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TRADITIONAL AND DIGITAL METHODS OF RESPONDING TO LITERATURE
AND THE IMPACT ON STUDENT WRITING

by

ANNA SAVAGE

Under the Direction of Marlynn Griffin

ABSTRACT

Students of today have grown up surrounded by an abundance of technology and teachers are faced with the challenge of integrating technology into the classroom. Along with the technological boom is the need for students to be equipped with strong literacy skills across the curriculum. The purpose of this study was to examine the use of digital literature response methods as compared to traditional writing journals in the language arts classroom and determine if one method produced better scores in the writing traits of ideas and voice. The study also explored if either method of responding to literature was more effective in motivating middle school learners to write. A mixed-method crossover design was used to gather both quantitative and qualitative data. Eighty-two students in five language arts classes participated in the study. Approximately half of the students began responding to the literature utilizing digital responses and the remaining students began by responding via traditional journal responses. After students spent six weeks using their initial method of responding, the groups switched methods of responding and spent six weeks utilizing the other method. Quantitative data were collected from Likert-scale surveys and automated essay scorer evaluations of ideas and voice. A statistically significant difference in the trait of ideas at the end of the study was found and two of ten motivation subscales showed a statistically significant difference, one at the midpoint of the study and one at the end. Qualitative data for the study were collected from modified focus group questionnaires. Eleven open-ended questions probed student attitudes regarding their

interactions with both methods of responding to literature. Overall, findings were inconclusive and reported that students did not favor one method of responding over the other.

The study addressed the areas of writing, technology, and the automated essay scorer as they related to the language arts classroom. This study adds to the little research in the area of digital methods of responding to literature in the middle school classroom and the use of the automated essay scorer.

INDEX WORDS: Responding to literature, Threaded discussion, Web 2.0, Constructivism, Traditional journals, Writing, Automated essay scorer, New literacy studies

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by

ANNA SAVAGE

B.S. Ed., University of Georgia, 1994

M.Ed., University of Georgia, 1996

Ed.S., Clemson University, 1998

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ANNA SAVAGE

Major Professor: Marlynn Griffin
Committee: Scott Beck
Sally Brown
Ming Fang He

Electronic Version Approved:
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I've been told that a dissertation is an independent study; however, my experience through this process has been much different. It has taken the support and encouragement from family, friends, and colleagues to complete this journey in my life.

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Anna S. Sargent

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Chapter 1

Overview

Literacy is a skill that goes beyond reading and writing and includes social purpose as an important focus for adolescents (National Council of Teachers of English, 2006). Connecting authentic literacy activities into everyday classroom curriculum is a way of promoting collaboration among students (McKenna, Labbo, Reinking, & Zucker, 2008). As a result of this collaboration, literacy instruction is changing to provide opportunities for students to enhance and extend meaningful literacy practice (Larson, 2008) by sharing via digital means. The integration of these technologies allow learners to be better prepared to draw on existing technical, social, and cultural skills than the conventional literacy curricula allow (Mills, 2010a).

Introduction

Adolescents of today have grown up surrounded by a plethora of technology. Cell phones, smartphones, word processors, iPods, and the Internet have all increased the ease with which they communicate with their peers through e-mails, instant messaging, chat rooms, threaded discussions, and blogs. Threaded discussions, which provide users with the opportunity to communicate digitally in a social learning environment (Larson, 2008), have become popular among adolescents because they provide students with the opportunity to reflect and respond to topics by participating in electronic postings.

New styles of speaking and writing are also being developed and facilitated by the development of Web 2.0 (Wheeler & Wheeler, 2009), which are tools that allow users to create, edit, manipulate, and collaborate online (Handsfield, Dean, & Cielocha, 2009; Wheeler & Wheeler, 2009). Technological advances, such as Web 2.0, occur at such a rapid pace that

changes to literacy are limited not to technology, but by our ability to adapt and acquire the new literacies that emerge (Leu, Kinzer, Coiro, & Cammack, 2004).

Literacy is a non-negotiable in education today. “Acquiring and applying literacy skills are not unimportant: They are essential” (Damico, 2005, p. 644). The 21st century brings with it a shift in what it looks like to be a reader and writer and what literacy skills look like in these changing times (Bean & Harper, 2004). The International Reading Association (2002, 2009) suggests that traditional definitions of reading, writing, communicating, and best practice instruction, are now insufficient in the 21st century. The updated best practices include strategies for students and teachers as they integrate new and varied forms of information, communication, and technology. Literacy educators have the responsibility of integrating these new ever-changing literacies into the curriculum in an attempt to prepare students for an ever-changing technological world.

Critical Literacy

Critical literacy is an act of knowing that empowers individuals and challenges them to discover their voices and ethical responsibilities for the improvement of their world (Beck, 2005). Critical literacy classrooms today are characterized by an emphasis on students’ voices and dialogue as tools students use to reflect on and construct meaning from text (Beck, 2005). A key element in critical literacy is the teacher's role in assessing student responses to ensure that the experience is true to the philosophy and goals of critical literacy (McLaughlin & DeVogd, 2004). An example of critical literacy in action is problem posing. According to McLaughlin and DeVogd (2004) problem posing engages the reader in questioning the author’s message from a critical perspective and exists through forums such as online discussion boards. Problem posing begins when students gain a literal understanding of the text through activities such as

reading, writing, discussing, and employing a variety of comprehension strategies including predicting, self-questioning, and summarizing (McLaughlin & DeVogd, 2004).

Motivation

Students are motivated when they are able to see usefulness in what they are doing (Bransford, Brown, & Cocking, 1999). The more students are motivated to learn, the more they are likely to be successful in their endeavors. According to Whisehart and Blease (1999), technology can be used to create classroom environments where students are motivated and engaged in learning. Additionally, motivation and engagement, with an emphasis on text, are facilitated by social interactions with others (Gambrell, 2006). Developing engaged motivated readers takes place by sharing and exchanging ideas with others about books, stories, and informational text (Gambrell, 2006). Additional tools that are suited for actively engaging students include: social learning, continuous feedback, and real world application (Gambrell, 2006; Huffaker, 2003).

Student engagement is critical to student motivation throughout the learning process (Beeland, 2002). According to Beeland (2002), factors such as teacher motivation, skills, and effective use of technology influence student motivation. Technology can be used to create classroom environments where students are motivated and engaged in learning and where technology is used in innovative ways to improve learning and teaching (Whisehart & Blease, 1999).

Writing

Most contexts of life (school, community, work) call for some level of writing skill. Writers who are proficient have the ability to adapt their writing to the context in which it takes place (Graham & Perin, 2007). Writing well is not an option—it is a necessity for our students.

Reading comprehension and writing are predictors of academic success (Graham & Perin, 2007). Over the past several years, students' writing achievement has received increased scrutiny by educators and departments of education. More than 70% of U.S. fourth, eighth, and twelfth graders do not write at a proficient level according to the National Assessment of Educational Progress (2002). The increased concerns over the lack of progress in student writing brought about a "revolution" to change the way writing is taught in the United States (National Commission on Writing in America's Schools and Colleges, 2003). Some of the changes suggested by the commission include the addition of an essay writing section to the SAT, the addition of a direct writing assessment on standardized tests for students in the primary and secondary schools, and more professional development for teachers in best practices such as the 6+1 Trait® Writing model (Collopy, 2008).

Technology's Interaction with Literacy

Web 2.0 represents a collaborative, interactive Internet where students can easily share, create, and contribute to conversations (Drexler, Baralt, & Dawson, 2008). Many students are using this interactive web, or Web 2.0, in their everyday lives for socializing and entertainment (Asselin & Moayeri, 2011). Davies and Merchant (2009) discuss ways that schools can support new literacies by the use of Web 2.0 in collaborative environments within the classroom. One of the Web 2.0 tools used to facilitate student collaboration is digital media (Asselin & Moayeri, 2011) such threaded discussion, which is a component of this current study. The tool that will be used for the threaded discussion in the current study is Edmodo. Edmodo is a free social networking website used for educational purposes (Stroud, 2010). It provides a secure environment for a class to share ideas and assignments through messaging. Edmodo allows

teachers to group students in small learning communities to explore and interact with peers (Stroud, 2010).

Threaded discussions allow groups of students to participate in discussion asynchronously using message boards (Larson, 2008). Threaded discussion groups are comprised of groups of people who exchange messages regarding topics of common interest (Grisham & Wolsey, 2006). Wolsey (2004) maintains that threaded discussions allow students to create community with each other through conversations that allow them to make connections to their own lives and world.

Weblogs, most commonly known as “blogs”, are emerging in technical contexts in education by providing students with uncomplicated, powerful organizational forms for online expression (Oravec, 2003). Blogs are comprised of reflections and conversations and engage readers with ideas and ask readers to think and respond. In other words, blogs ‘demand interaction’ (Richardson, 2010).

For the purpose of this research, the term “blog” was used almost synonymously with threaded discussion. The tool used in the study is Edmodo and Edmodo, occasionally, promoted itself as a blog, therefore, this term was used since students were more familiar with it. Students were really using a threaded discussion, so the researcher discussed threaded discussion in the paper but used the term “blog” with student interactions. Threaded discussion and blog are both digital methods of responding and promote social collaboration and discussion among students (Grisham & Wolsey, 2008; Larson, 2008; Oravec, 2003; Sweeney, 2010; Witte, 2007; Wolsey, 2004).

According to O'Brien and Scharber (2008) digital literacy is defined as 'things' that digitally literate people produce such as blogs, wikis, and podcasts; or activities in which

digitally literate people engage such as social networking. Educators have the responsibility of providing students with opportunities and skills to bridge the technology use at home with technology in school. The definition of digital literacy that will be used in the context of this study is a set of habits children use throughout the interaction with information technologies for work, learning, and fun (Ba, Tally, & Tsikalas, 2002; Jones-Kavalier & Flannigan, 2006).

The infusion of technology into our communication systems brings to the forefront the need to better understand how technology changes and extends literacy demands (Luke & Elkins, 1998; Rycik & Irvin, 2001). Typed text reflecting individuals' thoughts and responses to particular assigned discussions via online content represents interactivity, which occurs with conversation and negotiation with other learners as well as reflectively within the minds of the participants (Jonassen, Davidson, Collins, Campbell, & Bannan-Haag, 1995). Interacting digitally allows learners to stimulate productive thinking, reflection, and articulation of ideas. This environment supports the constructivist notion and Vygotsky's ideas of social negotiation (Choi & Ho, 2002).

Context of the Study

With textbook adoption comes an abundance of teacher resources. Educators are often so overwhelmed that they do not have time to explore all of the resources that accompany a textbook series. Because teachers are limited in their time to explore the supplemental materials, sometimes they overlook resources that are valuable and may assist them within the classroom.

As an assistant principal for instruction, evaluating materials that accompany the curriculum is the responsibility of the researcher conducting this study. In a review of the materials that accompanied the *Reader's Journey*, the researcher discovered an automated essay scorer (AES) that would evaluate student writing and provide feedback based on the 6+1 writing

traits model (currently used within the language arts curriculum). Using the AES program in conjunction with grading essays by hand can provide teachers with different views of student strengths and weaknesses as well as provide another source (technology) to assess student writing.

