in this study will contribute to the existing writing and technology research in education. This study may provide useful information for educators and researchers as they plan instruction and assessment for writing in the elementary grades while incorporating computerized and digital technology writing platforms in the classroom during instruction and assessment. Finally, this study offers recommendations for future research needed in writing and technology in the elementary grades. Comparing online and offline technology platforms, such as weblogs, and word processing computer software with elementary students according to the United States Department of Education (2010), Office of Planning, Evaluation, and Policy Department, is a limited field of study and research is needed.

Summary of Literature Review

For the past decade, global Internet connectivity in households has created an on-line lifestyle crafting literate and technologically advanced societies. Most students in classrooms today are the first to have grown up with digital tools at their fingertips (Greenhow et al. 2009;

Solomon & Schrum, 2010; Tapscott, 1998; Tyson, 2010). According to Wysocki et al. (2004), writing and communication is at a pivotal point where four momentous changes are occurring simultaneously in the area of writing: social, economic, communicational, and technological changes. As students and the world change, education faces new challenges addressing the shifting inundations of new literacies in writing and communication in the areas of information literacies, visual literacies, and technological literacies (Johnson et al. 2009); the educational arena continually strives to prepare students for the Internet connected work force that our students will enter into once leaving formal education. However, the demand for seamless integration of computerized and digital technology is a conflicted practice within many elementary classrooms today. As discussed in Chapter Two, the demand for digital integration and lack of home, school, and generation connectedness has contributed to the digital disconnect within the schools (Levin, Arafeh, Lenhart, & Rainie , 2002). The results presented in this study will contribute to the existing writing and technology research in education.

Regardless of the writing tool or platform, research suggests that many teachers continue to be unsure how to implement effective writing instruction. Digital technology complicates the instructional melee that teachers deal with daily. Educational shifts in writing assessment and instruction have been slow to change to meet writing communication demands and needs as mentioned by Wysocki et al. (2004) and Johnson et al. (2009) of modern learners. Nonetheless, educators must incorporate the dynamics of technological literacies mentioned by Johnston et al. (2009). Sociocultural research has deemed the use of computerized and digital technologies within the classroom as effective tools that increase motivation and academic performance in a variety of academic subjects, including writing (National Writing Project, 2010; National Assessment Governing Board, 2011). Research continues to suggest that even though other

styles of writing evaluation and instruction are encouraged across the grade levels, such as teacher and peer interaction, students continue to lack motivation to produce quality writing (Dutro, Kazemi, & Balf, 2006). This study and other research studies mentioned in Chapter Two of the literature review, such as Lapp et al. (2011) suggest that using digital online blogs may aid in bridging this motivational gap and transfer effective written communication skills across other writing situations.

Consequently, using social media as the writing platform may increase individuals' mindfulness (Langer, 1989) of the processes and functions of writing because of the value and interest associated in modern societies with the use of social media communication platforms. In recent years, classroom educators have identified blogs as being a useful writing tool for students (Solomon & Schrum, 2010). Blogs offer students a place to display their writing publicly to a live audience, some being peers. Students post ideas, learn to critically read and write responses, and use written language effectively. "Readers develop analytical skills and writers learn to be better writers and communicators" (Solomon & Schrum, 2010, p. 19). Vygotsky (1978) describes learning as being entrenched within social happenings and naturally occurring as children relate and interact with people, objects, and events in their surroundings. So creating a learning environment where children can interact and relate with a community of learners during writing instruction and assessment may increase interest in writing and motivation to write among young writers. Thus, students' writing achievement may improve.

Regardless, with the implementation of computerized and digital technology, the complexity of writing remains; young writers continue to struggle with the process of effective written expression needed for communication, and teachers continue to struggle implementing effective writing instruction. These issues cause a need for studies like this one. It is important

for researchers to examine the influence of computerized and digital technology in the area of writing among a generation of digital natives because earlier research studies have provided strong evidence that computerized technology positively influences students' academic performance (Palak & Walls, 2009; Seifert, 2004; Solomon & Schrum, 2010; Turner & Patrick, 2008; Williams & Kingham, 2003; Zsolnai, 2002). Since, writing research has been the most neglected literacy component when compared to arithmetic and reading (Juzwik, et al. 2006; National Commission in America's Schools and Colleges, 2003; Troia, 2010) this study provides the field of writing research with an online and offline analysis of elementary writers' written performance.

This research study examined students' writing performances utilizing online and offline writing technology platforms. Even though writing tools are secondary to the writing process and instruction of writing (Solomon & Schrum, 2010; National Writing Project, 2010; Wilmarth, 2010), the tools and the writing environments are variables that may affect students' writing performance. For example, educational research based in sociocultural theory has provided evidence that creating meaningful learning environments that children value, can connect to, and relate real life experiences is important and promotes positive stimuli enhancing effective learning outcomes among students of all ages (Dewey, 1938; Dyson, 1992; Graves, 1989; Langer, 1987; 1995; Lave & Wenger, 1991). Writing has long been identified as a social activity. Dyson's research studies (Dyson, 1989; 1992) agree that children's literacy progress was directly "linked to the social practices that surrounded them, that is, to their discovery of literacy's rich relevance to their present interactions with friends and to their reflections on their experiences" (1989, p. 276).

An intentional awareness of audience was made evident to the fifth-grade student participants when using the different online and offline forums of writing tools (see Appendix N). The availability of audience interaction as perceived by the fifth-grade participants in this study was an important part of the sociocultural theory's connection as the researcher set out to examine students' performance when using writing tools of the twenty-first century. Young students today are digitally connected. According to a survey report from the Pew Research Center's Internet & American Life Project (2010), about 93% of today's teens ages 12-17 are online thus there is a disconnect between everyday life and school life. Research has established motivation and interest as a key component that enhances students' academic success and achievement on standardized assessments (Baek, 2008; Chen, 2008; Dewey, 1938; Hofer & Swan, 2006; Keengewe & Anyanwu, 2007; Keengewe, Onchwari, & Wacharia, 2008; McComb, Daniels, & Perry, 2008; Palak & Walls, 2009; Wang et al. 2006; Zsolnai, 2002). Accordingly, the use of computerized technology has been strongly supported by researchers to be an effective tool to motivate student performance and academic success (Seifert, 2004; Turner & Patrick, 2008; Williams & Kingham, 2003; Zsolnai, 2002).

The results in this study coincide with a longitudinal study conducted by a Japanese Panel Study in 2002 and 2004 involving 702 elementary-aged children found when children use online Internet more frequently as in gaming, chatting, e-mailing, designing Web sites, viewing Web sites, posting messages, or reading e-mail, or newsletters, social skills and their communication of information were affected positively. Work sampling, for example, demonstrated an improvement in sub-skill areas of collecting, judging, and expressing information effectively. However, students did not show an increased ability in creating or processing information. Thus, the researchers concluded Internet use on a daily basis does not automatically develop the skills

necessary to create and evaluate information (Takahira, Ando, & Sakamoto, 2007). Consequently, instruction, guidance, feedback, conferencing, practice, and scaffolding as well as teacher expertise are necessary elements of learning and gaining knowledge and skills in the writing process continues to be needed in the digital world of writing instruction for young writers (Culham, 2003; Graham & Perin, 2007b; Hayes & Flower, 1986).

Whether students are writing online or offline in the classroom, effective writing instructional strategies remain the focus elements to successful writing achievement and digital citizenship must be incorporated into the writing preparation when using online social media; the tools are different and provide an opportunity to access a broader audience and immediate feedback. However, considering that more than 50% of the states have already shifted to some form of computerized writing assessment including both offline and online platforms (United States Department of Education, 2012) and the National Assessment Governing Board (2011) NAEP report of the United States Department of Education suggests that by 2019 computer-based on demand writing assessments will be given to students in grades 4, 8, and 12 it is important to study the influence that writing tools may have on students' writing performance.

The National Writing Project (2010) identifies three important best practices associated with effective writing instruction found throughout current research: (a) students demonstrate improvement in writing composition when the writing process is implemented using strategies for planning, revising, and editing; an established writing community provides opportunity for feedback and individual feedback enhancing students' writing skills, (b) studying the craft of writing and analyzing how different media, genres, purposes, and discourse communities use writing adds to students' growth in writing, and (c) assisting students in the analysis and understanding of rhetorical situations for their own writing in the areas of audience, purpose,

form, and stance develops students' flexibility to transition to new occasions for writing (DeVoss, et al, 2010). Thus, this research study focuses on the craft of writing and analyzing how different media, cultural influences, and social interaction may add to the research of students' growth in writing. Incorporating the digital interaction of blogging combined with computerized writing platforms in the classroom has the potential to enhance the instructional environment to improve competencies of modern day writers, provide insight to assessment alternatives for writing, and provide an examination of how opportunities to broaden audience awareness for elementary writers' affect writing qualities. Although this study size is small, the results suggest that the mere suggestion of the opportunity of social interaction affected students' written responses significantly.

Summary of Analysis and Findings

The results, implications, and recommendations presented and discussed in Chapter Five are limited to this study. The sample size and the study's demographics prevent generalization of these findings to the larger population. Additional research studies in the area of online and offline elementary students' writing are needed.

The research questions addressed in this study were:

1. When students are given the opportunity to use offline word processing to respond to a narrative prompt versus an online digital platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?
2. Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to

a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

The hypotheses of this study are:

- H_o There will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention.
- H_o Gender will not significantly influence the quality of writing in the areas of focus, content development, organization, style, and convention.

Findings of Research Question Number 1

When students are given the opportunity to use offline word processing to respond to a narrative prompt versus an online digital platform of blogging, will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Analysis of participants' responses are reported and summarized in four areas including: (a) topic and idea, (b) convention, (c) gender, and (d) experience blogging in class and no experience blogging within the classroom setting separately and then the results are presented and discussed. The first research question explored if a significant difference exits when students are given the opportunity to use offline word processing to respond to a narrative prompt versus an online digital platform of blogging. Will students' written response to the prompt significantly differ when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Topic and Idea

The writing components of Topic and Idea are clearly explained in Appendix K as measured by the PSSA Writing Rubric. The main effect of comparing the platform order [Word1/Blog2 versus Blog1/Word2] was significant, $F(1, 80) = 4.05$, $p < .05$, partial eta squared = .048, suggesting a small effect size in the comparison of platform order. Table 7 shows the mean scores for Topic and Idea of students' written responses comparing the main effect of platform order.

Table 7

Topic and Idea Mean Score Comparison of Platform Order Main Effect

Participant Group Order	Blog Topic (M) Score	Word Topic (M) Score
Word1/Blog 2	2.86	2.86
Blog1/Word2	2.63	2.40

The participants' blog topic scores were significantly higher for Word1/Blog2 order (M = 2.86, SD = .795) than in the Blog1/Word2 order (M = 2.63, SD = .925). The participants' word topic scores were significantly higher for Word1/Blog2 order (M = 2.86, SD = .824) than the Blog1/Word2 order (M = 2.40, SD = .778). All other effects for Topic and Idea were not significant.

Several limitations were mentioned earlier in Chapters One, Two, and Three. One of the limitations mentioned was keyboarding experience. In this study, keyboarding in the area of Topic and Idea is not a variable because the skill level required is identical for both online and offline writing platforms. However, other environmental and experiential elements should be

identified as limitations because these variables could have impacted the study's results. First, Microsoft Word© is used regularly by fifth-grade students in the district where the study was conducted. All students within each of the individual classrooms often use Microsoft Word© to write summaries, reports, poetry, and short stories. On the other hand, Kidblog© is not used throughout the elementary classrooms of the entire district. Only two of the four participating elementary schools had previously used Kidblog© in the classroom. Familiarity with software could affect writing performance in the area of topic and idea across the different writing platforms. Second, both writing platforms have editing tools. They are similar, but not the same. Again, familiarity with Microsoft Word© editing tools may have contributed to the outcome of Microsoft Word©. Third, the 30 minute time frame for writing may have affected the outcome as well. Several teachers provided feedback that 30 minutes was not enough time for some students to complete the written response. The lack of time has always been an issue in the educational setting contributing to limitations of successful performances and has also been identified by some researchers as one negative factor contributing to students' inability to transfer skills across situation. According to Littlefield et al. (1988) in reference to the theory of transfer, "transfer failure" has been linked to insufficient opportunities (time) for people to learn. The ultimate influence that education strives to achieve is transference of skills into life situations.

Fourth, even though the repeated ANOVA design with a counter balance lessens the negative influence of repetition there could be some carryover effect that lessened the students' enthusiasm to write on the topic of heroes. Looking over the students' written responses 35% of the students (n = 29) wrote about the same hero scenario in the second written response session; 65% of the students (n = 55) wrote about a different hero scenario in the second writing response session. The researcher would expect to find a higher percentage of same hero scenarios in the

second session of the written responses if repetition of topic caused the writers to use the first session as a prewrite/rough draft then the second session could have shown improvement due to the student's prior experience. Since that was not the case, this may suggest that repetition and practice did not affect the reliability or validity of the repeated design with counter balance.

Interestingly, when examining the Word1/Blog2 mean and Blog1/Word2 mean they were equal (M = 2.86) across both platforms. The mean was maintained when students went from word processor to social media blogging (scores for written response could range between 1.0 and 3.0). Conversely, the Blog1/Word2 mean scores decreased Blog1 = (M) = 2.63 to Word2 = (M) = 2.40, signifying a decrease in mean scores of .23 (see Table 8) when students went from social media blogging to word processor. This appears to imply that students' performance may be impacted by the social connection of the online writing platform of Kidblog©. Certainly, this suggests that more research studies in the area of online and offline writing is needed.

The foundation of the sociocultural view point is founded on the premise that learning is a process which takes place beyond the individual mind. Learning needs the reciprocal social interaction and experience within a participatory and social framework (Lave & Wenger, 1991). Dewey explicitly contends, however, that quality of the educational experience is essential. Just merely experiencing a connected interaction of social networking has the potential to be "mis-educative" (Dewey, 1938, p. 25). The fundamental point in the consideration of best practices in any educational setting or subject is well stated by Dewey (1938), "finding out just what education is and what conditions have to be satisfied in order that education may be a reality and not a name or a slogan" (p. 91). Certainly, a limitation exists in this study in the area of best practices, since no instructional practices were examined in this study. Research across the decades has supported Dewey's ideas of social connection, inquiry, reciprocal communication,

and community of learners interacting in “real life” situations is a fundamental element of effective instruction and assessment. This study is limited in its design to draw any conclusions or discuss implications associated with instructional practices. Further research is also needed in this area.

Convention

There was a significant main effect for intervention, Wilk’s Lambda = .922, F (1, 80) = 6.768, $p < .05$, partial eta squared = .078, suggesting a moderate effect size in the area of intervention on Convention scores. The main effect of comparing the order [Word1/Blog2 versus Blog1/Word2] was significant, F (1, 80) = 5.561, $p < .05$, partial eta squared = .065, suggesting a moderate effect size. The null hypothesis: there will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the area of convention is rejected. Table 8 shows the mean scores for the Convention of students’ written responses comparing the main effect of platform order.

Table 8

Convention Mean Score Effect for Intervention of Platform Order

Participant Group Order	Blog Convention (M) Score	Word Convention (M) Score
Word1/Blog 2	3.00	2.77
Blog1/Word2	2.63	2.42

The participants' Blog Convention scores were significantly higher for Word1/Blog2 order (M = 3.00, SD = .647) than in the Blog1/Word2 order (M = 2.63, SD = .807); the participants' Word Convention scores were significantly higher for Word1/Blog2 order (M = 2.77, SD = .743) than the Blog1/Word2 order (M = 2.42, SD = .781). All other effects for Convention were not significant.

The limitations mentioned in the Topics and Idea section applies to convention as well. For this study, participating teachers were asked to turn off the automatic correction for Microsoft Word©, however, there is not total assurance that this occurred. Consequently, familiarity with software tools, such as ABC check is a viable variable in the area of convention. For example, although there is an ABC check in both Kidblog© and Microsoft Word©, ABC check icon must be activated to view errors in Kidblog©, unlike Microsoft Word© which was defaulted to automatic. Familiarity with software tools availability and how they work may affect students' performance scores. Further research should be conducted in this area, especially for assessment software programs of the future online and computerized offline testing platforms. As the data were evaluated for convention, the results for Convention were similar to Topic and Idea in that blog written responses in general scored higher than word processor.

For example, when examining the blog convention scores across platform orders blogging mean convention scores were significantly higher for the blog responses regardless of order (see Table 9). This appears to suggest that students' performance may be impacted by the social connection of the online writing platform of Kidblog©. A small difference is noticed in the blog mean of an increase of .23 for Word1/Blog2 and a mean increase of .21 for blog during the platform order of Blog1/Word2. Similarly the results reflect that of the Topic/Idea when students went from blog to word processor the students' mean written response scores for convention decreased by .21. The online experience appeared to maintain students writing performance, whereas when students blogged first, then responded with the word processor platform, their writing scores demonstrated a significant decreased. Certainly, this suggests that more research studies in the area of online and offline writing is needed.

The null hypothesis: there will be no significant differences between offline word processing responses and the digital online responses of blogging to the narrative prompt in the areas of focus, content development, organization, style, and convention is rejected.

Findings of Research Question Number 2

Does gender significantly influence students' written responses when students are given the opportunity to use an offline word processing writing platform to respond to a narrative prompt versus an online digital writing platform of blogging, when ranked on the PSSA Writing Rubric in the areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) convention?

Gender: Topic and Idea

The main effect for between-subjects effects for gender score was significant, $F(1, 80) = 11.826$, $p < .005$, partial eta squared = .129, suggesting a moderate effect size (see Figure 6).

Females scored (M = 2.98, SD =.75) significantly higher than males (M = 2.43, SD = .917) for the blog topic score. The word topic score for females (M = 2.86, SD = .764) scored significantly higher for the word topic score than males (M = 2.34, SD = .838). There was no significant interaction effect between order and gender, F (1, 80) = .027, p > .05, partial eta squared = .000. All other effects for Topic and Idea across gender were not significant. Table 9 shows the main effect between-subjects for gender in the area of topic and idea.

Table 9

Topic and Idea Main Effect Between-Subjects for Gender

	Blog Topic/Idea (M) Score	Word Topic/Idea (M) Score
Female (M)	2.98	2.86
Male (M)	2.43	2.34

Gender: Convention

The main effect for between-subjects effects for gender score was also significant, F (1, 80) = 6.504, p < .05, partial eta squared = .075, suggesting a moderate effect size. Females scored (M = 2.96, SD =.676) significantly higher than males (M = 2.63, SD = .808) for the Blog Convention Score. The Word Convention Score for females (M = 2.80, SD = .676) scored significantly higher for the Word Convention Score than males (M = 2.34, SD = .838). All other effects for Convention across gender were not significant. Table 10 shows main effect for between-subjects for gender in area of convention.

Table 10

Convention Mean Score for Main Effect for Between-Subjects for Gender

	Blog Convention (M) Score	Word Convention (M) Score
Female (M)	2.96	2.80
Male (M)	2.63	2.34

Across both areas of Topic/Idea and Convention the mean scores for females were significantly higher than the mean Topic/Idea and Convention scores of males regardless of platform order. Generally, researchers have identified that girls demonstrate a stronger confidence in their writing performance than boys, especially in middle school (Pajores & Valiante, 2006). Interestingly, both males' and females' mean scores were significantly higher when responding to the prompt using the blog (see Table 10; Table11). The data results are similar to what was reported in Topic/Idea. This could suggest a positive influence of social media and audience awareness. Thus, the null hypothesis: Gender will not significantly influence the quality of writing in the areas of focus, content development, organization, style, and convention is rejected.

Searching for a prompt (see Appendix P) the researcher tried to choose one that would promote equal interest opportunities for both female and male participants. Researchers suggest that educators need to focus on broadening writing opportunities that are open to both female and male interest and address areas that may assist in altering students' perception that writing is a feminine activity so that writing can be valued and germane for both boys and girls (Pajores & Valiante, 2001). Males and females alike can identify with heroes. Students in this study chose

an array of heroes and heroines. Sometimes the participants wrote about themselves. Others wrote about friends, family members, or pets. Still others wrote about unknown people around the world who may have faced global disasters, like Hurricane Katrina and Sandy, Twin Towers, or they wrote about the bravery of an American soldier serving in our nation's military abroad. There were a few make-believe stories about fictional heroic characters and that was considered acceptable because a narrative can be a fictional account of an event (Hillocks, 2007).

Experience and No Experience

During the data collection process, all teachers unexpectedly voluntarily stated whether their fifth-grade students had ever used an online blog during class instruction prior to the implementation of the study which led the researcher to investigate if prior classroom experience affected student participants' written performance. Even though this information was not part of the initial study, the researcher ran independent sample t-tests for blogging experience and no blogging experience using the SPSS software. There was no significant difference in scores for experience and no experience in the areas of blog or word topic/idea and convention. The study group was small and further studies are needed in the area of experience and no experience.

Implications

The goal of this study was to examine if significant differences existed in the writing qualities of fifth-grade students' when students wrote their responses using different writing platforms, online versus offline. One characteristic that expert writers consider is audience when they produce a well written composition (Ede & Lunsford, 1984; Hillocks, 2007; Solomon & Schrum, 2010). Audience awareness was an important aspect of this study. Social interaction among the participating students was evident when they blogged. The fifth-grade participants in this study were provided verbal cues at the beginning of each response session indicating there

was potential for audience response available on the blog during the implementation of the study (see Appendix N). Appendix N states:

> Some of you will be writing in Microsoft Word©, an offline writing platform. Others will be writing in Kidblog©, an online writing platform. The blog is connected to a live audience made up of our district's fifth-grade students participating in this project. These fifth-grade students have the potential and ability to immediately respond to your written response.

The students' awareness of audience and social interaction opportunity was evident in several areas of the research. First, teachers reported students' initial behaviors during the study were filled with either anticipation or disappointment. For example, unexpectedly, teachers reported to the researcher that students vocalized their disappointment when they were asked to respond to the prompt using the Microsoft Word©. On the other hand, teachers and the district's technology coach reported that students' verbal responses associated to the assignment of Kidblog© were reflective of excitement and eagerness to respond on the blog. Second, other spontaneous actions from several students provided evidence that students were "in tune" to the social and interactive capabilities of the audience on the blog. For example, one student wrote directly to the researcher on the comment section of the researcher's, "Thanks for the activity it was fun!" Another student went home and accessed Kidblog© at home and entered a comment on the prompt page created by the researcher, "I'm home." Third, during the blog, many students had enough time to comment on other student participants' written responses. There were 72 comments during session one and 72 comments during session two. These statistics, observations, verbal annotations, and written comments by students within the blog posts and from teachers provide evidence of students' awareness of and social interaction.

These behaviors and the statistical analysis provide evidence that strongly suggest the fifth-grade elementary students' were clearly aware of the blog's social connection and available audience. With the mere suggestion of the blog's ability to be online and students' knowledge of social media students responded with verbal comments referencing their desire to blog. According to Lapp, Shea, and Wolsey, 2011 audience awareness is an abstract and difficult concept for emergent writers to comprehend. Often young writers choose to report an experience briefly and basically without respect for the intended reader, readers' interaction, or perspective mostly due to developmental maturity. This research provides supportive quantitative evidence to previous studies that blogs positively affect young writers' performance and may have the potential to help immature writers in elementary school identify audience and improve writing skills across the curriculum and in other situations. Further research is indicated in this area.

Statistical analysis of the data in Topic and Idea, Convention, and Gender supports that there is evidence of social interaction when students use the blog. For example, when examining the Word1/Blog2 mean and Blog1/Word2 mean for Topic and Idea they were equal (M = 2.86) across both platforms. The Topic and Idea mean was maintained when students went from word processor to social media blogging. Conversely, the Blog1/Word2 Topic and Idea mean scores decreased Blog1 = (M) = 2.63 to Word2 = (M) = 2.40, signifying a decrease in mean scores of .23 (see Table 8) when students went from social media blogging to word processor. This appears to provide evidence that students' performance may be impacted by the social connection of the online writing platform of Kidblog© in the area of Topic and Idea. The results suggest that blogging may have maintained students' interest. The Web 2.0 social media writing and communication platforms make learning personal, collaborative, social, and more meaningful for individual learners (Greenhow, Robelia, & Hughes, 2009). Since blogs are a

social and cultural component of modern communication among all ages, there exists a natural inclination of interest in its use; especially among the youth according to the American Life Project research report Pew Internet (Lenhart, Arafeh, Smith, & Macgill, 2008). Also, interest levels have repeatedly been found in research as a positive and powerful influence on learning and academic achievement (Hidi & Renninger, 2006).

The Convention mean scores across platform orders during blogging were also significantly higher for the blog responses than the word response regardless of order (see Table 9). Gender data suggests that even though overall females scored higher than males, the mean scores for blogging for both females and males was greater than during word processing in both areas of Topic/Idea and Convention. The areas of Convention and Gender appear to coincide with the findings for Topic/Idea suggesting that students' writing performance in these areas may be impacted by the social connection of the online writing platform of Kidblog©. Certainly, the results of this study suggest that more research studies in the area of online and offline writing is needed with elementary students.

This quantitative study provides evidence that students' motivation, enthusiasm, and social engagement transfers beyond the walls of the classroom and is aligned with other research studies suggesting a similar effect when using online writing platforms. For example, a case study conducted by Lapp et al. (2011), implementing a blog in a second grade class demonstrated an increased awareness of audience and self-reflection of writing skills. In the Lapp et al. case study, there seemed to be some evidence that the awareness of audience also transferred to unpublished work of the second grade students. Transference, the fundamental aspect of transfer theory, according to Perkins and Saloman (1992), is implied in most educational theories, instructional methodologies, and philosophies of education. If educators

teach this, then students will be able to do "whatever." Quantifiably, research sustains the idea that the reciprocal act of instruction and student learning is the backbone of the classroom-learning environment and consequently transfer can occur (Detterman & Sternberg, 1996; Graham & Harris, 1989; Hillocks, 2007). Transfer is difficult to identify and many researchers argue that transfer does not exist (Perkins & Salomon, 1992). If it does exist, time appears to play an important role for transfer to occur. A limitation of this study was the 30 minute time limit. Some of this study's participants did not have enough time to complete the initial written response according to teacher reports.

The implications of this study suggest that using an online blog may be beneficial as an instructional tool to aid in the increase academic achievement for students' writing skills in the areas of Topic/Idea and Convention. Another implication from the study suggests that blogging appears to be gender friendly, since both males and females scored higher on the blog than on the word processor overall.

Suggestions for Future Research

The purpose of the study was to explore if significant differences exist between how children produce a written response to a narrative prompt using different writing tools, for example, offline word processing platform, Microsoft Word© and an online digital platform of blogging, Kidblog©. Narrative writing was chosen as the writing genre for the study for several reasons. First, most state standardized tests require students to write narratives (Hillocks, 2007). Second, storytelling, narration of our lives and who we are as humans, occurs naturally in human communication at any age and in any culture (Fisher, 1989; Graves, 1983). The writing platforms of blogging (online) and word processing (offline) were chosen because social and cultural communication is shifting to digital and computerized writing forums. Based on results

gathered from this study, further research is needed for comparison studies of online and offline writing across the grade levels for elementary aged students.

Future writing research opportunities exist in the area of writing curriculum and writing instruction. First, writing curriculum often is nonexistent. Second, writing curriculum, that does exist, is often restrictive to instructional preparation for the types of writing on standardized testing (i.e., narrative, persuasive, "how to," and classificatory). Third, no one instructional method or curriculum is deemed better than another or as the only way to provide instruction (Jacob, 2010; Hillocks, 2002; MacArthur et al, 2006; National Writing Project, 2010; Solomon & Schrum, 2010; Troia, 2010). Consequently, delivery of instruction has many variations among teachers of all grade levels. This adds to the disconnected writing instruction that often occurs in schools and potentially negatively impacts writing achievement (Hillocks, 2002, 2007).