Purpose of the Study

One purpose of the study was to explore whether a specific method of responding to the literature (digital or traditional writing) had an impact on student writing in the traits of ideas and voice as determined by an AES program. Another goal of the study was to determine if one method of responding to literature was more effective in motivating middle school students to write.

Research Questions

Two research questions guided the study.

1. Which method of responding to literature (digital or traditional writing) elicits better student writing, as measured by an electronic essay scorer, in the 6+1 writing traits of ideas and voice?
2. Does method of responding to literature (digital or traditional writing) impact the level of motivation to write in middle school students?

Significance of the Study

This study may contribute to the limited research on the use of digital methods of responding to literature in the middle school language arts classroom. It may also provide information about the experiences of students who use digital means of responding in the language arts classroom and their attitudes and motivation to write. Students could also benefit from the results of the study as well. Results could indicate that teachers should consider using

one or a combination of both methods of responding to literature. Another layer of the study explored whether the method of responding to literature (traditional or digital) increased student writing scores in the traits of ideas and voice as measured by AES software. The use and effectiveness of using AES software in conjunction with hand scoring writing samples was another component of the study. If the results of the automated essay scorer were a true indicator of actual student writing, teachers may find this an option for assessing student writing.

The current study is significant to the researcher in that it helped her guide the teachers within her building in the area of curriculum and instruction. The researcher presented findings from the study with the two teachers involved in an attempt to ascertain their thoughts regarding the aspects of the study and suggestions for continuing the methods, used in the study, schoolwide. As an administrator, the results of the study sought to inform the implementation of supplemental resources that accompanied the curriculum. It also served to inform teachers of the importance of utilizing different methods of responding to literature within any classroom and not just the language arts classroom. Another possible outcome of the study that could impact teachers, students, and administrators is recognizing the importance of differentiation within the classroom and the impact that it has on student learning.

Personal Connection to the Study

Teachers find it challenging to motivate students and engage them with methods of responding to literature in the language arts classroom. Through examination of existing research the researcher realized that engaging students in technology-rich environments is one way to pique their interest in responding to literature while improving writing skills.

Two years ago the school system, in which the current study was conducted, adopted a new reading series, *Readers' Journey*, which included an automated essay scorer. Traditionally,

students in language arts classes responded to literature using pencil and paper (traditional writing). However, the combination of an automated essay scorer and an abundance of technology provided students with an alternative to traditional writing journals. The easy access to technology as a means of facilitating student responses to the literature was explored. The two different methods of responding were examined and then compared to determine which, if either, method motivated middle school students to write.

The school system in which this study was conducted has three middle schools. This researcher shared findings from the study with the other Assistant Principals for Instruction in hopes that their schools would benefit from knowing which method of response elicited higher writing scores as assessed by the automated essay scorer and which method was most effective motivating middle school students.

Connection of the Study to the Field of Curriculum Studies

Holloway (2004) suggested that relying too heavily on standardized, structured teaching could constrict student individuality and stifle critical inquiry. Stifling student individuality may not allow students to make the connections to the text that would include applying higher order thinking as discussed in Bloom's Taxonomy. According to Holloway (2004), these variations in student responses lead to increased comprehension and deeper understanding.

This study explored student responses in traditional journals to digital responses in an attempt to determine the impact on student writing as measured by an automated essay scorer. Digital responses were reflected in online social environments (threaded discussions). Both traditional journals and digital methods echoed the experiences and thoughts of students and how they interpreted what was read and related it to their lives, which is an element of social constructivism. Sharing this information with each other allowed students access to each other's

viewpoints, voices, ideas, and experiences, which provided a basic tenet of constructivism, and suggests meaning is constructed based on our interactions with our surroundings.

Throughout the exchange, the reader and text acted as partners in producing meaning throughout the interpretative process. The text acted as motivation for extracting ideas from the reader and shaping the reader's experiences and ordering the ideas that conform to the text. Then the text is defined as an event that is created through the reader's reading and interpretation (Imtiaz, 2004). Further, the meaning students carried away from the reading depends on the experiences each student contributed to the discussion. Therefore, teachers may note year after year that different students respond differently to the same text (Holloway, 2004).

“Unless youth are offered critical literacy pedagogies in school, they will not learn to critique language and texts and they will, ultimately, be silenced, their identities crushed” (Moje, 2002, p. 116). When students have the knowledge to apply literacy practices effectively, they are equipped with a “tool of empowerment” (Moje, 2002, p. 97). Participation in digital means of responding to literature provides students with a critical tool for writing that allows them to extend their thinking beyond the classroom walls as they respond to ideas from readings, reflect on their previous writings, and write for real audiences. In doing each of these, they are preparing themselves for an ever-increasing technological society (Moje, 2002).

Chapter 2

Literature Review

Literacy in today's world entails much more than simply reading, writing, and understanding texts. According to Alvermann (2001) basic literacy is insufficient in today's world where reading and writing tasks continue to increase in complexity and difficulty. Alvermann's belief is supported by the International Reading Association's position statement on adolescent literacy: "Adolescents deserve instruction that builds both the skill and desire to read increasingly complex materials" (Moore, Bean, Birdyshaw, & Rycik, 1999, p. 5).

In an attempt to meet the needs of adolescents through literacy, there must be a clear understanding of what literacy means and how it has evolved over time. Shifts in the tools of literacy change the notion of what it means to be literate (Tyner, 1998). Several centuries ago, reading and writing were considered to be activities of professionals and those who practiced them were those who had learned a trade (Ferreiro, 2003). According to Ferreiro (2003) "all the problems with literacy began when it was decided that writing was not a profession but an obligation, and that reading was not a sign of wisdom but a sign of citizenship" (p. 13). The verbs "to read" and "to write" no longer designated homogeneous activities. Instead, "to read" and "to write" became social constructs and every new historical circumstance gives new meaning to these verbs (Ferreiro, 2003).

Literacy defined. James Cunningham defines literacy based on three commonalities: the ability to engage in some of the unique aspects of reading and writing, contextualization to some extent within the broad demands of society, and some minimal level of practical proficiency (Cunningham, Many, Carver, Gunderson, & Mosenhal, 2000). In that same article, Joyce Many adds to Cunningham's definition of literacy by stating that national assessments

define students' literacy by their ability to make inferences about text as a sign of basic literacy and students need to be critically conscious of what they are using to construct meaning. The definition of literacy presented by Ferreiro meshes with the definition of NCTE in that they both encompass intellectual practices that extend to different means of new media. The introduction of new literacy tools raises questions about the way people pick and choose from elements of text in order to define, navigate, and make sense of a world mediated by technology (Tyner, 1998).

For the purpose of this current study literacy will be defined as written by NCTE in their research policy brief:

Literacy encompasses reading, writing, and a variety of social and intellectual practices that call upon the voice as well as the eye and hand. It also extends to new media – including non-digitized multimedia, digitized multimedia, and hypertext or hypermedia. (NCTE, 2007)

Similarly, Ferreiro (2003) maintains that literacy is best acquired when students are allowed to interpret and produce a diversity of texts, when students are provided with diverse interactive experiences with written language, when students are challenged by a diversity of communicative purposes and functional situations related to writing, and when students are asked to work with texts from a diversity of viewpoints. Incorporating these authentic literacy events into the classroom is one means of integrating reading and writing activities while building comprehension.

Authentic literacy events. Duke, Purcell-Gates, Hall, and Tower (2006) define authentic literacy events in the classroom as those “that replicate or reflect reading and writing activities that occur in the lives of people outside of a learning-to-read-and-write context and purpose” (p.

346). Two dimensions are used to determine the authenticity of a literacy activity: purpose or function and text. An example of an authentic literacy event is reading an informational text to inform oneself or writing to provide information for someone who needs to know something (Duke et al., 2006).

Duke et al., (2006) discuss the importance of authentic literacy events on the development of comprehension and writing in a two-year study of second and third grade students. The intent of the study was to use authentic literacy events within the classroom to investigate students' ability to comprehend and compose informational and procedural texts in the content area since students learn language not in abstract terms but in application. Some of the authentic literacy events utilized by these teachers for authentic reading and writing include literacy in response to community need, literacy as part of problem solving, and writing for an intended audience (Duke et al., 2006). Students' desire to be involved in authentic literacy events challenge content area teachers with the task of discovering how to connect reading and writing to real audiences for real people since understanding subject matter involves more than "doing" or "knowing" something (Duke et al., 2006). The teachers who included more of these activities showed students who yielded higher growth in both reading and comprehension. Results of the study support the need for authentic literacy activities to be integrated within the classroom. The study concluded that students come alive when they realize they are writing for real people and for real reasons and reading texts for their own purposes. Findings of the study support the fact that mastery of content is demonstrated by reading and writing and the integration of the two elements enhances comprehension since the two are reciprocal processes (Bradenburg, 2002; Knipper & Duggan, 2006).

Alvermann (2001) also supports authentic literacy activities when she discusses that how adolescents respond to literacy demands in their subject area classes depends on their background knowledge and strategies for reading a variety of texts. Alvermann suggests that effective instruction develops students' abilities to comprehend, discuss, study, and write about multiple forms of text by taking into consideration what they are capable of doing as everyday users of language and literacy. As a response to this, teachers are challenged to look for ways to integrate reading and writing as much as possible in order to reinforce improved comprehension and retention of the subject area (Tierney & Shanahan, 1991). One way to accomplish this integration is through hands-on and real-life experiences such as peer-led discussions, journal writing, reading, talking, and writing about things that matter to them (Knobel, 1999; Wade & Moje, 2000). Authentic literacy events within the classroom serve as an avenue for the teacher to make learning to read and write meaningful and help students share their ideas and experiences with each other and real audiences (Duke et al., 2006).

Gambrell, Hughes, Calvert, Malloy, and Igo (2011) studied the relationship between authentic literacy tasks and literacy motivation in elementary school students. Data was collected from multiple sources including pre- and post- intervention scores on a survey, small-group discussion transcripts, and individual student interview transcripts. One purpose of the study was to explore the relationship between authentic literacy tasks and the literacy motivation of elementary students. Another purpose of the study was to determine whether students demonstrated accountability to community, content, and critical thinking during the small group discussions. Each student was paired with an adult pen pal from the community (who went through a screening process) and the two exchanged letters discussing the same book assigned by the teacher. Three letters were exchanged between the pairs over the 7-month span of the study.

Results showed that student's scores increased from the pre- and post- test regarding motivation and there was evidence of student accountability to community, content, and critical thinking, as well as positive perceptions of their participation in the intervention (pen pal exchange). The study concluded that authentic literacy tasks have potential to increase literacy motivation and increased accountability to community, content, and critical thinking (Gambrell et al., 2011).

Role of whole language. Although instruction based on whole language philosophy is not an approach typically seen in middle schools today, the whole language approach provides a foundation for literacy activities that exist within the 21st century classroom. Whole language is not a program, it is a philosophy or belief system about the nature of learning and how it can be fostered in the educational environment (Weaver, 1990). A basic tenet of whole language is that language consists of cueing systems, which occur simultaneously and interdependently throughout the literary encounter (Watson, Burke, & Harste, 1989). Furthermore, whole language suggests that learning occurs when information is presented as a whole rather than broken down into small components and occurs when the learner is active (Harris, 2007).