This writing study was limited in both areas of curriculum and instructional practices. The study was conducted under artificial writing conditions simulating current standardized tests, and in an educational setting where instructional writing practices among the teachers are confined to the preparation for standardized testing genres and competitive writing preparation. The current study could be expanded to include student interest and choice of writing topic both online and offline since according to Hidi and Renninger (2006), research finds that heightened interest levels influence three areas of education: (a) attention, (b) goal setting, and (c) learning. This study focused on only fifth-grade writers. Future research studies could be extended to longitudinal online and offline studies comparing writing performance across various grade levels. A meta-analysis and review of research conducted by the United States Department of Education Office of Planning, Evaluation, and Policy Department (2010) indicated there are limited research studies comparing online and offline technology platforms. Limited longitudinal

independent studies have provided encouraging and measurable results supporting the notion that technology infusion promotes increased academic skills for elementary students through effective integration using constructivist and sociocultural learning approaches (Knezek & Christensen, 2007; Lowther et al. 2008; Mouza, 2008; Takahira, Ando, & Sakamoto, 2007). The small number of participants in this study (n = 84) was another limitation of this study. This study could be expanded to include a larger study population to support the findings of this study.

Another area affecting student writing achievement is effective teacher implementation of writing instruction. Research indicates teachers are the greatest determinant in the transition to new writing platforms and technological success in the classroom (Baek, 2008; Hofer & Swan, 2006; McDonald & Gibbons, 2009; Palak & Walls, 2009). Research also consistently supports the contention that effective instruction delivery has a direct impact on students' learning (Dewey, 1915, 1938; Engelmann, 2007; Hillocks, 2007; Solomon & Schrum, 2010), and it continues to be so with the infusion and blending of technology into the curriculum (Harris, Mishra, & Koehler, 2009; Mishra & Koehler, 2006; Spence, 2009). Research examining teachers' effective writing instruction and delivery of instruction are practical areas for future research for both online and offline writing platforms. Classroom teachers continue to resist using technology as an integral component of curriculum and instruction (Leonard, Davis, & Sidler, 2005). Consequently, research suggests a need for professional development in the areas of technology blending and best practices for effective writing instruction and effective professional development initiatives should be examined by future researchers.

Finally, future studies could include an examination of the technological phenomena that exist in schools and society designated as the digital disconnect and digital divide. This is a

paradox of the digital age where teens are writing to communicate in everyday life using social media tools, but do not see the connection to school instruction or implementation of school writing as "writing" (Lenhart, Arafeh, Smith, & Rankin, 2008). In addition, part of the disconnection in the classroom and at home occurs because teachers and parents of these digital learners have not grown up with Internet connections; thus knowledge of and value of the tools are approached from different viewpoints. The opportunity to expand research in the field of offline compared to online writing platforms and the educational implementations are inexhaustible because the introduction of new technologies and Web 2.0 tools is continually changing and there are many personal dynamic factors that influence writing performance.

Conclusion

The findings of this study suggest that a positive, quantifiable, and significant difference exists when students respond to a narrative prompt using an online writing platform (Kidblog©) versus an offline writing platform (Microsoft Word©). Students' mean scores of their written responses were significantly higher for blogging (online) in various segments of the data (see Chapter Four) than for word processing (offline) in the writing areas of topic/idea, convention, and gender suggesting a positive influence may exist for writing performance when using social media.

Writing is complex because it requires students to utilize thinking processes including metacognition, motivation, language, and environmental experiences (Palak & Walls, 2009). Educators continue to face challenges as they struggle to provide effective and age appropriate writing instruction across the grade levels that spur enthusiasm among students for writing (Solomon & Schrum, 2010). Today the complexity of writing is compounded by the shifting global communication trends in the world. Students are "tuned in" to and connected to social

media communication and writing devices at home. However, a "digital disconnect" (National Writing Project, 2010, p. 25) exists between home and school. Research such as this writing study should cause educators, administrators, and curriculum directors to re-evaluate their writing curriculum, instruction, and assessment techniques. Social and cultural changes have created a need for schools to incorporate plans for the implementation of digital writing instructional methods that bridge the digital disconnect of home, school, and cultural trends of technologically advanced societies.

Simultaneously educational leaders need to address some major barriers that exist within the structures of the educational forum. First, effective writing instruction including the use of the writing process and immediate teacher and peer feedback is limited within the classrooms of elementary students. This is often due to limited time in the school day and teachers feel the need to focus writing instruction on standardized writing test preparation. Second, research suggests teachers' lack of confidence in their own writing hinders their effectiveness to teach writing. Finally, there is a lack of writing curriculum that effectively incorporates blended computerized and digital technology for writing in the classroom.

Ultimately, teaching methods for writing can no longer be comprised of students sitting quietly alone in rows with paper and pencil writing for long periods of time with no feedback or social connection. Paper and pencil may continue to be rudimentary tools during the writing process for the development of writing skills. However, as educators plan for the digital natives to become expert writers, incorporating relevant tools of the era of online social media and computerized technology seems necessary to inspire interest and motivation for emergent writers as they strive to become expert writers in school and in future careers. Consequently, educators need to shift writing production and the writing process instructional methodology toward social

media writing platforms during classroom writing instruction and practice. Research suggests using social media during instruction and assessment has the potential to benefit both emergent and experienced writers.

Bridging the digital gap and digital disconnect must begin with teacher preparation and ongoing professional development in the areas of writing proficiency and the use of computerized and digital social media as instructional tools for writing. Also, districts would benefit from developing an effective writing curriculum that prepares students for the future trends of written communication of the 21st century. If educators are going to provide effective writing instruction for the digital generation, they must use the writing tools that the learners value and use in real life. Certainly, the results of this study and previous sociocultural studies suggest that online writing platforms positively have the potential to affect students' writing performance and future research is needed in this area.

Educational research like this study contributes to breaking down the barriers associated with the inability to connect effective instructional practices with social networks. As the emergence of new technologies, websites, and mobile devices continue to change, they promise to challenge the traditional delineations of literacy while simultaneously and naturally transforming the delivery platforms and mediums of future tools used in education, writing, reading, arithmetic, and communication production inside and outside the classroom walls. Educators will continue to strive to meet the demands of the cultural and social trends affecting students at home and in the learning environment at school.

References

Ainley, M., Hidi, D., & Barndorff, D. (2002). Interest, learning, and psychological processes that mediate their relationship. *Journal of Educational Psychology, 94*(3), 545-561.

Albright, A., & Salmanowitz. (2009, May 12). High school dropout crisis threatens U.S. economic growth, competitiveness, witnesses tell house panel. *Committee on Education & Labor*, 1-3. Retrieved from http://edlabor.house.gov/newsroom/2009/05/high-school-dropout-crisis-thr.shtml

Alpert, J., & Hajaj, N. (2008, July 25). We knew the web was big . . . [Web log post] *The official Google blog*. Retrieved from http://googlblog.blogspot.com/2008/07/we-knew-web-was-big.html

Applebee, A. N. (1984). Writing and reasoning. *Review of Educational Research, 54*(4), 577-596.

Applebee, A. N., & Langer, J. A. (2006). The state of writing instruction in America's schools: What existing data tells us [Monograph]. *Center on English Learning & Achievement*. Retrieved from http://www.albany.edu/aire/news/State%20of%20Writing%20Instruction.pdf

Ares, N. M., & Peercy, M. M. (2003). Construction literacy: How goals, activity systems, and text shape classroom practice. *Journal of Literacy Research, 35*(1), 633-662. Retrieved from http://jlr.sagepub.com/content/35/1/633.full.pdf

Baek, K. Y. (2008). What hinders teachers in using computer and video games in the classroom? Exploring factors inhibiting the uptake of computer and video games. *Cyber Psychology & Behavior, 11*(6), 665-671. doi:10.1089/cbp.2008.0127

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood, NJ: Prentice-Hall.

Bandura, A. (1997). *Self efficacy: The exercise of control*. New York, NY: Freeman.

Bandura, A., Caprara, G. V., Barbaranelli, C., Gerbino, M., & Patorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development, 74*(3), 769-782. doi:10.1111/1467-8624.00567

Bandura, A., & Schunk, D. H. (1981). Cultivating competence, self-efficacy, and intrinsic interest through proximal self-motivation. *Journal of Personality and Social Psychology, 41*, 586-598.

Beach, K. (1999). Consequential transitions: A sociocultural expedition beyond transfer in education. In A. Iran-Nejad & P.D. Pearson (Eds.), *Review of research in education* (Vol. 24, pp. 61-100). Washington, DC: AERA.

Benson, B. J., & Campbell, H. M. (2010). Assessment of student writing with curriculum-based measurement. In G. A. Troia (Ed.), *Instruction and assessment for struggling writers* (pp. 337-353). New York, NY: The Guilford Press. (Original work published 2009)

Benton, S. L., Corkill, A. J., Sharp, J. M., Downey, R. G., & Khramtsova, I. (1995). Knowledge, interest and narrative writing. *Journal of Educational Psychology, 87*, 66-79.

Berninger, V., & Richards, T. (2002). *Brain literacy for educators and psychologists*. New York: NY: Academic Press.

Berninger, V. W., Garcia, N. P., & Abbott, R. D. (2010). Multiple processes that matter in writing instruction and assessment. In G. A. Troia (Ed.), *Instruction and assessment for struggling writers* (pp. 15-50). New York, NY: Guilford.

Bransford, J., Brown, A., & Cocking, R. (1999). How children learn. In *How people learn: Brain, mind, experience, and school* (pp. 79-113). Washington, DC: National Academy Press.

Bransford, J. D., & Schwartz, D. (2001). Rethinking transfer: A simple proposal with multiple implementations. In A. Iran-Nejed & P. D. Pearson (Eds.), *Review of research in education American Educational Research Association* (Vol. 24, pp. 61-100). Washington, DC. Retrieved from http://www.stanford.edu/~danls/RethinkingTransfer.pdf

Breland, H. (1999). *GRE research exploration of an automated editing task as a GRE writing measure* (Report CREB-96-01R, RR-99-09). Retrieved from ETS Research Report https://docs.google.com/viewer?a=v&q=cache:oIthfMpeLWwJ:www.ets.org/Media/Resarch/pdf/RR-99-09-Breland.pdf

Brown, A., & Slagtervan Tryon, P. J. (2010). Twenty-first century literacy: A matter of scale from micro to mega. *The Clearing House, 83*(6), 235-238. doi:10.1080/00098655.2010.484438

Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.

Bruning, R., & Horn, C. (2000). Developing motivation to write. *Educational Psychologist, 35*(1), 25-37. doi:10.1207/S15326985EP35014

Calfee, R. C., & Miller, R. G. (2005). Breaking ground: Construction authentic reading-writing assessments for middle and secondary school students. In R. Indrisano, & J. R. Paratore (Eds.), *Learning to write writing to learn theory and research in practice* (pp. 203-219). Newark, DE: International Reading Association.

Chen, C. H. (2008). Why do teachers not practice what they believe regarding technology integration. *The Journal of Educational Research, 102*(1), 65-75. Retrieved from http://eric.ed.gov/?id=EJ809607

Clay, M. (1982). Research update: Learning and teaching writing: A developmental perspective. *Language Arts, 59*, 65-70.

Cobb, P. (1994). Where is the mind? Constructivist and sociocultural perspectives on mathematical development. *Educational Research, 23*(4), 13-20. Retrieved from http://links.jstor.org/sici=189X%28199410%2C13%3AWITMCA%3E.2.0.CO%3b2-P

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Cole, M. (1996). *Cultural psychology*. Cambridge, MA: Harvard University Press.

College Board. (2003). *The neglected "R" the need for a writing revolution*. Retrieved from http://www.collegeboard.com/prod_downloads/writingcom/neglectedr.pdf

College Board. (2004, September). *A ticket to work or a ticket out a survey of business leaders* (The National Commission on Writing for America's Families, Schools, and Colleges). Retrieved from http://www.collegeboard.com/prod_downloads/writingcom/writing-ticket-to-work.pdf

Collin, J. (1995, October). Literacy and literacies. *Annual Review of Anthropology, 24*, 75-93. doi:10.1146/annurev.an.24.100195.000451

Collins Education Associates. (2009). *Collins writing program using best-practice research and time saving techniques to improve student performance* (J. J. Collins) [Brochure]. Retrieved from http://www.collinsed.com/PDFs/collins_writing_overview.pdf

Costa, A. L., & Kallick, B. (2008). *Learning and leading with habits of mind 16 essential characteristics for success*. Alexandria, VA: Association for Supervision and Curriculum Development.

Creswell, J. W. (2009). *Research design qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage

Crook, C. (2008, May). *Web 2.0 technologies for learning: The current landscape – opportunities, challenges and tensions.* Retrieved from British Education Communication Technology Agency (BECTA) website http://dera.ioe.ac.uk/1475/2/becta_2008_web2_ currentlandscape additional_litrev.pdf

Culham, R. (2003). *6+1 traits of writing the complete guide grades 3 and up*. New York, NY: Scholastic.

Data Recognition Corporation. (2011). *Technical report for the 2011 Pennsylvania System of School Assessment*. Retrieved from Pennsylvania Department of Education website: http://www.portal.state.pa/portal/server.pt/community/technical_analysis/7447

Dekker, S., & Fischer, R. (2008). Cultural differences in academic motivation goals: A meta-analysis across 13 societies. *Journal of Educational Research, 102*(2), 99-110. doi: 10.3200/JOER.102.2.99-110

Deno, S., & Fuchs, L. (1987). Developing curriculum-based measurement systems for data-based special education problem solving. *Focus on Exceptional Children, 19*(8), 1-16.

Detterman, D. K. (1996). The case for the prosecution: Transfer as an epiphenomenon. In D. K. Detterman & R. J., Sternberg (Eds.). *Transfer on trial: Intelligence, cognition, and instruction.* (pp. 1-24). Norwood, NJ: Ablex.

Detteman, D. K., & Sternberg, R. J. (Eds.). (1996). *Transfer on trial: Intelligence, cognition, and instruction.* Norwood, NJ. Ablex.

DeVoss, D. N., Eidman-Aadahl, W., & Hicks, T. (Eds). (2010). *National Writing Project. Because digital writing matters improving student writing in online and multimedia environments*. San Francisco, CA: Jossey-Bass.