Kenneth Goodman, a well-known key proponent of the whole language movement, purports that the basic tenets for his beliefs of whole literacy are based on the foundation that the focus is on meaning and not language itself. His beliefs support the notions that authentic literacy events encourage learners to take risks, use language for their own purposes, and vary functions of oral and written language (Goodman, 1986). Whole language also supports the following beliefs: (a) sound/symbol relationships exist during authentic reading and writing events, (b) learner constructed knowledge, (c) social learning, (d) multiple perspectives provoke additional learning, and finally, (e) the teacher's role as facilitator (Watson et al., 1989).

According to Peterson, Feathers, and Beloin (1997), the previously mentioned beliefs about learning include features of the environment that provide support for effective learning to take place and provide support for the curriculum. Responding to literature through journaling is an authentic literacy practice solidifying the whole language approach within the classroom. Additionally, responding to texts via journals supports a defining characteristic of the whole language classroom's commitment to independent reading (Daniels, Zemelman, & Bizar, 1999).

Comprehension. Comprehension is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language (Snow, 2002). It is intentional thinking where meaning is constructed through the interactions that occur between text and reader (Harris & Hodges, 1995). Comprehension entails three elements that include: the reader who is doing the comprehending, the text that is to be comprehended, and the activity of which comprehension is a part (Snow, 2002). Comprehension and subsequent reading engagement requires more than cognition. It involves entering textual worlds, maintaining a balance between engrossment and critical distance, and finally, formulating one's own response to various dilemmas that arise in the text (DiPardo & Schnack, 2004).

Teaching reading comprehension strategies has evolved from decade to decade. In the 1970s isolated skills such as locating the main ideas, identifying cause and effect, comparing and contrasting, and sequencing were the focus. In the 1980's the focus shifted from isolated skills to a focus on how people learn and think. In the 1990's reading comprehension strategies focused on using background knowledge, generating and asking questions, making inferences, predicting, and summarizing. The reviews conducted by Alvermann and Moore (1991), The National Reading Panel (2000), and the RAND Reading Study Group (Snow, 2002) conclude that teaching comprehension strategies can enhance comprehension. Some of the strategies

suggested include use of graphic semantic organizers, question answering, question generation, story structure, summarization, and cooperative learning (Sedita, 2003).

Comprehension instruction has traditionally been an integral part of reading research and teaching but has been overlooked in the last few decades in favor of topics related to beginning reading, phonics, and decoding (Liang & Dole, 2006). In 1999, the Office of Educational Research and Improvement of the Department of Education formed the RAND Reading Study Group. The group was charged with addressing the most pressing issues in literacy, particularly reading comprehension. The RAND Reading Study Group (Snow, 2002) suggested putting the focus back on reading comprehension instruction by making it a primary topic and main focus of their group.

Dole, Duffy, Roehler, and Pearson (1991) support the importance of reading comprehension. The authors maintain that the curriculum in schools that address comprehension evolved from behavioral and task-analytic notions from learning that prevailed throughout the early and middle parts of this century. Additionally, they support cognitively based views of reading comprehension that emphasize the interaction of reading and the constructive nature of comprehension. Constructing meaning entails readers utilizing their existing knowledge and prior experiences and applying it to the context of the book being read. Comprehension also consists of the reader utilizing strategies defined as conscious, flexible plans that readers apply and adapt to a variety of texts (Pressley, Johnson, Symons, McGoldrick, & Kurita, 1989). This view of comprehension assumes the reader is active in the process and constructs meaning through existing knowledge and flexible use of the strategies to enable the reader to maintain comprehension (Dole et al., 1991).

The National Reading Panel (2000) reports that comprehension is a critically important element of reading and focuses on three predominant components in the development. These components state that reading comprehension is (a) a cognitive process that depends on vocabulary development and instruction, (b) an active process that requires thoughtful interaction between the reader and text, and (c) linked to student achievement through the preparation of teachers to instruct students to apply and develop reading comprehension skills. The report by the National Reading Panel discusses that the larger the reader's vocabulary, the easier it is to make sense of the text. Furthermore reading comprehension is enhanced when students are able to make the connection between the text read and their own knowledge and experiences. These experiences allow students to construct mental representations in their memory, which improves their likelihood to comprehend. Readers derive meaning from text when they are actively involved in problem solving through the process of reading and responding (Dole et al., 1991).

Hashey and Connors (2003) looked at how to move students beyond decoding into comprehension. The study included nine teachers in grades three through eight and spanned a two-year period. The teachers used reciprocal teaching in their classrooms and modeled it on a regular basis following grade level appropriate instructional styles. The research team utilized both formal and informal data to gauge student progress. Educators involved in the study used informal data, which included listening to students and reading their learning journals. These informal tools indicated increases in student confidence and success. Data were also collected using the Basic Reading Inventory, which was given to students three times a year. Data from the inventories were used to ascertain the strengths and needs among the strategies of reciprocal teaching. By the third administration of the inventory, students were able to seek clarification if something they were reading didn't make sense, which indicates that the strategies related to

reciprocal teaching were helping students to comprehend. At the end of the study, Hashey and Connors (2003) found that: (a) students benefit from reciprocal teaching beginning at third grade, (b) reciprocal teaching moves students into deeper comprehension, (c) teacher modeling and think-alouds emerged as the strongest supports for reciprocal teaching, and (e) reciprocal teaching vastly improved the quality of classroom dialogues (Hashey & Connors, 2003).

Teachers assume students will learn to comprehend simply by reading when in fact, teaching students to comprehend is challenging because reading itself is complex. A roadblock in teaching students to comprehend is that classroom materials are sometimes difficult to read or uninteresting (Snow, 2002). Comprehension instruction also tends to be less emphasized in subject-matter classrooms because the teachers are mostly focused on the content. Providing comprehension instruction in content area classes is crucial because this is where students learn to use the texts that teach them area specific content. Learning these discipline-specific vocabulary words, text structures, methods, and perspectives involves acquiring both content knowledge and reading skills simultaneously (Snow, 2002).

Writing. The focus on writing has also evolved from decade to decade. Before the 1970s the focus was on product and form. In the 1980s the focus was on the writing process. (Gleason, 2001; McCarthy, 1990). The 1970s showed overlapping definitions and theories of process writing arising from cognitive, social constructivist, and naturalist frameworks (McCarthy, 1990). In the 1980s, the focus continued to be on the writing process, but it became more refined as a prescriptive, linear formula (Pritchard & Honeycutt, 2008). This allowed students the opportunity to develop as writers as they revised their work through teacher and peer feedback (Patthey-Chavez, Matsumara, & Valdez, 2004). Process writing can take many forms

such as writer's workshop, writing in the content area subjects, and the use of journals or logs (North Central Regional Educational Laboratory [NCREL], 2005).

There have been several key leaders in the writing workshop movement including Donald Graves, Lucy Calkins, and Nancy Atwell (Taylor, 2000). Writing workshop entails writers following a routine that involves planning and preparation, getting ideas down on paper, rewriting, revising, and publishing (Rog, 2011; Graves, 1983). Writing workshop has the advantage of fostering student independence that allows the teacher to be available to monitor and provide support to the writers (Graves, 1983). Nancy Atwell (1987) implemented an approach to writing workshops that included principles to inform teaching and learning. The principle designed by Atwell directly related to the current study is that writers need response: responses that come during and not after the composing. The responses come from the writer's peers and from the teacher and are in the form of restatements and questions that help writers to reflect on their writing.

Traits based writing. According to Kozlow and Bellamy (2004) the traits-based approach to writing developed in the mid-1980s in response to a call by teachers who needed an assessment tool that was linked to effective writing instruction. As a result to the call by teachers Northwest Regional Educational Laboratory (NWREL) worked with teachers from Montana to develop a reliable scoring guide for the writing traits. The 6+1 Trait® Writing model evolved and focused on traits that characterize quality writing: (a) ideas, the message of the writing; (b) organization, the thread of meaning and pattern of ideas; (c) voice, the soul of the piece; (d) word choice, the rich, colorful, and precise language; (e) sentence fluency, the flow of language, (f) conventions, the grammar and mechanics with precision; and (g) presentation, the appearance

of the finished work (Kozlow & Bellamy, 2004). For the purpose of this study, two of the traits will be explored: ideas and voice.

The Colorado Department of Education supports the use of the 6+1 Trait® Writing model as this research-based program is aligned to their state standards. The department of education maintains that the writing program identifies common characteristics of good writing by synthesizing them into the areas identified. Furthermore, the department believes that students benefit from the program because it provides a framework within which students learn to organize and effectively present their writing (<http://www.cde.state.co.us/>).

A study conducted in Portland supports the Colorado DOE stance that the 6+1 Trait® Writing model program identifies common characteristics of good writing. Findings by NWREL (2008) indicate that direct instruction in the 6+1 Trait® Writing model makes a difference in writing performance. Results from the study were based on implementation of the writing model in three fifth-grade classrooms while the remaining three classrooms received writing instruction that was not traits based. Findings conclude that students in the classrooms that received 6+1 Trait® Writing model instruction scored higher in each writing trait as opposed to those students who did not receive the instruction.

Spandel (2005) maintains that the 6+1 Trait® Writing model is effective in raising student test scores but also creates strong and confident writers in any context. Spandel also affirms that this writing model molds students into becoming life-long learners. Furthermore, she emphasizes the importance of demonstrating the traits of writing in literature. The 6+1 Trait® Writing model teaches students to discover clues about the craft of writing, through traits, and how to apply it to their own writing (Spandel, 2005). Higgins, Miller, and Wegmann's (2006) findings were in agreement with those of Spandel. They all support the incorporation of

the model into the writing process because it helps students' writing to be more focused and purposeful.

Arter, Spandel, Culham, and Pollard (1994) tested the 6+1 Trait® Writing model against traditional writing methods in six fifth-grade classrooms. Teachers who were in the treatment group received one full day of training on the implementation on the writing model as well as the instructional materials to support the model in the classroom. The control group received no instruction or materials and utilized the process approach to writing for their students. The study consisted of a pretest, classroom instruction, and a posttest. Findings from the study concluded that students in the treatment group received significant gains in one of the trait areas, the ideas trait. Jarmer, Kozol, Nelson, and Salsberry (2000) reported in a similar study at Jennie Wilson Elementary School, that after three years of implementation of the 6+1 Trait® Writing model in all grades, student standardized test scores increased each consecutive year.

According to Kozlow and Bellamy (2004), the 6+1 Trait® Writing model incorporates collaboration among peers and encourages construction of knowledge during the writing process. Higgins, Miller, and Wegmann (2006) also suggest that learning is constructed as students are allowed a variety of experiences, ideas and relationships with peers and teachers in a learning environment that allows students to become better writers. DiPardo and Freedman (1988) advocate for an effective cooperative writing environment where the power is shared and entails the teacher being a coach, students being colleagues, and the teacher and students being mutually engaged in talking, reading, and writing. This setting allows students and teachers to give and receive feedback across diverse audiences, at numerous points throughout the writing process, which is consistent with the 6+1 Trait® Writing model.

Writing has to be learned in school the same way that it is practiced out of school (Pearson Education, 2009; Lenhart, Arafeh, Smith, & Macgill, 2007). This entails the writer having a reason to write, writing to an intended audience, and using writing that is in control of subject and form (Anderson & Briggs, 2011). Nauman, Stirling, and Borthwick (2011) suggest that implementing the 6+1 Trait® Writing model is one way to produce good writers.

Traditional response journals. Sumara (2002) underscores the importance of writing in literacy when he states "writers provide readers with an opportunity to notice that life is not an achievement, but instead is an ongoing interpretive project" (p. 154). Literature response journals are one tool for students to utilize when responding to literature. Journal writing in response to literature serves as a means for students to organize their thoughts that may seem to "get lost" during whole-group classroom discussions (Schlick-Noe, 2003; Williams, 2009). The journal can exist as a reflection journal or in the form of a dialogue journal in which teachers and students can communicate back and forth or where students can communicate with one another (Williams, 2009). Using response journals promotes social collaboration and supports Vygotsky's (1978) beliefs that the process of collaboration increases higher level thought processes. These journals are being utilized more in the language arts classroom and require students to respond individually to a piece of literature by writing personal reflections (Grisham & Wolsey, 2008).

Teachers may note year after year that different students respond differently to the same text. According to Holloway (2004), these variations in student responses lead to increased comprehension and deeper understanding. Holloway (2004) suggests that relying too heavily on standardized, structured teaching can constrict student individuality and stifle critical inquiry. Stifling student individuality does not allow for students to make the connections to the text that

would include applying higher order thinking that is discussed in Bloom's Taxonomy. Literacy educators are challenged to find a balance between test preparation drill and practice and reading and literacy within the classroom (North Central Regional Educational Laboratory, 2005).

Response journals are one way to address the imbalance between the two. Response journals allow students to write, reflect, inform, and share with others. More importantly, the journals allow students to demonstrate critical thinking. It is through students' sharing in these journals that teachers can identify ways to support, push, and address literacy growth and gaps within the classroom. A 2001 joint position statement by IRA and NMSA supports avenues to address the imbalance when they provide "non-negotiables" for schools serving young adolescents. These "non-negotiables" include continuous reading instruction for all young adolescents, assessment that informs instruction, and ample opportunities to read and discuss reading with others.

Technology and writing. When requiring students to respond to literature through writing, educators have the responsibility of staying abreast of the technological advancements of the radically changing classrooms today. Prensky (2008) supports the integration of technology into the classroom, "It's their after-school education, not their school education, that's preparing our kids for their 21st-century lives--and they know it" (p. 41). Furthermore, students are "native speakers" of the digital language of computers, video games, and the Internet (Prensky, 2001). Educators are being called upon to broaden instruction to support literary events and allow and encourage students to interact with the text before them.

According to Bromley (2006) rapid changes in information and communication technology are constantly requiring us to adjust our definition of literacy. An example of this is new technology related to writing requires a change in literacy tools to adjust to word processing, new computer programs, and new composing concepts. Bruce (1998) maintains that we are not

replacing one kind of writing with another but simply adding to our process and tools.

Technology enhances the writing process in that word-processing programs and software used for text editing and revising makes it easier for writers to make corrections and revisions as they work (Bromley, 2006). Additionally, spell checkers and grammar checkers provide feedback more quickly than the teacher can, which frees teachers to support the writer's development, clarity, and style. Bromley (2006) stipulate that writing with technology allows for combining paper and pencil with the use of computer and wireless technologies. The integration of technology and writing has become evident via avenues such as discussion boards, e-mail, and chat rooms.

Research suggests that computers have a positive impact on student writing (Farnan & Dahl, 2003). Students report the ease of using the computers to write longer compositions, add more to their writing, and revise. Bruce and Levin (2003) confirm that technology adds to the ease of composing and revising, identifying problems with text, and sharing texts, all of which produce students who are better writers and readers. These findings indicate the importance of the integration of computers in the classroom. Furthermore, writing for an audience of their peers, via technology, better motivates groups of students to revise and edit their work as opposed to traditional pencil and paper writing activities (Boling, Castek, Zawilinski, Barton, & Nierlich, 2008). In addition, writing within the classroom is that it provides students with opportunities to connect with real audiences while being exposed to communities, cultures, and experiences of others. This exposure can, in turn, lead to increased motivation and engagement as students read, write, and produce work for meaningful and authentic purposes (Farnan & Dahl, 2003).

With the advent of computer technology, the writing process takes place in a variety of formats. According to Brandt (2001), writers are everywhere: they write on bulletin boards, chat rooms, emails, text messages, and blogs. In the writing process today, most educators embrace the view that producing written text is a practice coupled with procedures. Warschauer (2006) found that when comparing group discussion online versus face-to-face discussion, the online groups were twice as balanced in online responses because the more silent students increased their participation online over face-to-face interactions.

New literacies elicit more participation than traditional literacies because they are more collaborative in nature by allowing for open sharing and creation of information through means such as wikis and blogs (Wilber, 2010). The new literacies' philosophy of sharing with others draws upon Vygotsky's (1978) zone of proximal development in terms of what can be accomplished, learned, and shared if students are provided with opportunities to collaborate. Sharing via wikis and blogs allows learners to be better prepared to draw on existing technical, social, and cultural skills than the conventional literacy curricula allow (Mills, 2010a). Moayeri (2010) supports the infusion of new literacies because they allow students to integrate an array of modes that enhance the learning process. These modes of new literacies include blogs and a social network site, Ning, that allow students to collaborate with each other both inside and outside of their classroom.

Sweeny (2010) discusses how technology integration impacts writing and supports the beliefs of many who maintain that communicating thoughts and ideas with multimodal texts can be accomplished through the use of media and digital formats. New literacies allow the students to control the mode and medium through which messages or writing will be seen. Mode refers to the font, size, and color while medium refers to print or paper. Multimodal text consists of any

of the possible combinations of modes where new literacies have the ability to transform students' writing into expressions of their ideas, thoughts, and responses to literature (Sweeny, 2010).

In Sweeny's (2010) discussion of writing she emphasizes the impact that blogs have on student writing. Students who express themselves via blogs tend to be prolific writers inside and outside of school (Lenhart et al., 2007). Writing via blogs allows students to become mentors to their classmates by sharing their own personal writing and processes for generating ideas, style, and development of a personal voice (Sweeny, 2010). Integrating new literacies into writing provides a bridge to emerging forms of writing as well as communication via the Internet (Jacobs, 2008), which makes writing become more meaningful and engaging for students of this digital era.

Literacy as Social Practice

Many classrooms of today have in place the elements of literacy as social practice. Literacy as a social practice is based on the foundation of Constructivism where classrooms exist as a micro-society and learners engage with one another in activity and reflection (Yilmaz, 2008). At the heart of constructivism is the concern for lived experiences (Schwandt, 1994). The experiences that students have with literature help to expand their knowledge of the world and their identity within the world. The common threads observed in constructivist work include active engagement in the process of meaning making, text comprehension, and the varied nature of knowledge developed as a part of a social group (Au, 1998).

Constructivism. Constructivism is a theory of learning and not a theory of teaching (Fosnot, 1996; Richardson, 2003; Lee & Smagorinsky, 2000). Constructivism provides learners with meaningful, concrete experiences where they can look for patterns, construct their own

questions, and structure their own models, concepts, and strategies (Yilmaz, 2008). In a constructivist classroom, the role of the teacher is more that of a facilitator serving as a “guide on the side” rather than a “sage on the stage” (King, 1993, p. 3). As part of the constructivist classroom, the teacher’s role is to develop students’ cognitive and higher-order thinking skills. Additionally, constructivist teachers encourage students to elaborate on their initial responses through such means as discussion, debate, and dialogue (Yilmaz, 2008). Constructivist beliefs maintain that knowledge does not exist outside the mind; truth is not absolute, and knowledge is not discovered but constructed based on experiences (Fosnot, 1996; Oxford, 1997). The constructivist belief is echoed by Kenneth Goodman (1986) when he maintains that readers construct meaning during the reading encounter and that they use their prior learning and experience to make sense of the texts.

According to Weigel and Gardner (2009) the constructivist approach to literacy assumes that students are naturally motivated to read and write and it is the role of the schools to provide them with the tools and guidance to acquire and apply the literacy skills needed. Digital media found a way to make this constructivist approach a reality. Digital tools have transformed the ways that students conduct research, write, think, compose, and edit text. Research no longer involves frequent trips to the library because much of it can be done online. The writing and editing process has changed as well because of the ease in which the text can be entered, rearranged, cut, copied, pasted, and incorporated (Weigel & Gardner, 2009).

The social aspect of constructivism encompasses a wide range of phenomena from cultural trends to face-to-face interactions, to the group reflection process (Au, 1998). In the case of literacy research, ‘the social’ can include changes in the historical definition of literacy, functions and uses of literacy within communities, and the social construction of success and

failure in learning to read in school (Au, 1998). “Literacy events are located in time and space. Reading and writing are things which people do, either alone or with other people, but always in a social context—always in a place and at a time” (Barton & Hamilton, 1998, p. 23).

Instructional strategies that are based on a constructivist perspective take a learner-centered approach where meaning and knowledge are constructed by the learner through a process of relating new information to prior knowledge and experience (Choi & Ho, 2002). Choi and Ho (2002) maintain that there are four general system attributes created in learning environments: context, construction, collaboration, and conversation. Similarly, Jonassen, Davidson, Collins, Campbell, and Bannan-Haag (1995) suggest that learners negotiate in their minds, reflectively and socially with others, within the context of a community of learners.

Sociocognitive Theory

Not unlike constructivist philosophy, Vygotsky’s sociocognitive theory argues that children learn and behave in ways that reflect their interaction with a more knowledgeable person; therefore, an emphasis is placed on the social milieu. Research by Vygotsky (1978), offers suggestions for establishing a classroom environment that promotes demonstration, collaboration, and social interaction that supports the constructivist beliefs. The methods supported by the sociocognitive theory include cooperative learning methods, peer support systems, and group interactions. Au (1998) supports Vygotsky when she maintains that research on school literacy learning conducted from the social constructivist perspective assumes that students need to engage in authentic literacy events and not activities designed solely for practice. Au's perspective solidifies whole language learning when she maintains that students who are engaged in authentic literacy events are taking part in activities that are identified with whole language.

What children do and say while they are reading and writing provides evidence of their mental activity or higher order cognitive processing (Vygotsky, 1978). Vygotsky's work accounts for processes other than thinking, which includes problem solving, interaction, and meaning construction, that contributes to the development of society. He also saw language as being influenced and constituted by social relations. Vygotsky is well known for the notion of the "zone of proximal development" which is the place between what a student can do alone in problem solving and what can be accomplished through collaboration with peers in the problem solving process. The ideas of Vygotsky are aligned with those of reciprocal teaching lessons that include scaffolding, thinking aloud, using cooperative learning, and facilitating metacognition with each step.