Dewey, J. (1915). *The school and society*. Chicago, IL: University Press.

Dewey, J. (1916). *Democracy and education*. Retrieved from http://ilt.columbia.edu/publications/dewey.html

Dewey, J. (1997). *John Dewey experience & education* (1997 Ed.). New York, NY: Simon & Schuster. (Original work published 1938)

Drexler, W., Dawson, K., & Ferdig, R. E. (2007). Collaborative blogging as a means to develop elementary expository writing skills. *Electronic Journal for the Integration of Technology Education, 6*, 140-160. Retrieved from http://www.personal.psu.edu/mfh152/blogs/meghan_horbal/Drexler.pdf

Dutro, E., Kazemi, E., & Balf, R. (2006). Making sense of "the boy who died": Tales of a struggling writing. *Reading and Writing Quarterly, 22*, 325-556. doi:12.1080/10573560500455752

Dyson, A. (1989). *Multiple worlds of child writers: Friends learning to write*. New York, NY: College Press.

Dyson, A. H. (1992, June). *Whistle for Willie, lost puppies, and cartoon dogs: The sociocultural dimensions of young children's composing or toward unmelting pedagogical pots* (Rep. No. 63). Retrieved from http://www.nwp.org/cs/public/download/nwp_file/95/tr63.pdf?x-r=pcfile_d

Dyson, A. H. (1999). Transforming transfer: Unruly children, contrary texts, and the persistence of the pedagogical order. *Review of Research in Education, 24*, 141-171.

Ede, L., & Lunsford, A. (1984). Audience addressed/audience invoked: The role of audience in composition. *College Composition and Communication, 35*(2), 155-171.

Edutopia. (2001). *Project based learning: An overview* [Video file]. Retrieved from http://www.edutopia.org/project-based-learning-overview-video

Edwards, N. (2006). Rediscovering the creative heart of Japanese education: Fostering intrinsic motivation through a love of language. *The Language Teacher*, *28*(1), 19-23.

Emig, J. (1977). Writing as a mode of learning. *College Composition and Communication, 28*(2), 122-128. Retrieved from http://links,jstor.org/sici?sici=0010-96X%28197705%29287705%3938%3C122%3AWAAMOL%3E2.O.3E2.0.CO%3B2-H

Emig, J. (1982). Inquiry paradigms and writing. *College Composition and Communication, 33*(1), 64-75. Retrieved from http://www.jstor.org/discover/10.2307/357845?searchUrl=%2Faction%2FdoBasicSearch%3FQuery%3DInquiry%2BParadigms%2BAND%2Bwriting%2B1982%2BJanet%2BEmig%26Search%3DSearch%26gw%3Djtx%26prq%3DInquiry%2BParadigms%2BAND%2Bwriting%2B1982%26hp%3D25%26acc%3Doff%26aori%3Doff%26wc%3Don%26fc%3Doff&Search=yes&uid=3739864&uid=2134&uid=2&uid=70&uid=4&uid=3739256&sid=21101434550487

Engelmann, S. (2007). *Teaching needy kids in our backward system: 42 years of trying*. Eugene, OR: ADI.

Englert, C. S., Wu, X., & Zhao, Y. (2005). Cognitive tools for writing: Scaffolding the performance of students through technology. *Learning Disabilities Research & Practice, 20*(3), 184-198. doi:10.111/j.1540-5826.2005.00132.x

Federal Communication System (FCC): Consumer and Government Affairs Bureau. (2003). *Children's internet protection act* [Fact sheet]. Retrieved October 15, 2012, from http://www.fcc.gov/guides/childrens-internet-protection-act

Finn, G. (2011). A portrait of who uses social networks in the US (and how social media affects our lives). Retrieved from *Pew Internet & American Life Project* http://search engineland.com/a-portrait-of-who-uses-social-networks-in-the-u-s-and-how-social-media-affects-our-lives-81653

Fisher, W. R. (1989). *Human communication as narration: Toward a philosophy of reason, value, and action*. Columbia: University of South Carolina Press.

Flower, L. (1994). *The construction of negotiated meaning a social cognitive theory of writing*. Carbondale: Southern Illinois University Press.

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication, 32*(4), 365-387. Retrieved from http://www.jstor.org/stable/356600

Frey, B. B., Schmitt, V. L., & Allen, J. P. (2012). Defining authentic classroom assessment. *Practical Assessment, Research & Education, 17*(2), 1-18.

Gallagher, C. J. (2003). Reconciling a tradition of testing with a new learning paradigm. *Educational Psychology Review, 15*(1), 83-99.

Gee, J. (2000). Situated literacies: Reading and writing in context. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *The new literacy studies: From "socially situated" to the work of the social* (pp. 180-196). London, UK: Routledge.

Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. Palgrave, NY: Macmillan.

Gonida, E., & Urdan, T. (2007). Parental influence on student motivation, affect and academic behaviour: Introduction to the special issue. *European Journal of Psychology, 22*(1), 3-6.

Goodwin, C., & Duranti, A. (1992). Rethinking context: Language as an interactive phenomenon. In A. Duranti & C. Goodwin (Eds.), *Rethinking context: An introduction* (pp. 1-42). Cambridge, UK: Cambridge University Press.

Graham, J. (2004, December 14). Google's library plan 'a huge help'. *USA Today*. Retrieved from http://usatoday30.usatoday.com/money/industries/technology/2004-12-14-google-usat_x.htm

Graham, S. (2006). Motivation and writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 187-206). New York, NY: Guilford Press.

Graham, S., & Harris, K. R. (1989). Improving leaning disabled students' skills at composing essays: Self-instruction strategy training. *Exceptional Children, 56,* 201-214.

Graham, S., Olinghouse, N. G., & Harris, K. R. (2010). Multiple processes that matter in writing instruction and assessment. In G. A. Troia (Ed.), *Instruction and assessment for struggling* writers (pp. 15-50). New York, NY: Guilford.

Graham, S., & Perin, D. (2007a). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools - A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Graham, S., & Perin, D. (2007b). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology*, *99*(3), 445-476. doi:10.1037/0022-0663.99.3.445

Graves, A. W., & Rueda R. (2010). Teaching written expression to culturally and linguistically diverse learners. In G. A. Troia (Ed.), *Instruction and assessment for struggling writers* (pp. 213-242). New York, NY: The Guilford Press. (Original work published 2009)

Graves, D. H. (1983). *Writing: Teachers & children at work*. Portsmouth, NH: Heinemann.

Gravetter, F. J., & Wallenau, L. B. (2005). *Essentials of statistics for the behavioral sciences* (5th ed.). Belmont, CA: Wadsworth/Thomson.

Green, M., & Piel, J. A. (2010). *Theories of human development a comparative approach* (2nd ed.). Baton MA: Ally & Bacon.

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Learning, teaching, and scholarship in a digital age web 2.0 and classroom research: What path should we take now. *Educational Researcher, 38*(4), 246-259. doi: 01.3102/0013189X09336671

Greeno, J. G., Smith, D. R., & Moore, J. L. (1993). Transfer of situated learning. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition and instruction* (pp. 99-167). Norwood, NJ: Ablex.

Hadre', P. L., Davis, K. L., & Sullivan, D. W. (2008). Measuring teacher perceptions of the "how" and "why" of student motivation. *Educational Research & Evaluation, 14*(2), 155-179. doi:10.1080/13803610801956689

Hannafin, R. (2008). Computer-based instruction's (CBI) rediscovered role in k-12: An evaluation case study of one high school's use of CBI to improve pass rates on high-stakes tests. *Educational Technology & Research Development, 56*(2), 147-160. doi:10.1007/s11423-006-9007-4

Harris, J., Mishra, P., & Koehler, M. (2009). Teachers' technology pedagogical content knowledge and learning activity types: Curriculum-based technology integration reframed. *Journal of Research on Technology in Education, 41*(4), 393-416.

Harrysson, B., Svensk, A., & Johansson, G. I. (2004). How people with developmental disabilities navigate the internet. *British Journal of Special Education, 31*(3), 138-142. doi:10.1111/j.0952-3383.2004.00344.x

Hashemi, M., & Najafi, V. (2011). Using blogs in English language writing classes. *International Journal of Academic Research, 3*(4), 599-604.

Hayes, J. R., & Flower, L. S. (1980). Identifying the organization of writing process. In E. R. Steinberg & L. Gregg (Eds.), *Cognitive processes in writing* (pp. 3-30). Hillsdale, NJ: Lawrence Erlbaum.

Hayes, J. R., & Flower, L. S. (1986). Writing research and the writer. *American Psychologist, 41*(10), 1106-1113. doi:10.1037/0003-066X.41.10.1106

Heath, S. B. (1983). *Ways with words*. Cambridge, England: Cambridge University Press.

Hidi, S. (2001). Interest, reading, and learning: Theoretical and practical considerations. *Educational Psychology*, *13*(3), 191-209. doi:1040.726X/01/0900-0191$19.50/0

Hidi, S., Berndorff, D., & Ainley, M. (2002). Children's argument writing, interest and self efficacy: An intervention study. *Learning and Instruction, 12*(4), 429-446.

Hidi, S., & Boscolo, P. (2006). Motivation and writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 144-159). New York, NY: Guilford Press.

Hidi, S., & McLaren, J. A. (1991). Motivational factors and writing: The role of topic interestingness. *European Journal of Psychology of Education, 6*(2), 187-197.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*(2), 111-127.

Hillocks, G., Jr. (2002). *The testing trap how state writing assessments control learning*. New York, NY: Teachers College Press.

Hillocks, G., Jr. (2007). *Narrative writing learning a new model for teaching*. Portsmouth, NH: Heinemann.

Hocutt, M., Standford, R., & Wright, V. H. (2002). How students learn new technologies. *Electronic Journal for the Integration of Technology in Education, 1*(2), 29-42.

Hofer, M., & Swan. (2006). Technology pedagogical content knowledge in action: A case study of a middle school digital documentary project. *Journal of Research in Technology in Education, 41*(2), 179-200. Retrieved from http://jcu.edu/education/dshutkin/readings/TPACK_MiddleSchoolCaseStudy.pdf

Howell, D. C. (2011). *Fundamental statistics for the behavioral sciences* (7th ed.). Belmont, CA: Wadsworth.

Indrisano, R., & Paratore, J. R. (Eds.). (2005). *Learning to write writing to learn theory and research in practice*. Newark, DE: International Reading Association.

Ito, M., Bittanti, M., Boyd, D., Herr-Stephenson, B., Lange, P. G., Pascoe, C. J., . . . Robinson, L. (2008). *Summary findings from the digital youth project*. Retrieved from http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-WhitePaper.pdf

Jacob, H. H. (2010). *Curriculum 21 essential education for a changing world*. Alexandria, VA: Association for Supervision and Curriculum Development.

Jenkins, H. D., Clinton, K., Purushotma, R., Robison, A. J., Weigel, M., & The John and Catherine T. MacArthur Foundation. (2006). *Confronting the challenges of participatory culture: Media education of the 21st century* [Article]. Retrieved from http://www.nwp.org/cs/public/print/resource/2713

John, P. D., & Wheeler, S. (2008). *The digital classroom harnessing technology for the future*. New York, NY: Routledge.

Johnson, L., Smith, R., & Smythe, T. (2009). *The horizon report: 2009 k12 edition*. Retrieved from The New Media Consortium website: http://wp.nmc.org/horizon-k12-2009/

Johnson, L., Levine, A., Smith, R., & Smythe, T. (2009). *The horizon report: 2009 k12 edition*. Retrieved from The New Media Consortium website: http://wp.nme.org/horizon-k12-2009/

John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist, 31*(3/4), 191-206.

Juzwik, M. M., Wolbers, K., Moxley, K., Dimling, L., & Shankland, R. (2006). Writing into the 21st century an overview of research writing, 1999 to 2004. *Written Communication, 23*(4), 451-476. doi:10.1177/0741088306291619

Keengwe, J., & Anyanwu, L. O. (2007). Computer technology-infused learning enhancement. *Journal Education Technology, 16*, 387-393. doi:10.1007/s10956-007-9067-1

Keengwe, J., Onchwari, G., & Wachira, P. (2008). Computer technology integration and student learning: Barriers and promise. *Journal of Science Education & Technology, 17*, 560-565. doi:10.1007/s10956-008-9123-5

Kessler, S. M. (2012, March 15). Study: 80 percent of children under 5 use internet weekly. *USA Today*. Retrieved from http://content.usatoday.com/communities/technology live/post/2011/03/study-80-percent-of-children-under-5-use-internet-weekly/1

Kinlaw, C. R., & Kurtz-Costes, B. (2007). Children's theories of intelligence: Beliefs, goals, and motivation in the elementary years. *The Journal of General Psychology, 134*(3), 295-311.

Knezek, G., & Christensen, R. (2007). Effects of technology-based programs on first- and second-grade reading achievement. *Computers in the Schools, 24*(3/4), 23-41. doi:10.1300/JO25v24n03_03

Koehler, M. (2011, May 13). *TPACK technological pedagogical content knowledge* [Fact sheet]. Retrieved from http://tpack.org/ as the source.

Kohn, A. (2004). *What does it mean to be well educated? And more essays on standards, grading, and other follies*. Boston, MA: Beacon.

Krapp, A. (2002). Structural and dynamic aspects of interest development: Theoretical considerations from an ontogenetic perspective. *Learning and Instruction, 12*(4), 383-409.

Langer, E. J. (1989). *Mindfulness.* Cambridge, MA: Da Capo.

Langer, J. A. (1987). *Language, literacy, and culture: Issues of society and schooling*. Norwood, NJ: Ablex.

Langer, J. A. (1995). *Envisioning literacy: Literacy understanding and literature instruction*. New York, NY: Teachers College Press.

Langer, J. A. (1997). *Thinking and doing literature: An 8-year study* [Monograph No. 6, 8]. Retrieved from http://www.albany.edu/cela/reports/langer/langerthinking.pdf

Langer, J. A. (2001). Beating the odds: Teaching middle school and high school students to read and write well. *American Educational Research Journal, 38*, 837-880. doi:10.3102/00028312038004837

Langer, J. A., Close, E., Angelis, J., & Preller, P. (2000). *Guidelines for teaching middle and high school students to read and write well six features of effective instruction*. Retrieved from http://www.albany.edu/cela/publication/brochure/guidelines.pdf

Langer, J. A., & Flihan, S. (2000). Writing and reading relationships: Constructive tasks. In R. Indrisano (Ed.), *Perspectives on writing: Research, theory, and practice* (pp. 120-146). Newark, DE: International Reading Association.