Vygotsky (1978) contends that adults should not deny students abstract learning experiences on the basis of supposed level of development but rather take the learners to their level of potential within the zone of proximal development. Furthermore, Vygotsky is a firm supporter that adults bridge the distance between the current level of learner understanding through collaboration with experts and artifacts. According to Mills (2010b), Vygotsky's belief serves as a way to resolve the tension between the multimodal and popular literacy practices of youths and school-sanctioned literacies. An example of how to resolve the tension previously mentioned is offered by the New London Group (1996). This group discusses how students make "intertextual connections"—the cross-referencing of textual meanings—between their world and the classroom.

According to McKenna, Labbo, Reinking, and Zucker (2008) intertwining digital literacy activities into the everyday classroom culture involve collaboration among students and teachers. McKenna suggests that children who observe and interact with peers during technology lessons

internalize relevant vocabulary, develop approaches to problem solving, and encounter action schemes, all of which enable them to use the computer as a tool for thinking, learning and communicating (McKenna, et al., 2008). The authors also maintain that joint computer activities are beneficial because they allow students who collaborate at the computer to simultaneously construct conventional and digital literacy knowledge. In their examination of online social interactions, Labbo, Reinking, and McKenna (1998) maintain that students equipped with digital skills know how to initiate communication, represent their point of view, and participate in an exchange of information by producing relevant contextual details. The collaboration discussed by these authors is crucial in that it lends itself to group interactions, sharing, and discussions similar to the environments that will exist within the proposed study.

Critical Literacy

“[Critical] literacy is an act of knowing that empowers individuals because, through it, individuals simultaneously discover their voices and their ethical responsibilities to use literacy for the improvement of their world” (Beck, 2005, p. 384). Critical literacy classrooms today are characterized by an emphasis on students’ voices and dialogue as tools students use to reflect on and construct meanings from text (Beck, 2005). Rogers (2002) maintains that dialogue is important because learning is a social act tied to real-life context, which relies on language as the mediator. Critical literacy teachers realize that centering discussion on student voices and concerns acknowledges that students come to the classroom with a wide range of varied experiences that influence the meaning-making process. These teachers also recognize that helping students to reflect on how previous experiences shape their individual interpretation is a first step toward critical awareness (Beck, 2005).

New Literacy Studies

According to Compton-Lilly (2009) the field of New Literacy Studies (NLS) refers to how literacy practices are linked to people's lives, identities, and social affiliations. NLS encourage teachers to move beyond the traditional skills-based approaches to literacy learning and allow students to see that a wide range of experiences contribute to literacy learning (Compton-Lilly, 2009). NLS focuses on how language and literacies are shaped by the ongoing development of new tools and technologies and their impact on daily life (Wilber, 2010). NLS include artifacts that digitally literate people produce such as blogs, wikis, or podcasts (O'Brien & Scharber, 2008). Social networking tools (O'Brien & Scharber, 2008), word processing, email, web searching, chats, bulletin boards (Ba, Tally, and Tsikalas, 2002), open access content, electronic reference and textbooks, all represent electronic means of communication and collaboration (Johnson, Smith, Levine, & Haywood, 2011). Semali (2001) was foreshadowing this field of study when he suggested that if we are to prepare students for the emerging information age, we must help them comprehend and communicate through both traditional and emerging technologies. NLS strives to convey the understanding that literacy learning occurs not only in formal or informal settings, or in or out of school, but it also surfaces in-between in everyday interaction as a tool for building and maintaining social relations (Larson & Marsh, 2005). Literacy is constructed in everyday practices that include social interaction, which is a component of this study.

Leu, Mallette, Karchmer, and Kara-Soteriou (2005) suggest that it is important to keep in mind three considerations as new literacies are introduced into classrooms. First, it is important to remember that exposing and introducing students to software programs on the computer does not prepare them to meet the new literacies expectations. That is, new literacies require that teachers must not only provide exposure to software but also instruction on how to use it.

Second, teachers committing to using New literacies must stay abreast of the changes. Third, teachers are responsible for providing students with equal opportunities to implement new literacies in the classroom.

Different researchers in the field view new literacies differently. Street (2003) refers to new literacies as new practices. While Castek (2008) and Coiro (2003) see new literacies as new strategies and dispositions necessary for online reading comprehension, learning and communication. IRA (2009) developed a list of responsibilities for stakeholders, such as teachers, parents, teacher educators, and policymakers to assist in the implementation of new literacies. Stakeholders are responsible, for example, for assisting students in becoming critical consumers and informed creators of information in online contexts (Alvermann, 2008; Fabos, 2004) by providing instruction in how to critically evaluate information created for a range of purposes and audiences. Other responsibilities for teachers include providing equal opportunity and access for all students to use ICTs that foster and improve learning, participating in school-based online networks that share and exchange resources with parents, developing acceptable policies for safe Internet use for students and staff, and ensuring that the new literacies of the Internet and other ICTs are integrated with assessments of reading and writing proficiencies (IRA, 2009).

Mills' (2010a) discusses the most recent shift in the NLS field that she terms the "digital turn." The digital turn is an increase in the attention to new literacy practices in digital environments across a variety of social contexts including the educational realm. This "digital turn" is a result of globalization and the growing range of technology used for communication. Mills also examined specific ways digital media are changing the way adolescents learn, play, socialize, and participate in civic life across multiple social contexts.

NLS is evident in classrooms today and has an impact on student learning because of the variety of avenues by which it can facilitate learning. Online communication among students provides them with mutual support, sharing of ideas, risk taking, reflection on learning, and cooperative learning (Anderson & Lee, 1995). Another NLS impact on learning is that electronic interactions stimulate productive thinking, reflection, and articulation of ideas and opinions. This kind of environment assists in supporting the constructivist notion of thinking aloud from multiple perspectives (Choi & Ho, 2002). An example of this environment is when students work together to distribute and exchange knowledge about literacy throughout the classroom (Leu et al., 2004). This can be reflected when one student serves as 'expert' in one area of technology such as editing digital video scenes while another student is an expert in publishing the video in a web-based environment.

As with the implementation of any new technology initiative, bringing new literacies to fruition in the classroom is no easy task when two thirds of teachers feel unprepared to use technology (Kajder, 2005). Barriers to implementation include lack of technology, time, and technical support, inadequate technological and pedagogical knowledge, lack of scheduling or planning, teachers being fearful of new technologies, and focusing more on traditional rather than new literacies expectations (Hew & Brush, 2007). Alvermann (2008) mentions another possible barrier as being school- or district- wide policies restricting what students and teachers can access via the Internet. Despite the barriers that exist, educators remain responsible for introducing students to new literacies and keeping them informed of the increasing technological changes to literacy (Leu et al., 2004).

Technology's Interaction with Literacy

With the definition of what it means to be *literate* evolving, educators are charged with providing their students with opportunities and skills to bridge the technology use at home with technology in school to facilitate new types of literacy. Digital literacies, which encompass one way in which technology intersects with literacy, have been defined in several different ways. O'Brien and Scharber (2008) refer to it as using computers, critically reading webpages, and understanding how to view digital images. Huffaker (2004) defines digital literacy, as the way people become comfortable using technology as they would any other language. The definition of digital literacy that will be used in the context of this study is a set of habits children use throughout the interaction with information technologies for work, learning, and fun (Ba, Tally, & Tsikalas, 2002; Jones-Kavalier & Flannigan, 2006).

The inclusion of social media into the educational realm has taken the digital world by storm in terms of popularity and speed (Hull & Stornaiuolo, 2010; Lenhart, Arafeh, Smith, & Macgill; 2007). A 2007 report released by Lenhart et. al., found that the use of social media such as blogs, a form of digital literacy, play a pivotal role in the lives of young people in the United States. According to Jones-Kavalier and Flannigan (2006),

Prior to the 21st century, *literate* defined a person's ability to read and write, separating the educated from the uneducated. With the advent of a new millennium and the rapidity with which technology has changed society, the concept of literacy has assumed new meanings. Experts in the field suggest that the current generation of teenagers--sometimes referred to as the E-Generation--possesses digital competencies to effectively navigate the multidimensional and fast-paced digital environment. (p. 1)

The infusion of technology into communication systems brings to the forefront the need to better understand how technology changes and extends literacy demands (Luke & Elkins, 1998; Rycik & Irvin, 2001). A 2009 position statement from the International Reading Association (IRA) also suggests that students can use different means of information and communication technologies (ICT) to redefine the nature of reading, writing and communication. ICT's currently identified include search engines, webpages, e-mail, instant messaging (IM), blogs, podcasts, e-books, wikis, nings, YouTube, video, and others.

As implied by the IRA position statement, technology has the ability to greatly enhance the learning environment. However, there are districts and schools that do not have funds to make these resources and opportunities available for their students. The term digital divide refers to the inequities of access to technology based on factors such as income, education, race, and ethnicity (National Telecommunications and Information Administration & U.S. Department of Commerce, 2000). In an effort to narrow this existing divide policymakers have funded programs that provide access to students in urban and rural schools that serve high percentages of minority and low-socioeconomic students with access to the technology (O'Brien & Scharber, 2008). Addressing the digital divide is helping to narrow the inequalities that currently exist in access to technology.

Collaboration in digital literacies. Fosnot (1996) suggested a set of five general principles from the constructivist view of learning that can be applied to the educational realm. The five principles suggest that: learning is developmental, disequilibrium facilitates learning, reflective abstraction is the driving force of learning, dialogue within a community engenders further thinking, and learning proceeds toward the development of structures. The relevant

constructivist principles to the current study include the last two, *dialogue within a community engenders further thinking* and *learning proceeds towards developing structures*.

Dialogue within a community suggests that the classroom should be a community engaged in activity, reflection, and conversation (Fosnot, 1996). In this type of environment it is learners rather than teachers who are responsible for defending, proving, justifying and communicating ideas within the classroom community.

Learning proceeds toward developing structures supports the concept that as learners struggle to make meanings, they undertake progressive shifts in their perspectives. “These learner-constructed, central-organizing ideas can be generalized across experiences, and they often require undoing or reorganizing earlier conceptions” (Fosnot, 1996, pp. 29-30).

These two principles (Fosnot, 1996) have relevance to collaboration in digital literacies. Classroom teachers are to provide learners with opportunities to search for patterns, construct their own models, and identify concepts and develop strategies. These opportunities occur through the collaboration that blogs provide. Students have the opportunity to share personal experiences, through dialogue, with others in the learning environment.

Many classrooms of today are supporting and nurturing social interactions with texts through means such as discussion groups and journal writing (Gambrell, 2006). Technology has also increased collaboration among students by providing new and interesting ways for students to socially interact with others about text via blogs (Richardson, 2010). Gambrell (2006) purports that when technology underpins reading and literacy, engagement and motivation to read is enhanced, as is the ability to explore what others think about texts that have been read. Beach and Lundell (1998) report, as an additional benefit of collaboration, that shy students become

more interactive and develop online personalities when they are afforded the opportunity of exchanging messages through digital communication systems.

A key element of research by Kame'enui and Carnine (1998) suggests that collaborative peer interaction is an integral component for improved writing performance. The authors maintain that this collaboration has proven to be effective as an instructional tool in other subject domains but more so with writing instruction. This is a benefit because the cooperative group affords students the opportunity to participate in authoring, editing, and reading (Kame'enui & Carnine, 1998). This cooperative group opportunity can be carried over into writing as it transitions from traditional to digital. Collaborative writing processes utilizing traditional paper-and-pencil tools are enhanced by the integration of the computer (McKenna et al., 2008).