Lapp, D., Shea, A., & Wolsey, T. (2012). Blogging and audience awareness. *Journal of Education, 192*(1), 33-44. Retrieved from http://ehis.ebscohost.com/ehost/detail?sid=8d4d8452-5219-4689-b05c-65422f6473f%40sessionmgr112&vid=1&hid=103&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=f5h&AN=64923036

Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life.* Cambridge, UK: Cambridge University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge, UK: Cambridge University Press.

Lehnart, A., Arafeh, S., Smith, A., & Macgill, A. R. (2008). *Writing, technology and teens*. Retrieved from http://www.education.com/reference/artcle/Ref_Teens_Do_Not/

Lehnart, A., Purcell, K., Smith, A., & Zickuhr, K. (2010, February 3). *Social media & mobile internet use among teens and young adults*. Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2010/PIP_Social_Media_and_Young_Adults_Report_Final_with_toplines.pdf

Leonard, J., Davis, J. E., & Sidler, J. L. (2005). Cultural relevance and computer-assisted instruction. *Journal of Research on Technology in Education, 37*(3), 263-284. Retrieved from http://eec.edc.org/cwis_docs/NEWS_ARTICLES_JOURNALS/Assessment_in_Ed/Leonard_et_al.pdf

Levin, D., Lenhart, Arafeh, A., & Rainie, L. (2002). *The digital disconnect: The widening gap between Internet-savvy students and their schools.* Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2002/PIP_Schools_Internet_Report.pdf.pdf

Lindblom, K. (2007). Treating state standardized writing tests as authentic writing assignments. *National Council of Teachers of English, 30*(2), 10-11. Retrieved from http://www.csun.edu/~krowlands/Content/Academic_Resources/Language/About%20Language/Language-neutral.pdf

Lindblom-Ylanne, S., & Pihlajamaki, H. (2003). Can a collaborative network environment enhance essay-writing processes? *British Journal of Educational Technology, 34(1),* 17-30.

Linek, W. M., Fleener, C., Fazio, M., Raine, L., & Klakamp, K. (2003). The impact of shifting from "how teachers teach" to "how children learn". *Journal of Education, 97(2),* 78-89.

Littlefield, J., Lever, V. R., Bransford, J. D., Clayton, K. N., & Franks, J. J. (1988). Methods of teaching, transfer of general skills and attitudes toward computers. In R. E. Mayer (Ed.), *Teaching and learning computer programming: Multiple research perspectives*. Hillsdaland, NJ: Lawrence Erlbaum.

Lobato, J. E. (2003). How design experiments can inform a rethinking of transfer and vice versa. *Educational Researcher, 32(1), 17-20.*

Lowther, D. L., Inan, F. A., Strahl, D., & Ross, S. M. (2008). Does technology integration "work" when key barriers are removed? *Educational Media International, 45*(3), 195-213.

Luna, C., & Turner. (2001). The impact of the MCAS: Teachers talk about high-stakes testing. *English Journal, 91*(1), 79-87.

MacArthur, C. A. (2006). Motivation and writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 248-262). New York, NY: Guilford.

MacArthur, C. A. (2010). Multiple processes that matter in writing instruction and assessment. In G. A., Troia (Ed.), *Instruction and assessment for struggling writers* (pp. 243-265) New York, NY: Guilford.

MacArthur, C. A., Graham, S., & Fitzgerald, J. (2006). *Handbook of writing research*. New York, NY: Guilford.

McCombs, B. L., Daniels, D. H., & Perry, K. E. (2008). Children's and teacher's perceptions of learner-centered practices, and student motivation: Implications for early schooling. *Elementary School Journal, 109*(1), 16-35. Retrieved from http://eric.ed.gov/?id= EJ807717

McCutchen, D. (2011). From novice to expert: Implications of language skills and writing-relevant knowledge for memory during the development of writing skill. *Journal of Writing Research, 3*(1), 51-68. Retrieved from http://jowr.org/articles/vol3_1/JoWR_2011_vol3_nr1_McCutchen.pdf

McDonald, J., & Gibbons, A. (2009). Technology I, II, III: Criteria for understanding and improving the practice of instructional technology. *Education Technology Research & Development, 57*(3), 377-392. doi:10.1007/s11423-007-9051-8

McGrail, E., & Davis, A. (2011). The influence of classroom blogging on elementary student writing. *Journal of Research in Childhood Education, 25*(4), 415-437. doi: 0.1080/02568543.2011.605205

Miller, M. D., & Crocker, L. (1990). Validation methods for direct writing assessment. *Applied Measurement in Education, 3*(3), 285-296. doi: 10.1207/s15324818ame0303_6

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.

Moll, L. C., & Greenberg, J. B. (1990). Creating zones of possibilities: Combining social contexts for instruction. In L. C. Moll (Ed.), *Vygotsky and education: Instructional implications and applications of sociohistorical psychology* (pp. 319-348). Cambridge, MA: Cambridge University Press.

Mouza, C. (2008). Learning with laptops: Implementation and outcomes in an urban, under-privileged school. *Journal of Research on Technology in Education, 40*(4), 447-472.

Mullen, R., & Wedwick, L. (2008). Avoiding the digital abyss: Getting started in the classroom with YouTube, digital stories, and blogs. *The Clearing House, 82*(2), 66-69.

Nagy, P. (2000). The three roles of assessment: Gatekeeping, accountability, and instructional diagnosis. *Canadian Journal of Education, 25*(4), 262-279. Retrieved from http://www.csse-scee.ca/CJE/Articles/FullText/CJE25-4/CJE25-4-nagy.pdf

Nanjappa, A., & Grant, M. M. (2003). Constructing on constructivism: The role of technology. *Electronic Journal for the Integration of Technology in Education, 2*(1). Retrieved from http://ejite.isu/Volume2No1/nanjappa.htm

National Assessment Governing Board. (2011). *Writing framework for the 2011 national assessment of educational progress*. Retrieved from http://www.nagb.org/content/nagb/assets/documents/publications/frameworks/writing-2011.pdf

National Assessment of Educational Progress (NAEP). (2011). *NAEP writing computer-based assessment*. Retrieved from http://nces.ed.gov/nationsreportcard/pdf/about/WCBA_Brochure_2010version.pdf

National Center for Education and Statistics. (2008). *The nations' report card: Writing 2007. National assessment progress at grade 8 and 12. National, state, and trial urban district results*. Retrieved from U.S. Department of Education website: nces.ed.gov/pubsearch/pubsinfoasp?pubid=2008468

National Center for Education Statistics. (2012). *Digest of education statistics: 2011*. Retrieved from http://nces.ed.gov/programs/digest/d11/index.asp

National Council of Teachers of English (NCTE). (2008). *Writing now* [Research brief]. Retrieved August, 2012, from http://www.ncte.org/library/NCTEFiles/Resources/PolicyResearch/WrtgResearchBrief.pdf

Neel, J. (1995). *Aristotle's voice: Rhetoric, theory, & writing in America*. Carbondale: Southern Illinois University Press.

New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1). Retrieved from http://wwwstatic.kern.org/filer/blogWrite44ManilaWebsite/paul/articles/A_Pedagogy_ofMultiliteracies_Designing_Social_Futures.htm

No Child Left Behind Act of 2001. Pub. L. No. 107-110, 115. STAT. 1425 (2002). Retrieved from www2.ed.gov/policy/elsec/leg/esea02/107-110.pdf

Obama, B. (2010, January 27). *State of the union: President Obama's speech* [ABC News. Release]. Retrieved from http://abcnews.go.com/Politics/State_of_the_Union/state-of-the-union-2010-president-obama-speech-transcript/story?id=9678572

Ornstein, A. C., Pajak, E. F., & Ornstein, S. B. (2007). *Contemporary issues in-curriculum* (4th ed.). Boston, MA: Pearson Education. (Original work published 1999)

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*(4), 543-578. doi:10.3102/003465430660004543

Pajares, F., & Valiante, G. (2001). Gender differences in writing motivation and achievement of middle school students: A function of gender orientation. *Contemporary Education Psychology, 26*(3), 366-381. Retrieved from http://dx.doi.org/10.1006/ceps.2000.1069

Pajores, F., & Valiante, G. (2006). In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 158-170). New York, NY: Guilford Press.

Palak, D., & Walls, R. T. (2009). Teachers' beliefs and technology practices: A mixed-methods approach. *Journal of Research on Technology in Education, 41*(4), 417-441. Retrieved from http://eric.ed.gov/?id=EJ844274

Partnership for 21st Century Skills. (2004). *Learning for the 21st century* [Report]. Retrieved from http://www.p21.org/storage/documents/P21_Report.pdf

Pennsylvania Department of Assessment. (2009). Retrieved from http://www.pde.state.pa.us/a and t/site/default.qsp?=0&a_and_tNav=16301&k12Nav-1111411

Pennsylvania Department of Education. (2008-2009). Writing 2008-2009 grade 5 writing item and scoring sampler. *The Pennsylvania system of school assessment (PSSA) writing item and scoring sampler* [PSSA scoring sampler]. Retrieved from http://www.portal.state.pa.us/portal/server.pt/community/pennsylvania_system_of_school_assessment_%28pssa%29/8757/resource_materials/507610

Pennsylvania Department of Education. (2009). *Academic standards for reading, writing, speaking and listening* [Pennsylvania academic standards]. Retrieved from http://www.lake-lehman.k12.pa.us/pdfs/PDE_Academic_Standards/Reading-Writing-Speaking.pdf

Pennsylvania Department of Education. (2011, October). *Pennsylvania system of school assessment*. Retrieved from http://www.portal.state.pa.us/portal/server.pt/community/pennsylvania_system_of_school_assessment_%28pssa%29/8757/resource_materials/507610

Pennsylvania Department of Education. (2012, April 20). *Academic standards for English language arts* [PA common core standards]. Retrieved from http://static.pdesas.org/content/documents/PA_CC_Standards_PreK-5_ELA.pdf

Pennsylvania Department of Education. (2012). *2011-2012 PSSA and AYP* results (PSSA school level writing results). Retrieved from http://www.education.state.pa.us/portal/server.pt/community/school_assessments/7442

Pennsylvania Department of Education Division of Evaluation Reports. (2001-2002). *Writing assessment released writing prompts* (Writing prompts). Retrieved from http://www.chambersburg.k12.pa.us/curric/K-12%20Curriculum%20CD/Language%20Arts/Resources/Writing.Asses.Rel.Writing.Prompts.pdf

Pennsylvania Department of Education Division of Evaluation and Reports. (2002). *Writing Assessment released writing prompts* [Writing prompts released]. Retrieved from http://www.chambersburg.k12.pa.us/curric/K-12%20Curriculum%20CD/Language%20Arts/Resources/Writing.Asses.Rel.Writing.Prompts.pdf

Perkins, D. N., & Salomon, G. (1992). *Transfer of learning* [encyclopedia contribution]. Retrieved from *International Encyclopedia of Education, (Second Edition*) website: http://learnweb.harvard.edu/alps/thinking/docs/traencyn.htm

Perrone, V. (1991). *On standardized testing. ERIC digest* [Article]. Retrieved from http://www.ericdigests.or/1992-5/testing.htm

Pew Internet and American Life Project. (2002). *The digital disconnect: The widening gap between internet-savvy students and their schools.* Retrieved from http://www.pewinternet.org/PDF/r/67/report_displa.asp

Piazza, C. L., Sierbert, & Carl, F. (2008). Development and validation of a writing dispositions scale for elementary and middle school students. *Journal of Educational Research, 101*(5), 275-286.

Pitler, H., Hubbell, E. R., Kuhn, M., & Malenoski, K. (2007). *Using technology with classroom instruction that works*. Alexandria, VA: Association for Supervision and Curriculum Development.

Prior, P. (2006). A sociocultural theory of writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 54-66). New York, NY: Guilford Press.

Ravid, D., & Tolchinsky, L. (2002). Developing linguistic literacy: A comprehensive model. *Journal of Child Language, 29*(2), 417-447. Retrieved from http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=110241

Renninger, K. A., Ewen, L., & Lasher, A. K. (2002). Individual interest as context in expository text and mathematical word problems. *Learning and Instruction, 12*(4), 467-491.

Ribble, M., & Bailey, G. (2007). *Digital citizenship in schools*. Eugene, OR: International Society for Technology in Education.

Richardson, W. (2010). *Blogs, wikis, podcasts, and powerful web tools for classrooms* (3rd ed.). London, UK: Corwin.

Rogoff, B. (2003). *The cultural nature of human development*. Oxford, UK: Oxford University Press.

Royer, J. M., Mestre, J. P., & Dufresne, R. J. (2005). Introduction: Framing the transfer problem. In Jose P. Mestre (Ed.), *Transfer of learning from a modern multidisciplinary perspective* (pp. vii-xxvii). Greenwich, CT: Information Age.

Sacks, P. (1999). *Standardized minds: The high price of America's testing culture and what we can do to change it.* Cambridge, MA: Perseus.

Salomon, G., & Perkins, D. (1988). Teaching for transfer. *Educational Leadership, 49*(1), 22-32. Retrieved from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198809_perkins.pdf

Savage, T. V. (2003). Assessment quality social studies. *Social Studies, 94*(5), 201-206.

Schultz, A. (1967). *The phenomenology of the social world* (G. Walsh & F. Lehnert, trans). Evanston, IL: University Press.

Schunk, D. H. (2008). *Learning theories and educational perspective* (5th ed.). Upper Saddle River, NJ: Pearson Education. (Original work published 1991)

Schunk, D. H., & Swartz, C. W. (1993). Goals and progress feedback: Effects on self-efficacy and writing achievement. *Contemporary Educational Psychology, 18*, 337-354.

Scott, T. (2004). Teaching the ideology of assessment. *Radical Teacher, 71*(4), 30-37.