Digital literacies' impact on students in the classroom. The Internet is this generation's means of defining technology for literacy and learning (Leu, Zawiliski, Castek, Banerjee, Housand, Liu, & O'Neil, 2007). Students who are experts in the area of technology were born after 1980 and are referred to as digital natives. Digital native are speakers of the digital language of computers and the Internet (Prensky, 2001; Thomas, 2011). These digital natives are included in the almost 2 billion individuals who currently use the Internet to read, write, and communicate online (<http://www.internetworldstats.com/stats.htm>). Even with the increasing number of Internet users, the digital divide still exists despite the concept that society should not be separated into information haves and information have-nots.

Data provided by the National Telecommunications and Information Administration & U.S. Department of Commerce (2004) show that the level of digital inclusion is increasing at a rapid pace: households with Internet access soared by 58% from 1998 to 2000, more than half of all households have computers, there were 116.5 million Americans online in 2000 as opposed to

31.9 million 20 months earlier, and Internet use by individuals rose from 32.7% to 44.4% in a two year period. This was the most recent statistical data that was published by the National Telecommunications and Information Administration & U.S. Department of Commerce.

The International Reading Association (2002/2009) maintains that literacy educators are charged with the task of integrating "new literacies" into the curriculum in an effort to prepare students for successful participation in a global environment. The changes suggested by the association have important implications in the areas of instruction, assessment, professional development, and research. The International Reading Association challenges the literacy community to take note and pay much attention to the changes and equip students with the skills needed to prepare them to stay up to par with the ever-changing technological community including digital literacies.

One way to equip students with the needed skills is to provide them with opportunities to respond to literature via technology. New literacies and technologies offer a number of options for individual student responses (Larson, 2008). Huffaker (2004) discusses weblogs as one of the latest developments in the computer-mediated communication (CMC) environment. The blogs are similar to personal journals and provide a forum for people to provide comments or feedback to each blog post. Bromley (2006) suggests that technology has extended the concept of audience and users when students expand beyond the traditional pencil and paper method and communicate with one another via instant messaging, discussion boards, chat rooms, and listservs.

A one-year study conducted by Ba, Tally, and Tsikalas (2002) compared children's use of computers in low- and middle-income homes in an attempt to assess emerging digital literacy skills at home. This study is important because it brings to light the digital divide and the

importance of students being exposed to school environments where they have the opportunity to learn about technology, communicate, and collaborate with the tools of technology. Data collection tools included interview instruments for parents and children and home visits to observe computing practices and family environment and to engage children and family members in interviews and computing activities. The study also investigated digital literacy as a set of habits students use throughout their interactions with information technologies for work, learning, and fun.

Results from the 2002 study by Ba, Tally, and Tsikalas, highlighted that students from low-income families utilized mainly email while children from middle-income families used online literacies such as Instant Messaging, email, chat rooms, and bulletin boards. More specifically, two out of the nine low-income students were familiar with the online literacy tool of instant messaging as compared to all nine of the students from middle-income families who were familiar with this tool. The research also showed that the digital literacies of the students were emerging in ways that reflected their circumstances or level of interaction with technology. The home computing practices demonstrated by the low-income students were strongly influenced by their technological, social, and school environments.

A study by Larson (2009) discusses how modified journal response can be intertwined with digital literacies to facilitate discussion of reading. The study by Larson involved ten fifth grade students who experimented with using online learning communities within their classroom to respond to literature based on two books, one read by half the class and the other by the other half. After reading the assigned pages, students logged onto the online message board to discuss and respond to the literature. Larson (2009) used Hancock's (2008) four types of teacher-constructed literature response prompts that include experiential, aesthetic, cognitive, and

interpretive prompts to help her code the student responses. Analysis of message board transcripts revealed that experiential threads, which relate the book to their prior knowledge, elicited an average of eight replies per thread. Aesthetic prompts, according to Hancock (2008) promotes emotional interactions with the text and elicits feelings, empathy, and character identification. Similar to the experiential prompts, each aesthetic prompt elicited an average of eight replies. However, the transcripts showed that the experiential prompts elicited longer responses, in length, as students became emotionally involved in the plot and the posts of others.

Larson's (2009) study concluded that cognitive prompts encouraged group members to make predictions, solve problems, and make inferences. Findings from her study also show that although cognitive prompts elicited 7 replies on the average, 6 of the 23 cognitive responses received no replies at all. Student interviews conducted at a later time indicated that students ignored the cognitive prompts because they seemed "boring" or similar to "worksheet questions." Interpretive prompts called for a higher level of reasoning as they encourage readers to contemplate morals or values, meaning or message, and judgment of plot and characters (Hancock, 2008). Findings from Larson's research also concluded that interpretive prompts elicited a mean of 6 replies and 23 responses among the readers. The results of her study indicate that technology use created a higher interest in responding and therefore engagement was enhanced.

Larson's (2009) study maintains that student engagement was enhanced through the online discussions and allowed equitable opportunities for all students to share. Transitioning students from traditional teacher led discussions to more student-led discussions encourages students to engage in more "problem-solving talk," which leads to a more complete understanding of the literature (Maloch, 1999). Additionally, Larson's research shows that

students' engagement in online literature discussions promoted socially constructed learning. It also shows that students established a community of inquiry, and that students were engaged in online literature discussions that encouraged them to respond intensely to the literature, share ideas with others, and consider multiple perspectives and thoughts.

Integrating technology into the curriculum enhances learning into multiple disciplinary settings (Labbo & Place, 2010). Furthermore, the authors maintain that integration of technology is deemed effective when students are able to choose technology tools that will help them obtain information in a timely manner and analyze and synthesize the information. To integrate technology into the classroom means that it becomes as accessible as any other classroom tool available for students (ISTE, *NETS for Students*, 2000, p. 6). Effective integration of technology should occur in a way that enhances the learning process and makes it deeper and more meaningful (Labbo & Place, 2010). Labbo and Place note the following as key components of effective technology integration for students: (a) active engagement, (b) participation in groups, (c) frequent interaction and feedback, and (d) connections to real-world experts/experiences. The integration of digital literacies into the classroom can take place through a variety of means including threaded discussions.

Responding to literature via digital means can serve as an avenue of empowering students to interact with the literature they are exposed to in the classroom while enabling teachers to more deeply assess students' thinking and engagement with the literature and see beyond the standardized testing that is so widespread in the educational realm of this 21st Century. According to Richardson (2008) educators are failing to empower students to use the most important technologies for learning that we have ever had. A solution to this is for educators to figure out how to guide students to create, navigate, and grow utilizing the Web effectively,

ethically, and safely. Shirky (2008) suggests collaborative, transparent online groups and networks as an option. Using online groups as a tool for collaboration (Richardson, 2008) requires educators to create engaged learners and not just a sit-and-get learning environment.

In the digital format, students have the opportunity to read each other's work and respond and are not restricted to reflecting and writing about their own work exclusively as might be the case with other forms of writing about literature. Using technology to bridge a familiar "in school" activity (responding to the literature) with an "out of school" tool (technology) provides students with a different mode for responding to literature (Zawilinski, 2009). The integration of technology into the classroom is a response to a challenge posed by the International Reading Association (2002, 2009) that encourages literature teachers to stay abreast of technology and prepare students to use it. The International Reading Association also challenges the literacy community to take note and pay more attention to ever-changing technology and equip students with the skills needed to prepare them to stay up to par with the ever-changing technological community.

Grisham and Wolsey (2008) conducted research in a middle school to examine how collaboration among community can be constructed by using online digital discussions of literature. Students in an eighth grade class read a book, talked about it with their group, and wrote about it to one another via digital discussions. The students used the technology to discuss the text while at the same time a social community was promoted by the exchange of ideas through discussion. Grisham and Wolsey wanted the students to share information about the readings with one another and also process ideas about the reading. Throughout the book groups, the teacher (Wolsey) asked students to participate in the discussion and keep a paper journal. At the inception of the research, Wolsey predicted that students would write more when

they used digital method than when they used traditional journals. Surprisingly, that was not the case. A word count analysis showed that the number of words for written journals and digital discussions was not significantly different. In fact, they only differed by approximately 10 words per entry. However, what Wolsey did find different was the quality of what was written. Students who used written journals wrote content that was acceptable but lifeless. On the other hand, when students participated in the digital discussions, they found a voice, developed perspectives, made meaningful predictions, connected the literature with other means of media, and established motivation because other peers were reading and responding to their entries (Grisham & Wolsey, 2008).

Larson (2008) states, "In today's classrooms, literacy instruction is changing in profound ways as new technologies provide opportunities to enhance and extend already meaningful literacy practice" (p. 121). Larson suggests embedding technology in literacy methods courses as a way of "marrying" response journals with digital literacy. When requiring students to respond to literature through writing, educators have the responsibility of staying abreast of the technological advancements of the radically changing classrooms today. Prensky (2008) supports the integration of technology into the classroom, "It's their after-school education, not their school education, that's preparing our kids for their 21st-century lives--and they know it" (p. 41). Furthermore, students are "native speakers" of the digital language of computers, video games, and the Internet (Prensky, 2001). Educators are being called upon to broaden instruction to support literary events and allow and encourage students to interact with the text before them.

Threaded discussions. Threaded discussion groups provide an online social forum for students to participate in a discussion via a collaborative environment (Larson, 2008). Grisham and Wolsey (2006) define threaded discussion groups as groups of people who exchange

messages about common topics of interest. These topics usually reflect a chain of posts about a specific topic and are an effective means of literary exploration (Wolsey, 2004). In the current study, the discussion groups were assigned according to specific blocks of classes and the specific topics were related to the novels being read in class.

According to Larson (2008) students have recognized that chatroom discussions, message board postings, and text messaging was second nature to them and an integral part of their everyday lives. Threaded discussions afford students the opportunity to think about their responses to literature and add comments to other students' posts in their group (Wolsey, 2004). Additionally, the asynchronous environment of the threaded discussions allows students the freedom to explore the literature, their peers' responses, and their own experiences as they contribute to the discussion. According to Wolsey (2004) threaded discussions blends traditional reading logs with face-to-face discussions within the classroom and allows students to interact over time in a scaffolding relationship that helps bridge paper journals and discussions.

Edmodo is a social networking website, created in 2008, used for educational purposes (Schiller, 2011; Stroud, 2010) is the threaded discussion tool that will be used for the current research being conducted. According to Rivero (2011) Edmodo passed a 500,000-user mark in two years making it the fastest-growing social network for education. Edmodo is set up like Facebook (Rivero, 2011; Schachter, 2011), which makes it attractive for students to use. The program allows teachers and students to upload content from writing to pictures in a safe environment. Edmodo is well known for providing a safe platform for ongoing class discussions and questions.

Writing

According to a 2003 report released by the National Commission on Writing, writing does not just happen; rather it is a developed skill. Writing is a critical life skill and also supports the development of reading and thinking skills (Kozlow & Bellamy, 2004). Yet with the advent of No Child Left Behind and Race to the Top the focus on making Adequate Yearly Progress (AYP) has caused writing across the curriculum to take a back seat since it is not a focus for federal guidelines for assessment and accountability. Teachers across the curriculum are finding it more difficult to develop the skill with a focus on making AYP and less time for writing in the classroom (National Commission on Writing, 2003).