Seifert, T. L. (2004). Understanding student motivation. *Educational Research, 46*(2), 137-149. Retrieved from http://eric.ed.gov/?id=EJ681624

Shanahan, T. (2006). Motivation and writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 171-183). New York, NY: Guilford Press.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1-23.

Simpson, S. W. (2006). Can generation m learn its abcs? From resistant to acceptance to Integration: The ultimate education struggle for the 21st century, played out in teacher's grudging embrace of new technologiues. *T H E Journal, 33*(8), 48. Retrieved from http://www.questia.com/library/journal/1G1-143723799/can-generation-m-learn-its-abcs-from-resistance-to#articalDetails

Snyder, T. D., Dillow, S. A., & Hoffman, C. M. (2009, March 18). Digest of Educational Statistics (*National Center for Education Statistics* No. 2009-020). U.S. Department of Education, Washington, DC. Retrieved from: http://nces.ed.gov

Solomon, G., & Schrum, L. (2010). *Web 2.0 how-to for educators the indispensable companion to web 2.0: New tools, new schools*. Eugene, OR: International Society for Technology in Education.

Spence, L. K. (2009). Developing multiple literacies in a website project. *The Reading Teacher, 62*(7), 592-597. doi:10.1598/RT.62.7.5

Staples, A., Pugach, M., & DjHimes. (2005). Rethinking the technology integration challenge: Cases from three urban elementary schools. *Journal of Research Technology on Technology in Education, 37*(3), 285-311. Retrieved from http://eric.ed.gov/?id= EJ690973

Sternberg, R. J., & Frensch, P. A. (1996). Mechanisms of transfer. In D. K. Detterman & R. J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition, and instruction* (pp. 25-38). Norwood, NJ. Ablex.

Takahira, M., Ando, R., & Sakamoto, A. (2007). Effect of internet use on development of information literacy: A panel study with Japanese elementary school children. *Computers in the Schools, 24*(3/4), 65-82. doi:10.1.300/J025v24n03_05

Tapscott, D. (1998). *Growing up digital the rise of the net generation*. New York, NY: McGraw-Hill.

Teachers of English to Speakers of Other Languages. (2006). *PreK-12 English language proficiency standards*. Alexandria, VA: Teachers of English to Speakers of Other Languages.

Teale, W., & Sutzby, E. (Eds.). (1986). *Emergent literacy: Writing and reading*. Norwood, NJ: Ablex.

Thorndike, E. L. (1922). *The psychology of arithmetic.* Retrieved from http://www.gutenberg.org/files/39300/39300-h/39300-h.htm

Troia, G. A. (2006). Motivation and writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 324-336). New York, NY: Guilford Press.

Troia, G. A. (2010). *Instruction and assessment for struggling writers*. New York, NY: The Guilford Press. (Original work published 2009)

Turner, J. C., & Patrick, H. (2008). How does motivation develop and why does it change? Reframing motivation research. *Educational Psychologist, 43*(3), 119-131. doi:10.1080/00461520802178441

Tyson, T. (2010). Making learning irresistible. In H. H. Jacob (Ed.), *Association for supervision and curriculum development, curriculum 21 essential education for a changing world* (pp. 115-132). Alexandria, VA: Association for Supervision and Curriculum Development.

United States Department of Commerce. (2011, November 9). New commerce department report shows broadband adoption rises but digital divide persists [Online forum message]. Retrieved from http://www.esa.doc.gov/news/2011/11/09/new-commerce-depart-report-shows-broadband-adoption-rises-digital-divide-persists

United States Department of Education. (2010). *Evaluation of evidence-based practices in online learning a meta-analysis and review of online learning studies*. Retrieved from http://gsehd.gwu.edu/documents/gsehd/resources/gwuohs-onlineresources/reports/doe_evaluationonlinelearning-092010.pdf

United States Department of Education. (2012). *The nations' report card writing 2011* (Rep. NCES 2012 No. 470). Retrieved from http://nces.ed.gov/nationsreportcard/pdf/main 2011/2012470.pdf

Valencia, S. W., & Wixson, K. K. (1999, April 1). *Policy-oriented research on literacy standards and assessment* (CIEARA Report No. 3-004). Retrieved from Center for the Improvement of Early Reading Achievement website: http://www.ciera.org/library/reports/inquiry-3/3-004/3-004.pdf

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wang, K. H., Wang, T. H., Wang, W. L., & Huang, S. C. (2006). Learning styles and formative assessment strategy: Enhancing student achievement in web-based learning. *Journal of Computer Assisted Learning, 22*, 207-217. doi: 10.222/j.1365-2729-2006.00166.x

Wertsch, J. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.

Wertsch, J. V. (1998). *Mind as action*. New York, NY: Oxford University Press.

Wiggins, G. P., & McTighe, J. (2005). *Understanding by design* (2nd ed). New York, NY: Prentice Hall.

Williams, H. S., & Kingham, M. (2003). Infusion of technology into the curriculum. *Journal of Instructional Psychology, 30*(3), 178-184. Retrieved from http://www.questia.com/read/1G1-108836885/infusion-of-technology-into-the-curriculum

Willingham, D. T. (2009). *Why don't students like school?* San Francisco, CA: Jossey-Bass.

Wilmarth, S. (2010). Five sociotechnology trends that change everything in learning a teaching. In H. H. Jacob (Ed.), *Association for supervision and curriculum development, curriculum 21 essential education for a changing world* (pp. 80-96). Alexandra, VA: Association for Supervision and Curriculum Development.

Wolters, C. A. (2004). Advancing achievement goal theory: Using goal structure and goal orientation to predict students, motivation, cognition, and achievement. *Journal of Educational Psychology*, *96*(2), 236-250. doi:10.10370022.0663.96.2.236

Wood, E., Mueller, J., Willoughby, T., Specht, J., & DeYoung, T. (2005). Teachers' preception: Barriers and supports to using technology in the classroom. *Education Communication & Information, 5*(2), 183-206. doi:10.1080/1463610500186214

Woolfolk-Hoy, A. E. (2005). Vygotsky's sociocultural perspective. In *Educational Psychology*, *9*(3), 43-50, *active learning edition*. Retrieved from http://www.getbookee.com/get_book.php?u=aHR0cDovL3d3dy5hYmxvbmdtYW4uY29tL2h0bWwvcHJvZHVjdGluZm8vd29vbGZvbGs5ZUFMRS8wMjA1NDM1Mjk3X3RvYy5wZGYKRURVQ0FUSU9OQUwgUFNZQ0hPTE9HWSwgOS9lLCBBQ1RJVkUgTEVBUk5JTkcgRURJVElPTg==

Wysocki, A. F., Johnson-EiLoLa, J., Selfe, C. L., & Sirc, G. (2004). *Writing new media theory and applications for expanding the teaching of composition*. Logan, UT: University Press.

Zeeman, S., Daniels, H., & Hyde, A. (2012). *Best practice bringing standards to life in America's classrooms* (4th ed.). Portsmouth, NH: Heinemann.

Zemelman, S., Daniels, H., & Hyde, A. (2012). *Best practice bringing standards to life in America's classrooms* (4th ed.). Portsmouth, NH: Heinemann. (Original work published 1998)

Zhao, Y., Englert, S. C., Chen, J., Jones, S. C., & Ferdig, R. (1999). *TELE-Web developing a web-based literacy learning environment* (CIERA Report No. 1-006). Retrieved from University of Michigan website: http://www.ciera.ort/library/reports/inquiry-1/1-006.pdf

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329-339.

Zimmerman, B. J. (2000). Attainment of self-regulation: A social cognitive perspective. In M. Boekaerts, P. Pintrich, & M. Ziedner (Eds.), *Theory, research, and applications* (pp. 13-39). Orlando, FL: Academic Press.

Zimmerman, B. J., & Kitsantas, A. (1999). Acquiring writing revision skill: Shifting from process to outcome self-regulatory goals. *Journal of Educational Psychology, 91*, 1-10.

Zsolnai, A. (2002). Relationship between children's social competence, learning, motivation and school achievement {1}. *Educational Psychology*, *22*(3), 317-329. doi:10.1080/01443410220138548

Appendices

APPENDIX A: Letters of Consent – Parent/Guardian Consent

Professional Studies in Education Department
303 Davis Hall
Indiana, Pennsylvania 15705
724-357-2400
Date

Your child has been invited to participate in a project that is trying to improve writing instruction by looking at how students write when they use different computerized writing platforms. The following information is provided so that you are able to make an informed decision of whether or not to allow your child to participate in this activity. Your child qualifies to participate in this study because he/she is a 5th-grade student attending _____. Participation is voluntary with the understanding that the participants can withdraw from the research at any time by contacting me via email, postal letter, or telephone. Willingness to participate or not participate in the study has no bearing on academic grades. Participation is completely voluntary.

This study will be completed during computer lab time so that your child does not lose any classroom instruction time. Your child will be asked to respond anonymously to a narrative writing prompt twice in a thirty day period. The narrative writing prompt was used on PSSA writing tests in earlier years. Students will respond to the prompt using Microsoft Word© software or Kidblog©, a secure and approved district educational blog site. Anonymity, identity protection, will be maintained. Any presentation or publication that discusses the findings of this research will continue to maintain anonymity by using pseudonyms in order to protect the identity of all participants.

This study is being conducted for research purposes, and there are no known risks in participating in this study. One potential benefit of this study, however, is that it will provide some information for the teachers to better update their instruction for writing.

If you are comfortable with your child participating in this research, please sign and date the attached voluntary consent paper and return it to your child's homeroom teacher in the envelope marked "Writing Study Return Envelope". Keep one copy for your records. A returned, signed letter implies your consent. If you need further clarification on the information presented, please feel free to contact me at 814-676-8338, heathv@fasd.k12.pa.us or via mail 2383 Cherrytree Road, Cooperstown, PA 16317. An executive summary of the findings from this study will be made available to you upon request.

Thank you for your consideration.

Principal Investigator:
Vickie L. Heath, D.Ed Candidate Indiana University of Pennsylvania
2383 Cherrytree Road
Cooperstown, PA 16317
814-676-8338
heathv@fasd.k12.pa.us

Faculty Sponsor:
Dr. George Bieger
Indiana University of PA
114 Davis Hall, IUP
570 S. 11th Street
Indiana, PA 15705
724-357-3285
grbieger@iup.edu

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to allow my child to participate in this writing study. I understand that my child's written responses will be completely confidential and that I can withdraw my child from the study or my child can withdraw from the study any time. I understand that my child's identity will be kept anonymous and his/her participation or non-participation will not affect academic grades. I have received an unsigned copy of this Informed Consent Form to keep in my possession. I will keep one copy of this voluntary informed consent form for myself and return one copy to my child's classroom teacher.

I also understand that my child's agreement to participate is a requirement for participation and he/she has received a Minor Voluntary Form for signature.

Parent/Guardian Name (PLEASE PRINT) _____

Signature_____

Date_____

Phone number or location where you can be reached:

_____

Student Name (PLEASE PRINT)_____

Signature_____

Date_____

I certify that I have explained to the above individuals the nature and purpose, and the potential benefits associated with participants in this research study, and have answered any questions that have been raised.

_____ _____

Date Investigator's Signature

APPENDIX B – Minor Informed Assent Letter and Assent Signature Page

Professional Studies in Education Department
303 Davis Hall
Indiana, Pennsylvania 15705
724-357-2400
Date

Dear _____ Fifth-grade Student,

Hello, my name is Vickie Heath and I am a sixth-grade teacher for the _____. Even though I am a teacher, I am also a student like you. I am a doctoral student at Indiana University of Pennsylvania working on my dissertation. As part of my doctoral studies, I am conducting a research study on writing tools and how elementary students' writing performance may or may not be affected when using an online versus offline writing platform. This letter is to provide you with information about the study so that you may make an informed decision about whether or not you wish to participate. During this study, participants will use computers to write a narrative response to a prompt. First, you may be asked to write your response using the Microsoft Word©, a software program on your school computer and then thirty days later you will be asked to respond to the writing prompt using an online blog site, Kidblog©. Or you may be asked to respond first with Kidblog© and then thirty days later with Microsoft Word©. You are eligible to participate in this research study because you are a fifth-grader attending _____.

I would like to invite you to participate in this writing study. Your participation is voluntary. This study will be completed during computer lab time so that you will not lose any classroom instruction time. The good news is that there is no work outside of the school day. To protect your identity, your response to the narrative prompt will be given a coded number to maintain confidentiality and your privacy. You will be asked to respond to a prompt using computers and Microsoft Word© software or Kidblog©, a secure and approved district educational blog site. Again, anonymity will be maintained. You are not required to participate in this study and whether you participate or not, there will be no effect on your grades. Any presentations or publications that discuss the findings of this research will continue to maintain your anonymity, privacy, by using pseudonyms in order to protect your identity and all of the other participants as well.

This study is being conducted for research purposes, and there are no known risks or discomforts associated with participating in this study. You may even find the writing experience enjoyable. One potential benefit of this study is that information collected from this study may help your teachers gain knowledge about new methods to use during writing instruction.

Your parent(s)/guardian(s) will be informed about this research study asking for consent to allow you to participate since you are a minor. Remember, your participation is voluntary. If

you choose to participate and help me with this study, you may withdraw at any time by notifying me in person, by electronic mail, by telephone, or by written note.

If you are comfortable participating in this study, please sign and date one copy of the attached minor assent form and return this form to your classroom teacher. A returned, signed assent indicates you are willing to participate. There are two copies; please keep one for yourself. If you choose not to participate, please return all copies of this form to your classroom teacher. If you have any questions about this study, it is okay to ask your teachers or me. My telephone number is 1-814-676-8338 and my e-mail address is heathv@fasd.k12.pa.us.

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for Protection of Human Subjects (phone 1-724-357-7730).

Continued success and best wishes in 5th-grade.

Thank you,

Vickie L. Heath

Principal Investigator:
Vickie L. Heath, D.Ed Candidate Indiana University of Pennsylvania
2383 Cherrytree Road
Cooperstown, PA 16317
814-676-8338
heathv@fasd.k12.pa.us

Faculty Sponsor:
Dr. George Bieger
Indiana University of PA
114 Davis Hall, IUP
570 S. 11th Street
Indiana, PA 15705
724-357-3285
grbieger@iup.edu

MINOR VOLUNTARY ASSENT FORM SIGNATURE PAGE

Please return this form with the Parent Consent Form

I have read and understand the information in the letter, and I assent to participate in this study on writing during my computer lab. I understand that participation involves responding to a narrative writing prompt twice using online and offline writing platforms. I also understand that precautions will be taken to ensure my participation and written responses will be kept confidential and the participation will have no effect on my academic grades in any subject. I understand that I may withdraw at any time by notifying the researcher in person, by electronic mail, by telephone, or by written note. I will keep one copy of this voluntary assent/consent form for myself and will return the other copy to my classroom teacher.

I understand that parental/guardian permission is a requirement for my participation in this study.

Student Name (PLEASE PRINT)_____

Signature_____

Date_____

I certify that I have explained to the above individuals the nature and purpose, and the potential benefits associated with participants in this research study, and have answered any questions that have been raised.

_____ _____

Date Investigator's Signature

APPENDIX C: Study Site Acceptance Letter – School District Superintendent and Board

Professional Studies in Education Department
303 Davis Hall
Indiana, Pennsylvania 15705
724-357-2400

January 21, 2013

Dear Dr. _____ and _____ School District Board Members,

I am requesting permission to include Franklin Area School District (FASD) in the following study: "Elementary writing assessment platforms: A quantitative examination of online versus offline writing performance of fifth-grade students". This letter is to request your formal permission to allow the FASD 5th-grade students to participate in a project that is trying to identify if significant differences exist in students' writing performance and writing quality when using online or offline computerized writing platforms. I would like to invite the current fifth-grade students to participate in the study and use the data to examine the effects that using online versus offline computerized writing platforms may have on students' writing performance and quality. This information will be valuable to writing research, but more importantly, it would be beneficial to the FASD fifth-grade teachers. As an employee of your district, I think this information will be valuable to fifth-grade teachers as they prepare students to write proficiently for standardized tests and for future writing experiences in and out of school.

As with any research, student participation is voluntary with the understanding that the participants can withdraw from the research at any time by contacting me via electronic mail, postal letter, or telephone. Willingness to participate or not participate in the study has no bearing on a student's academic grades. Again, student participation is completely voluntary.

This study will be conducted during the fifth-grade students' computer lab period and will provide writing practice for the PSSA writing assessment. This way, instructional time is maintained for current curricular writing practice. Your students will be asked to anonymously respond to a previously published PSSA narrative writing prompt administered via the computer. Prior to the study classroom teachers will guide their students through the use of the online Kidblog© writing platform. This provides students with an opportunity to experience "blogging" prior to the study. The first written response for the study will be offline, using Microsoft Word© or online, using Kidblog©, a secure and district approved educational blog site. Thirty days later the students will respond to the same narrative prompt using the reverse writing platform. Again, anonymity will be maintained. Any presentation or a publication that discusses the findings of this research will continue to maintain anonymity by using pseudonyms in order to protect all participants' identities.

This study will be conducted for research purposes, and there are no known risks in participating in this study. However, one potential benefit of this study is that it will provide some information for educational practices regarding elementary writing performance and writing quality when using online and offline writing platforms.

If you are comfortable with FASD 5th-grade students participating in this research, please respond with a letter of permission typed on official FASD letterhead. If you need further clarification on the information presented, please feel free to contact me. An executive summary of the findings from this study will be made available to you upon request.

Thank you for your consideration.

Principal Investigator:
Vickie L. Heath D.Ed Candidate
Utica Elementary School
3823 Academy Street
Utica, PA 16323
814-425-3498
heathv@fasd.k12.pa.us

Faculty Sponsor:
Dr. George Bieger
Indiana University of PA
114 Davis Hall, IUP
570 S. 11th Street
Indiana, PA 15705
724-357-3285
grbieger@iup.edu

SCHOOL DISTRICT LETTERHEAD

November 12, 2012

To Whom It May Concern:

Mrs. Heath and I began discussions regarding her dissertation in 2010 when I was the Assistant to the Superintendent for Curriculum and Instruction. These discussions have continued in my present position as superintendent of the _____ School District.

Mrs. Heath has my approval to utilize students within our district for her dissertation. I will be most interested in her findings and how it relates to our students in _____ School District. Our School Board will be made aware of Mrs. Heath's intentions.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Dr. _____

SCHOOL DISTRICT LETTERHEAD

At the _____ School District School Board Meeting on January 21, 2013, the following occurred:

Approved a request submitted by Vickie Heath, at teacher at _____ Elementary, for _____ School District fifth grade students participation in a study: "Elementary writing assessment platforms: A quantitative examination of online versus offline writing performance of fifth grade students." The study will be conducted for research purposes. Student participation will be voluntary and anonymity will be maintained.

Dr. _____
Superintendent

APPENDIX D: Study Site Acceptance Letter – Building Principal

Professional Studies in Education Department
303 Davis Hall
Indiana, Pennsylvania 15705
724-357-2400

March 14, 2013

Dear Mr. _____:

As part of the process of completing my doctorate in Curriculum and Instruction at Indiana University of Pennsylvania, I am required to conduct research for my dissertation. I am writing to ask for your permission to conduct research in your fifth-grade Language Arts classrooms during the spring of the 2012-2013 academic school year. This letter is to request your permission to allow _____ Elementary and _____ Elementary students to participate in the following study. This information will be valuable to writing research, but more importantly, it would be beneficial to both _____ Elementary and _____ Elementary students and teachers.

This study will be conducted during the fifth-grade students' computer lab period and will provide writing practice for the PSSA writing assessment. This way, instructional time is maintained for current curricular writing practice. Your students will be asked to anonymously respond to a previously published PSSA narrative writing prompt administered via the computer. The classroom teachers will guide their students through the use of the online Kidblog© writing platform prior to the study. This is to provide students with an opportunity to experience "blogging" and improve the reliability and validity of the study. The first response for the study will be offline, using Microsoft Word© or online, using Kidblog©, a secure and district approved educational blog site. Thirty days later the students will respond to the same narrative prompt using the alternate writing platform. Again, anonymity will be maintained. Any presentation or publications that discuss the findings of this research will continue to maintain anonymity by using pseudonyms in order to protect all participants' identities.

This study will be conducted for research purposes, and there are no known risks in participating in this study. One potential benefit of this study, however, is that it will provide some information for the teachers that may offer helpful insight for future writing instruction.

If you are comfortable with your students participating in this research, please sign, date this letter below, and place it in the self-addressed stamped envelope enclosed or send me an e-mail of agreement to participate. A returned, signed letter implies your consent. If you need further clarification on the information presented, please feel free to contact me. An executive summary of the findings for this study will be made available to you upon request. Thank you for your consideration.

If you agree to allow me to work with you to complete this research in the manner described above, please sign your consent below and return to me or send me an e-mail of agreement to participate. Thank you. You may contact me at pdjq@iup.edu; heathv@fasd.k12.pa.us, or 814-676-8338.

Respectfully,

Vickie L. Heath

Vickie L. Heath has my permission as the principal in the school targeted for her Research to conduct this project in the manner described above during the spring of the 2012-2013 academic year.

_____

Signature of Principal Date

APPENDIX E: Study Site Acceptance Letter – Fifth-Grade Classroom Teacher

Professional Studies in Education Department
303 Davis Hall
Indiana, Pennsylvania 15705
724-357-2400

Dear _____,

I am writing to invite you and your fifth-grade students to voluntarily participate in a writing study using online and offline writing platforms during 3 of your computer lab times in the spring of 2012-2013 academic school year. As the fifth-grade teacher for _____, you have diligently prepared your students all year for the PSSA writing assessment. This study is designed to simulate a PSSA Writing session using different computerized writing platforms and is in compliance with current curricular writing practices used at _____. This study will be conducted for research purposes only. One potential benefit of this study, however, is that it may provide some information for teachers and offer helpful insight for future writing instruction and assessment. Your voluntary participation will be greatly appreciated.

The researcher will ask you to send the parent consent letters and student assent letters home. Then collect the sealed returned envelopes from parents and students. Your role as the fifth-grade teacher will be to facilitate other various aspects of the study's processes. For example, at your convenience, within the time frame allotted, you will be asked to schedule 3 computer lab times for this study; implementing one practice session using Kidblog© and 2 computer lab sessions 30 days apart to respond to the prompt used in the study, monitor the writing sessions, and collect students' written responses for the researcher. The researcher will set up Kidblog© and Microsoft Word© for you. If you agree to voluntarily participate in this study, we will initially meet and review the simple processes of the study. Your participation is voluntary and there are no known risks associated with your participation or nonparticipation in this study. Your participation and identity will be confidential and anonymous. Your employer or supervisors will <u>not</u> be informed of your participation or nonparticipation.

Your students will be asked to anonymously respond to a previously published PSSA narrative writing prompt administered via the computer. The first response for the study will be offline, using Microsoft Word© <u>or</u> online, using Kidblog©, a secure and district approved educational blog site. Thirty days later the students will respond to the same narrative prompt using the alternate writing platform. Again, anonymity will be maintained for both you and your students. Any presentations or publications that discuss the findings of this research will continue to maintain anonymity by using coded pseudonyms in order to protect all participants' identities.

If you agree to voluntarily participate in this study, please sign, date this letter below, and place it in the self-addressed stamped envelope enclosed, inner office mail, or send me an e-mail of agreement to participate. Keep a copy of the invitation for yourself. A returned, signed letter implies your consent. If you need further clarification on the information presented, please feel

free to contact me. An executive summary of the findings for this study will be made available to you upon request. Thank you for your consideration. You may contact me at pdjq@iup.edu; heathv@fasd.k12.pa.us, or 814-676-8338.

Respectfully,

Vickie L. Heath

Vickie L. Heath has my permission as the classroom teacher in the school targeted for her research to conduct this project in the manner described above during the spring of the 2012-2013 academic year.

Signature of Teacher Date

APPENDIX F: PSSA Narrative Scoring Guideline (public domain)

WRITING

PSSA Narrative Scoring Guideline

4	Focus	Sharp, distinct controlling point or theme with evident awareness of the narrative.
	Content Development	Strong story line with illustrative details that addresses a complex idea or examines a complex experience. Thoroughly elaborated narrative sequence that employs narrative elements as appropriate.
	Organization	Skillful narrative pattern with clear and consistent sequencing of events, employing a beginning, a middle, and an end. Minor interruptions to the sequence may occur.
	Style	Precise control of language, literary devices, and sentence structures that creates a consistent and effective point of view and tone.
3	Focus	Clear controlling point or theme with general awareness of the narrative.
	Content Development	Story line with details that addresses an idea or examines an experience. Sufficiently elaborated narrative sequence that employs narrative elements as appropriate.
	Organization	Narrative pattern with generally consistent sequencing of events, employing a beginning, a middle, and an end. Interruptions to the sequence may occur.
	Style	Appropriate control of language, literary devices, and sentence structures that creates a consistent point of view and tone.
2	Focus	Vague evidence of a controlling point or theme with inconsistent awareness of the narrative.
	Content Development	Inconsistent story line that inadequately addresses an idea or examines an experience. Insufficiently elaborated narrative sequence that may employ narrative elements.
	Organization	Narrative pattern with generally inconsistent sequencing of events that may employ a beginning, a middle, and an end. Interruptions to the sequence may interfere with meaning.
	Style	Limited control of language and sentence structures that creates interference with point of view and tone.
1	Focus	Little or no evidence of a controlling point or theme with minimal awareness of the narrative.
	Content Development	Insufficient story line that minimally addresses an idea or examines an experience. Unelaborated narrative that may employ narrative elements.
	Organization	Narrative pattern with little or no sequencing of events. Interruptions to the sequence interfere with meaning.
	Style	Minimal control of language and sentence structures that creates an inconsistent point of view and tone.

Appendix G: PSSA Conventions Scoring Guideline (public domain)

WRITING

PSSA Conventions Scoring Guideline

4

- Thorough control of sentence formation.
- Few errors, if any, are present in grammar, usage, spelling, and punctuation, but the errors that are present do not interfere with meaning.

3

- Adequate control of sentence formation.
- Some errors may be present in grammar, usage, spelling, and punctuation, but few, if any, of the errors that are present may interfere with meaning.

2

- Limited and/or inconsistent control of sentence formation. Some sentences may be awkward or fragmented
- Many errors may be present in grammar, usage, spelling, and punctuation, and some of those errors may interfere with meaning.

1

- Minimal control of sentence formation. Many sentences are awkward and fragmented.
- Many errors may be present in grammar, usage, spelling, and punctuation, and many of those errors may interfere with meaning.