The Commission identified writing as the “Neglected ‘R’” in the school curriculum. The 2003 report notes that in the past, schools placed great emphasis on writing including grammar, rhetoric, and logic. The committee reports that schools have since moved away from that emphasis and they suggest that writing be put back into the hands of the school teachers because writing opens up new and powerful means of learning for students.

Ideas and voice in writing. According to NWREL (2008) when introducing the writing traits, it is easier to begin with introducing the trait of ideas because all other traits flow out of and are influenced by ideas. Ideas refer to the main message and theme of the written work and are strongest when they are clear and not muddled (Education Northwest, 2010). Farris (2007) states that the idea for a piece of writing must be compelling and have a clear message for the audience because ideas make up the content of the writing piece (Kozlow & Bellamy, 2004). Students also have the opportunity to share their work through writing workshops and peer editing which teaches them to recognize the value of writing and the purpose in creating solid and substantial work. Ideas as discussed by Kozlow and Bellamy (2004) and Graves (1983) are

related to this study in that students have the opportunity to be exposed to the ideas of others through a collaborative atmosphere via the use of blogs and traditional writing journals.

Ideas, according to Werderich and L'Allier (2011), are the trait model that serves as the foundation for a piece of writing. In fact, "all other traits take their cue from this foundational trait and work in harmony to ensure that the message from writer to reading is clear and intriguing" (Spandel, 2009, p. 60). Werderich and L'Allier (2011) offer suggestions for teaching ideas in writing. They recommend teachers share a variety of text formats with students, such as read-alouds and independent reading, so students have the opportunity to discover how to express their ideas more clearly in writing as a result of being exposed to these texts. The authors maintain that teaching the trait of idea following their suggestions is a step forward in strengthening the reading-writing connection within the classroom to support writing development.

"Voice is the golden thread that runs through a piece of writing" (Culham, 2003, p. 102). Voice can be referred to as the "tone," "mood," or "style" that conveys the writer's personality in a particular piece of writing (Peha, nd; Education Northwest, 2010). Since students have their own unique personalities, this means that students have their own voice and writing is the avenue that allows that uniqueness to come through (Peha, nd). Education Northwest (2010) refers to voice in writing as the heart and soul, the magic, the wit, the feeling, and the life and breath and voice is most readily expressed when the writer is personally engaged with the topic. Kozlow and Bellamy (2004) refer to voice as the soul of a piece of writing that allows the writer's feelings and convictions to come out through the words.

According to Culham (2003), it is the quality of voice that makes a piece of writing come alive and engage the reader. Voice is sometimes left out of the big picture by the educator

because voice is not as concrete as other traits, there is a longstanding perception that “boring” is good, and voice can sometimes be a bit too personal (Culham, 2003). Culham reports that once educators understand the power that voice has in writing, and once they discover it, they never leave it out of the picture again.

Teachers are challenged with teaching students how to hear voice in literature so that they will learn how to create their own voice in their writing. Learning to hear voice in literature can be accomplished in three distinct ways. First the teacher can begin by collecting short passages that exemplify strong or distinctive voice, put them on overheads, and read them aloud. Next, when reading, occasionally stop and ask students what kinds of voice they hear and have them describe the person behind the voice. Finally, use a list of voice descriptors to help students get started (happy, warm, caring, etc.) (Culham, 2003).

Sperling and Appleman (2011) refer to voice as a characteristic that is used frequently and freely to accompany language and literacy concepts such as writing style, authorship, rhetorical stance, written and spoken prosody, the self in text and in discourse. The authors discuss two theoretical perspectives that anchor the research related to voice. The first is that voice is an individual accomplishment and the second is that voice is a social/cultural construction. Both of these perspectives are directly related to this study. The first perspective, that voice is individual, purports that when students put their voices in their writing they respond by using the characteristics of narrative, personal experience, colloquialisms, and images (Sperling & Appleman, 2011). The second perspective, that voice is a social/cultural construction, is supported by research that shows that voice reflects an increasing linguistic ability for authors to represent their experiences through the reproduction of their social and cultural worlds, including the reproduction of the kinds of talk they experience at school as well

as the voices of others (Sperling & Appleman, 2011). As students interact with other students' blogs they will, in essence, be exposed to the personal experiences and voices of others. A review of research by Sperling and Appleman (2011) sought to explore the role of voice in the context of literacy studies. Their findings provide insight on the importance of voice in writing and collaboration. Sperling and Appleman suggest, from a sociocultural perspective, that voice might better be taught by incorporating and acknowledging students' community discourse in classroom practices. This suggestion supports the need for students to develop recognition of when and why they utilize community inside and outside of the classroom.

Automated Essay Scoring (AES). Automated essay scoring uses artificial intelligence to evaluate essays and generate feedback and has received mixed reviews by educators in their struggle to improve writing instruction (Warschauer & Grimes, 2008). Automated writing evaluation (AWE) surfaced in the 1960s with Page Essay Grade (PEG) which used multiple regression analysis of measurable features of text such as essay length and sentence length in order to build a scoring model based on traditional hand-graded essays (Attali, Bridgeman, & Trapani, 2010; Shermis, Mzumara, Olson, & Harrington, 2010). Automated writing evaluation remained in the background until the 1990s when there was an increased global emphasis on writing instruction. The increased availability of computers and the Internet coupled with greater developing and marketing possibilities led to a greater awareness and usage of the AWE (Warschauer & Ware, 2006).

AES is becoming more widely accepted as a supplement for assessment and classroom instruction (Shermis & Burstein, 2003). The challenge is designing the scoring software in such a way that it is consistent with the needs of educators and students at the same time. There has been widespread discussion as to the effectiveness of automated essay scoring and how it might

compare to the traditional method of scoring. Overwhelmingly, findings support that utilizing automated essay scoring reduces some of the errors that the traditional method brings with it such as fatigue (scorer fatigue), halo (when raters are asked to make multiple judgments and they really make one which affects all other judgments), handwriting (illegible handwriting), and length effects (documents that are too long or too short in length) (Attali, Bridgeman, & Trapani, 2010; Ben-Simon & Bennett, 2007; Warschauer & Grimes, 2008). Furthermore, research shows that automated essay scoring produces scores that compare with the scoring judgments of human experts (Attali, Bridgeman, & Trapani, 2010; Ben-Simon & Bennett, 2007; Dikli, 2006; Warschauer & Grimes, 2008; Yang, Buckendahl, Jusziewicz & Bhola, 2002). Finally, AES systems are used to overcome time, cost, reliability, and generalizability issues in assessing student writing (Ben-Simon & Bennett, 2007; Page, 2003; Warschauer & Grimes, 2008).

Monaghan and Bridgeman (2005) identified a key component of automated essay scorer systems as being public acceptance of the scores assigned by the automated system. The authors maintain that the systems have the challenge of gaining the full confidence of people as well as providing a valid score. Attali, Bridgeman, and Trapani (2010) discuss a generic approach to automated essay scoring and how this approach produces scores that have the same meaning across all prompts, existing or new, of a writing assessment. The authors maintain that this generic approach to scoring is accomplished by using a single set of linguistic indicators, a consistent way of combining and weighting these features into essay scores, and a focus on features that are not based on prompt-specific information or vocabulary. There are two facets to the generic approach for automated essay scoring. The first is that generic scores across writing prompts are standardized, and second, utilizing the generic approach scores *how* the essay was written, rather than evaluating *what* is written. This means that across different prompts the

scores are based on the same information and the standards are uniform for interpreting the information. In other words, essay scores can be compared across prompts and the generic approach does not take the specific content of the essay into account when evaluating (Attali, Bridgeman, & Trapani, 2010).

Douglas and Hegelheimer (2007) reviewed emerging developments in the use of technology in the creation, delivery, and scoring of language tests. The authors studied computer-based delivery and response technologies: computer-based authoring options; current developments; and scoring, feedback, and reporting systems. More specifically, Douglas and Hegelheimer (2007) investigated automated essay scoring systems. Since 2005, automated scoring systems, such as the one used in this study, have been studied in an attempt to validate the systems (Douglas & Hegelheimer, 2007). Research by Warschauer and Ware (2006) reported that automated scoring systems hold great potential for research. They held this belief because they found that these scoring systems were designed in such a way as to track writing development over time.

Criticisms of AES. AES systems in their earliest versions did receive their share of criticism despite their impressive success at predicting teacher's essay ratings (Hearst, 2000). According to Hearst (2000) critics argued that using indirect measures, such as AES, could make the system vulnerable to cheating because students could try to enhance their scores by making their essays longer. Another criticism was that the indirect measure of writing did not recognize important qualities of writing such as content and was unable to provide the students with instructional feedback.

Validity was another concern of utilizing AES systems to score essay responses. Clauser, Kane, and Swanson (2002) maintain that using computers for quickly assessing student writing

was appealing to educators because of the ease with which writing can be assessed. With this obvious benefit of AES, the validity piece could not be overlooked (Nichols, 2005). With this important point in mind, Nichols (2005) examined a study by Pearson Knowledge Technologies where the validity of an AES was explored. In an attempt to do this, the Pearson group had each essay scored three times: by experts, by trained readers, and by an intelligent essay assessor (IEA) which is an AES. The group of experts included two readers from the Pearson Educational Measurement scoring center, the readers were comprised of a group trained using a common curriculum, and the IEA was the automated essay scoring program. The findings of the study by the Pearson group concluded that the weakest evidence of validity was between two human readers than between the IEA and a human reader (Nichols, 2005). On the other hand, the strongest evidence of validity existed between the IEA and the experts. Despite the evidence of weak validity between IEA and human readers, the degree of validity that existed between the IEA and experts provided evidence for the use of IEA as a measure of writing achievement. Even though there were concerns regarding the implementation of AES within the classroom, Warschauer and Grimes (2008) found students were more motivated, creative writers when they had the opportunity to write using technology and the automated essay scorer.

Motivation

Research on motivation and engagement is intertwined in the sense that one term is repeatedly referenced in conjunction with the other (Greene, Miller, Crowson, Duke, & Akey, 2004; Hayenga & Corpus, 2010; Miller, Greene, Montalvo, Ravindran, & Nichols, 1996; Ravindran, Green, & DeBacker, 2005; Walker & Greene, 2009; Walker, Greene, & Mansell, 2006). Motivation can be defined as being moved to do something (Deci & Ryan, 2000). “A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas

someone who is energized or activated toward an end is considered motivated” (Deci & Ryan, 2000, p. 54). Student engagement refers to “the quality of a student’s connection or involvement with the endeavor of schooling and hence with the people, activities, goals, values, and place that compose it” (Skinner, Kindermann, & Furrer, 2008, p. 2).

Student engagement is critical to student motivation throughout the learning process (Beeland, 2002) and students are motivated when they are able to see the usefulness in what they are doing (Bransford, Brown, & Cocking, 1999). The more students are motivated to learn, the more they are likely to be successful in their endeavors. According to Whisehart and Blease (1999), technology can be used to create classroom environments where students are motivated and engaged in learning. Developing engaged motivated readers takes place by sharing and exchanging ideas with others about books, stories, and informational text (Gambrell, 2006). One such suggested way of exchanging information with others includes using blogs within the classroom. Additional tools that are suited for actively engaging students include: social learning, continuous feedback, and real world application (Gambrell, 2006; Huffaker, 2003).