Appendix H: Writing Platform Student Roster for Random Assignment

Student Roster for Random Assignment of Kidblog© or Microsoft Word©

Student Name (Classroom Roster)	Class _____	School _____	W/B _____
S1			W
S2			B
S3			W
S4			B
S5			W
S6			B
S7			W
S8			B
S9			W
S10			B
S11			W
S12			B
S13			W
S14			B
S15			W
S16			B
S17			W
S18			B

S19			W
S20			B
S21			W
S22			B
S23			W
S24			B
S25			W
S26			B
S27			W
S28			B
S29			W
S30			B
S31			W
S32			B
S33			W
S34			B
S35			W
S36			B
S37			W

S38			B
S39			W
S40			B
S41			W
S42			B
S43			W
S44			B
S45			W
S46			B
S47			W
S48			B
S49			W
S50			B

Appendix I: Grade 5 Writing Performance Level Descriptors for Evaluators (public domain)

Pennsylvania Department of Education
Grade 5 Writing
Performance Level Descriptors

A student scoring at the **Advanced Level** produces narrative, informational, and persuasive pieces of writing that demonstrate a comprehensive command of composition skills. A student writing at this level

1. writes with a sharp, distinct focus that identifies topic and task
2. shows a sophisticated awareness of audience and mode
3. –
4. gathers, organizes, and selects substantial, effective content appropriate for topic, task, and audience
5. –
6. develops paragraphs with strong topic sentences and illustrative supporting details
7. crafts effective introductions, bodies, and conclusions
8. uses logical organizational structures and strategies within sentences and between paragraphs to thoroughly develop content
9. uses a variety of effective transitions to develop a controlling idea
10. varies lengths and patterns of simple and compound sentences
11. utilizes vivid and precise language to develop and maintain a consistent voice
12. revises writing to effectively improve organization, word choice, logic, order of ideas, and precision of vocabulary
13. demonstrates skill in editing to eliminate most errors in spelling, capitalization, punctuation, usage, and sentence structure

A student scoring at the **Proficient Level** produces narrative, informational, and persuasive pieces of writing that demonstrate a thorough understanding of composition skills. A student writing at this level

1. writes with a clear focus that identifies topic and task
2. shows a general awareness of audience and mode
3. -
4. gathers, organizes, and selects content appropriate for topic, task, and audience
5. –
6. develops paragraphs with topic sentences and relevant supporting details
7. produces adequate introductions, bodies, and conclusions
8. uses logical organizational structures and strategies within sentences and between paragraphs to sufficiently develop content
9. uses functional transitions to develop a controlling idea
10. varies lengths and patterns of simple and compound sentences
11. utilizes precise language to develop and maintain a consistent voice
12. revises writing to sufficiently address organization, word choice, logic, order of ideas, and

Precision of vocabulary
13. demonstrates skill in editing to eliminate common errors in spelling, capitalization, punctuation, usage, and sentence structure

A student scoring at the **Basic Level** produces narrative, informational, and persuasive pieces of writing that demonstrate a limited understanding of composition skills. A student writing at this level

1. writes with a vague or indistinct focus to identify topic and/or task
2. shows a limited awareness of audience and mode
3. –
4. needs assistance to gather and select content appropriate for topic, task, and audience
5. –
6. constructs under-developed paragraphs with unclear topic sentences and/or insufficient supporting details
7. produces inadequate introductions, bodies, and/or conclusions
8. shows limited ability to use logical organizational structures and/or strategies within sentences and/or between paragraphs to develop content
9. uses few and/or ineffective transitions
10. lacks variety in lengths and patterns of simple and compound sentences
11. utilizes vague or imprecise language often leading to an ineffective voice
12. demonstrates limited ability to revise writing
13. shows a limited ability to eliminate errors in spelling, capitalization, punctuation, usage, and sentence structure.

A student scoring at the **Below Basic Level** produces writing that demonstrates a below grade-level understanding of composition skills and requires extensive assistance with composing, revising, and editing.

Performance Level Descriptors for Writing
2009 PSSA Technical Report for Writing: Grades 5, 8, and 11

APPENDIX J: Academic Standards for Writing
(public domain)

1.4 Types of Writing and 1.5 Qualities of Writing

1.4. Types of Writing

1.4.5. Grade 5

A. Write poems, plays and multi paragraph stories.

- Include detailed descriptions of people, places and things.
- Use relevant illustrations.
- Utilize dialogue.
- Apply literary conflict.
- Include literary elements (**Standard 1.3.5.B**.).
- Use literary devices (**Standard 1.3.5.C**.).

B. Write multi-paragraph informational pieces (e.g., essays, descriptions, letters, reports**,** instructions).

- Include cause and effect.
- Develop a problem and solution when appropriate to the topic.
- Use relevant graphics (e.g., maps, charts, graphs, tables, illustrations**,** photographs).

C. Write persuasive pieces with a clearly stated position or opinion and supporting detail, citing sources when needed.

1.5. Quality of Writing

1.5.5. Grade 5

A. Write with a sharp, distinct focus, identifying topic, task and audience.

B. Write using well-developed content appropriate for the topic.

- Gather, organize and select the most effective information appropriate for the topic, task and audience.
- Write paragraphs that have a topic sentence and supporting details.

C. Write with controlled and/or subtle organization.

- Sustain a logical order within sentences and between paragraphs using meaningful transitions.
- Include an identifiable introduction, body and conclusion

D. Write with an understanding of the stylistic aspects of composition.

- · Use different types and lengths of sentences.
- · Use precise language including adjectives, adverbs, action verbs and specific details that convey the writer's meaning.
- · Develop and maintain a consistent voice.

E. Revise writing to improve organization and word choice; check the logic, order of ideas and precision of vocabulary.

F. Edit writing using the conventions of language.

- · Spell common, frequently used words correctly.
- · Use capital letters correctly.
- · Punctuate correctly (periods, exclamation points, question marks, commas, quotation marks, apostrophes).
- · Use nouns, pronouns, verbs, adjectives, adverbs, conjunctions, prepositions and interjections properly.
- · Use complete sentences (simple, compound, declarative, interrogative, exclamatory and imperative).

G. Present and/or defend written work for publication when appropriate.

APPENDIX K: Scorer's Review/Score Topic and Idea Rating Sheet (public domain)

ITEM RATING SHEET :

Reviewer Signature _____

Topic/Idea Rubric Narrative Writing Prompt Session 1 or 2

Date_____

Participant Unique **ID Number**	**Writing Platforms** Blog **(B)** _____ Word Proc. **(W)** _____ **Identify writing platforms**	**FOCUS** ***Sharp distinct*** controlling point or theme with ***evidence*** of the narrative. **CONTENT** **Strong** story line with ***illustrative*** details that addresses a **complex** idea or examines a ***complex*** experience. ***Thoroughly*** elaborated sequence that employs narrative elements as appropriate. **ORGANIZATION** ***Skillful*** narrative pattern with ***clear and consistent*** sequencing of events, employing a beginning, middle, and an end. ***Minor*** interruptions to the sequence may occur. **STYLE** ***Precise*** control of language, literary devices, and sentence structures that create a ***consistent*** and ***effective*** point of view and tone. **4**	**FOCUS** ***Clear*** controlling point or theme with ***general awareness*** of the narrative. **CONTENT** Story line with details that addresses an idea or examines an experience. ***Sufficiently*** elaborated sequence that employs narrative elements as appropriate. **ORGANIZATION** Narrative pattern with ***generally consistent sequencing*** of events, employing a beginning, middle, and an end. ***Interruptions*** to the sequence may occur. **STYLE** ***Appropriate*** control of language, literary devices, and sentence structures that create a ***consistent*** point of view and tone. **3**	**FOCUS** ***Vague evidence*** of a controlling point or theme with ***inconsistent awareness*** of the narrative. **CONTENT** ***Inconsisten***t story line ***inadequately addresses*** an idea or examines an experience. Insufficiently elaborated narrative sequence that may employ narrative elements. **ORGANIZATION** Narrative pattern with ***generally inconsistent*** sequencing of events that ***may*** employ a beginning, middle, and an end. Interruptions to the sequence ***may interfere with meaning.*** **STYLE** ***Limited control*** of language and sentence structures that ***creates interference*** with point of view and tone. **2**	**FOCUS** ***Little or no evidence*** of a controlling point or theme with ***minimal awareness*** of the narrative. **CONTENT** ***Insufficient*** story line that *minimally* addresses an idea or examines an experience**.** ***Unelaborated*** narrative that ***may employ*** narrative elements. **ORGANIZATION** Narrative pattern with little or no sequencing of events, Interruptions to the sequence interfere with meaning. **STYLE** ***Minima***l control of language and sentence structures that ***creates an inconsistent*** point of view and tone. **1**	Reviewer Comments

Adapted from 2012 PSSA Writing Score Guidelines

APPENDIX L: Scorer's Review/Score Convention Rating Sheet
(public domain)

ITEM RATING SHEET

Reviewer Signature: _____

CONVENTION RUBRIC Narrative Writing Prompt Session 1 or 2

Date _____

Participant Unique **ID Number**	**Writing Platforms** Blog **(B)** _____ Word Proc. **(W)** _____ **Identify Writing Platform**	Thorough control of sentence formation Few errors. If any, are present in grammar, usage, spelling, and punctuation, bit the errors that are present do not interfere with meaning. 4	Adequate control of sentence formation. Some errors may be present in grammar, usage, spelling, and punctuation, but few, if any, of the errors that are present interfere with meaning. **3**	Limited and/or inconsistent control of sentence formation. Some sentences may be awkward or fragmented. Many errors may be present in grammar, usage, spelling, and punctuation, and many of those errors may interfere with meaning. **2**	Minimal control of sentence formation. Many sentences are awkward and fragmented. Many errors may be present in grammar, usage, spelling, and punctuation, and many of those errors may interfere with meaning. **1**	Reviewer Comments

Adapted from 2012 PSSA Writing Scoring Guidelines

APPENDIX M: Researcher's Cumulative Rating Chart for Participant Ranking

WRITING PROMPT SESSIONS

PARTICIPANT IDENTIFICATION CODE|	**SESSION 1** SCORES PSSA RANKING		**SESSION 2** SCORES PSSA RANKING	
	Topic/Idea Rubric	Convention Rubric	Topic/Idea Rubric	Convention Rubric
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W
	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W	4 3 2 1 B W

APPENDIX N: Scripted Administrative Directions for Students' Written Responses to be Read by Participating Classroom Teachers Prior to Each Writing Response

Student Written Response Session Directions:

Before every session of student Response Writing read this scripted direction.

(SAY) Listen carefully to the following directions.

You will be writing a response to a narrative prompt. You are to use your fifth-grade login to sign onto your computer. You have been given a coded number that you will use as your name to place at the top of written document, to protect your identity for this study. No one except your teacher and the researcher will ever see a name associated with your response.

Remember, a narrative essay is telling a story. As the author the story, your response is told from your viewpoint and based upon your personal experiences and background knowledge. Remember to use all the good writing skills that we use for the PSSA. You will have 30 minutes to respond to your prompt.

Some of you will be writing in Microsoft Word©, an offline writing platform. Others will be writing in Kidblog©, an online writing platform. The blog is connected to a live audience made up of our district's fifth-grade students participating in this project. These fifth-grade students have the potential and ability to immediately respond to your written response.

Are there any questions? (Pause) (Answer all questions honestly as you would in a standardized testing situation)

(SAY) Login on your computer

On the desktop, look for your assigned writing platform icon - Kidblog© or Microsoft Word©.

Click on your assigned icon.

If you need assistance or have a question raise your hand and I will assist you as needed.

(Monitor while children are logging onto their appropriate writing platform.)

(Say) Wait to begin writing until I tell you to begin.

(Once everyone is logged on the correct writing platform)

(SAY) Carefully read your prompt and you may begin writing your response.

Remember to apply good writing strategies and writing form when you respond.

You have 30 minutes to respond to the prompt. Begin timing.

Begin now. When you are done quietly raise your hand and I will come to your station and go through the secure process of collecting your work.

Give students a FIVE MINUTE warning to conclude their writing and proof read their work for those students who may still be working.

Teachers:

Make sure each student has placed his/her identity code on the top of the written response document.

Print out each student's written response (Microsoft Word© and Kidblog© documents as per training session).

Collect participating students' scratch paper (be sure student ID code is on scratch paper) and printed response.

Place all documents into the secure envelop provided and mail them to the researcher immediately upon completion of session via inner office mail.

DO NOT SAVE WORD DOCUMENT. THE BLOG DOCUMENT WILL BE DELEATED BY THE RESEARCHER WITHIN 24 HOURS OF RECEIVING YOUR SECURE SEALED ENVELOPE.

APPENDIX O: District Technology and Internet Usage Policy

- Each student and parent has signed a district technology and usage policy at the beginning of the school year and is stored in each student's file, see below.

.

_____ Area School District

Elementary Student Account Agreement

To Parent or Guardian:
I have read the District Acceptable Use Policy governing my child's use of electronic technology in school. I hereby release the District, its personnel, and any institution with which it is affiliated from any and all claims and damages arising from my child's use of the _____ Computer Network. I also understand that the District cannot be held responsible for unauthorized credit card purchases made by my child using the network. I fully understand and accept the consequences of my child's violation of this policy and accept financial responsibility for damages caused by intentional misuse of computers by my child.
I support the responsible use of electronic networks and understand that the District Acceptable Use Policy is intended to provide guidelines to assist my child in making appropriate choices regarding the use of technology. I also understand that, due to wide variations in family values, it is unreasonable to expect district personnel to monitor my child's use of the network according to individual family values. I understand that although the District filters Internet content, no filtering software is 100% effective. I will discuss with my child what I consider appropriate and inappropriate material. I will also discuss the importance of following the safety rules when using the network.
_____ I give permission for my child to use computers at school and certify that the information contained on this form is correct.
_____ I **DO NOT** give permission for my child to use computers at school.
Parent Signature: _____Date: _____
Parent Name (Print): _____
Home Address: _____

Elementary Student Agreement

I have read the District Acceptable Use Policy for using electronic technology in school. I agree to follow the rules as outlined in the policy. I understand that violations of the policy may result in restrictions or termination of my account, and I may face other disciplinary action. I also understand that if my account is restricted or terminated, I will still be responsible for completing assignments using more traditional references and resources such as printed books. I understand that account restrictions that make it impossible for me to complete a course could result in failing that course.

Student Signature: _____ Date: _____

Student Name (Print): _____

APPENDIX P: PSSA Narrative Writing Prompts

The writing prompts used for this study were:

- Prompt One –"Think about a time when you were given the opportunity to care for something. Write a story that tells what you had to do and how it made you feel." (Pennsylvania Department of Education, 2008).
- Prompt Two – "At different times, people face situations in which they need to be brave. Write about a time when someone needed to be brave and why bravery was needed." (Pennsylvania Department of Education Division of Evaluation and Reports, 2002).

Note:

- Prompt One was used only as a practice prompt for Kidblog© training session. This prompt was collected and stored by the researcher. It was not scored or recorded in any of the data analysis of this study.
- Prompt Two was given to the students and students' writing scores were taken from this prompt for the study. Independent scorers ranked the students' writing using the PSSA Writing Rubrics for content areas of (a) focus, (b) content development, (c) organization, (d) style, and (e) conventions. The independent scorers used the Writing Performance Level Descriptors (PLD) (see Appendix I), Academic Standards for Writing (see Appendix J), Scorer's Review/Score Item Rating Sheet for Topic and Idea (see Appendix K) and the Item Rating Sheet for Conventions (see Appendix L) to analyze students' narrative writing and record data.