Motivation and engagement, with an emphasis on text, are facilitated by social interaction with others (Gambrell, 2006). Developing engaged motivated readers takes place by sharing and exchanging ideas with others about books, stories and informational text (Gambrell, 2006). Gambrell claims that classrooms support and nurture social interactions about text through the use of online book clubs, discussion groups, and journal writing. Technology has provided avenues for utilizing new ways for students to socially interact with one another about the texts they are reading. According to Gambrell (2006) the newest form of technology that promotes social interactions is the blog and anyone who has Internet access can read the blog entries left by others and comment on what they have read.

Motivation can be intrinsic or extrinsic and the differences between the two are distinct (Hayenga & Corpus, 2010). Intrinsic motivation refers to engaging in a task for the satisfaction associated with it while extrinsic motivation refers to engaging in a task in an effort to attain a separable outcome such as approval from an adult or special classroom privileges (Hayenga & Corpus, 2010; Ryan & Deci, 2000; Walker, Greene, & Mansell, 2006). An example of intrinsic motivation includes engaging in an activity for fun or challenge while an example of extrinsic motivation is a student completing homework in an attempt to avoid a sanction by a parent for not completing the assignment. Additionally, intrinsic motivation will occur for activities that have the appeal of novelty, challenge, or aesthetic value for the individual (Ryan & Deci, 2000).

Engagement is about going with the flow. Csikszentmihalyi (1997) first used the term “flow” as a state of deep and meaningful engagement. “Flow” can be referred to as an engrossing experience, which entails energy, thought, and creativity, focused on a project or goal (Csikszentmihalyi, 1997). Engagement refers to the flow of energy that students invest in their learning and motivation (Csikszentmihalyi, 1997). Students are externally motivated in an attempt to please parents with good grades but this extrinsic motivation is not what deepens engagement. Intrinsic motivation is the key to student involvement and engagement, furthermore, intrinsically motivated students are driven to learn, perform and/or succeed for the internal feeling of satisfaction (Deci & Ryan, 2000). The social dimension of learning also serves as a factor for engagement. Intellectual dialogue and collaborative meaning-making provide opportunities for deepened engagement.

According to Stipek (1996), research regarding the benefits of intrinsic motivation to learning and development abounds. Engagement out of intrinsic motivation requires no external incentives and also enhances the likelihood of motivation to engage again in the future.

Bransford, Brown, and Cocking (1999) share Stipek's belief when they maintain that students are motivated when they are able to see the usefulness in what they are doing. Stipek (1996) also maintains that engagement stemming from intrinsic motivation is associated with enhanced comprehension, creativity, cognitive flexibility, and achievement.

A 2010 study conducted by Van Nuland, Dusseldorp, Martens, and Boekaerts explored motivation and specifically intrinsic motivation. Hierarchical regression analysis on 259 ninth and tenth grade students was collected from a problem-solving task, observations, and digitalized questionnaires. The goal of the study was to explore motivation constructs from different motivation perspectives that predict performance on a novel task best. Students were presented with a problem-solving performance task with observations followed by a questionnaire. Findings from Van Nuland et al., (2010) report that students who were able to remain motivated during the learning task benefitted from their intrinsic motivation based on their high test score and performance.

Huffaker (2003) proposes techniques that are best suited for actively engaging students including: social learning, continuous feedback, and real world application. Gambrell (2006) supports Huffaker's beliefs in the three engaging applications via social interactions utilizing the blog. Developing engaged motivated readers takes place by sharing and exchanging ideas with others about books, stories and informational text (Gambrell, 2006) through such means as online book clubs, discussion groups, and journal writing. Technology has provided these avenues for utilizing new ways for students to socially interact with one another about the texts they are reading as well as to increase student engagement throughout the process.

Green et al., (2004) conducted research that explored student perceptions of classroom structures and the importance for motivation. Their study tested a model explaining the impact

of students' perceptions of classroom structures (tasks, autonomy support and mastery and evaluation) on their self-efficacy, perceptions of the instrumentality of class work, and their achievement goals within the classroom. The impact of self-efficacy, instrumentality, and goals on students' cognitive engagement and achievement were also studied. The authors of the study selected English classrooms for the study because English is a subject with many components (reading, writing, oral communication, and grammar skills). The study included 220 Midwest high school students. Participants completed a series of three questionnaires over a three-month period in their English classes. The first survey was a 38-item Likert scale Survey of Classroom Goals Structures whose items were based on the TARGET model of classroom structures (tasks, autonomy, evaluation, recognition, grouping, and time). The next survey was a seven-item, four-point scale measuring the degree of confidence a student has that he/she can be successful learning in the current class. Finally, students completed a 26-item Approaches to Learning instrument that measured mastery goals, performance-approach goals, and cognitive strategies used in studying for the class.

The study conducted by Green et al., (2004) concluded that students who perceived their classroom as supporting autonomy and mastery-oriented evaluation as opposed to competition, expressed higher levels of self-efficacy. Additionally, students who perceived tasks as meaningful and motivating tended to endorse mastery goals, and perceptions of instrumentality. Another finding of the study concluded that perceptions of autonomy support were positively related to grades, strategy use, and adaptive student motivation as measured by mastery goals, self-efficacy, and perceived instrumentality and was also a predictor of self-efficacy. Based on the findings of the researchers, the relationships between classroom structures and student

motivation from elementary-aged students are similar for older students as well and can be related to the current study being conducted.

Skinner, Kindermann, and Furrer (2008) conducted a study to analyze the motivational conceptualization of engagement and disaffection: by emphasizing children's constructive, focused, enthusiastic participation in classroom learning activities; and distinguishing engagement from disaffection (disenchantment and alienation). The study conducted by Skinner et al., included 1,018 fourth through sixth grade students who participated in a 4-year longitudinal study on children's motivation in school. Data-collection instruments included self-report Likert-type scale questionnaires, for students and teachers, that were administered twice a year and classroom observations. Conclusions from the study found that the correlations among the components of engagement were what they had expected. Emotion and behavior were positively correlated, where engagement and disaffection were negatively correlated. Further examination of the results show that students' scores revealed that they felt they were more behaviorally engaged and trying harder than what their teachers had observed. An additional finding is that students indicated that they were more emotionally disaffected than their teachers perceived.

According to Skinner et al., (2008), unless students become engaged with learning opportunities in school, their academic careers cannot be considered a success. This belief arises from the foundation that engagement reflects the kind of interactions that students have with activities and materials that should produce (or interfere) with actual learning. The activities that capture engagement within the classroom range from energetic, enthusiastic, focused, emotionally positive interactions with academic tasks to apathetic withdrawal.

The authors also conclude that students do not know why they are motivated, but they do assume that students know whether they are motivated or not; however, students do have the ability to report their own engagement and disaffection. Student engagement in the classroom does not reflect a stable personality trait that is consistent across situations and time (Skinner et al., 2008). It is, however, made up of thousands of interactions between developing children and their changing assignments on different school subjects and based on fluctuating social contexts.

Student engagement with reading and writing deserves attention because when students do not learn to read and write reflectively, frequently, and strategically, their chance of becoming proficient readers and writers decrease (Irvin, Meltzer, Mickler, Phillips, & Dean, 2009). In order to address the issues related to becoming proficient readers and writers, Irvin et al., (2009), offer the following three key criteria to engage students in effective content area reading and writing. A good reading or writing assignment is one that deepens and reinforces understanding of the content through student engagement. A good assignment also improves students' reading, writing, and critical thinking skills and taps into the literacy and learning needs of adolescents. The authors maintain that rigor is important to consider when choosing assignments to motivate or engage students. If an assignment is too easy or too hard it does not inspire engagement. Rather, teachers of reading and writing are challenged to design assignments at the appropriate level of challenge for students if engagement is the ultimate goal. Furthermore, Irvin et al., (2009) offer approaches to improve student engagement with content to include the following: (a) establishing an authentic reason to read or write, (b) reading or writing in conjunction with hands-on-activities, and (c) using collaborative learning routines to read and create text.

One way to motivate students is to allow them to publish their ideas online. Throughout the research, a common theme is that blogs provide authentic activities and discussions for a

wide audience, which can be engaging for students (Boling et al., 2008; Irvin et al., 2009; Duke et al., 2006; Alvermann, 2001; Farnan & Dahl, 2003). The integration of blogs into the classroom can result in increased motivation and literacy engagement as students have the opportunity to read, write, create and produce for meaningful and authentic purposes (Boling et al., 2008; Irvin et al., 2009).

Davis and McGrail (2009) discuss a project that took place in a fifth grade classroom in Georgia where students participated in classroom blogging with one another. The authors explain that a goal of students was to write well on their blogs in an attempt to attract posts from other students. This desire of students makes them focus on clearly stating their ideas so that others can understand and respond. As a result of the project, the authors discovered that the learning activities in which students participated provided numerous choices. Students had the option of pursuing answers and directing their own learning and were ultimately on a path to explore, experiment and test their own understandings. The students were provided with opportunities to comment on students' work and express their own unique points of view.

The most frequently used method of assessing intrinsic and extrinsic motivation has been through participants' self-report. Harter (Harter & Zigler, 1974) assessed "trait" intrinsic motivation with an instrument composed of four tasks, each one targeting a different component of motivation: seeking variation, preference for novelty, engagement for mastery, and preference for challenge. In this original self-report instrument, Harter (Harter & Zigler, 1974) had students choose between two options indicating high or low level of motivation. In 1981, Harter developed a different self-report instrument comprised of five scale items, each assessing a different motivational component. Harter's original scale (1974) presumed that intrinsic and extrinsic motivation is negatively correlated and mutually exclusive, which means that a student

who scores high on one index will likely score low on the corresponding one. In this circumstance, students are forced to indicate either intrinsic or extrinsic. In essence, this presumption assumes that there must be a perfect negative correlation between students' levels of intrinsic and extrinsic motivation. This fact places constraints on the ability to interpret and clearly understand the developmental findings of the instrument. For this reason, in 1981, Harter revised the scale to independently address the two constructs of intrinsic and extrinsic motivation. Each of the items in Harter's (1981) self-report contrasted intrinsic and extrinsic motivation.

Tzuriel (1989) used Harter's scale with a sample of 3,005 middle-class Israeli children who mirrored the sample of Harter's original study. Tzuriel's findings were similar to Harter in that a large and significant decline was reported, overall, in intrinsic motivational orientation from third through ninth grade. In another study, Newman (1990) administered Harter's scale to 177 third-, fifth-, and seventh-grade students in California. Findings from Newman indicate that both the preference for challenge and independent mastery scales show significant decreases in intrinsic motivation increasing with age and grade.

Lepper, Sethi, Dialdin, and Drake (1997) also used Harter's scale but in a modified version. This group decided to use the scale in a modified version because they saw no reason why intrinsic and extrinsic motivation could not be addressed independently. The study conducted by Lepper et al., (1997), utilizing the modified Harter scale, included 358 students from California representing grades three through eight. The modified version posed each original question from her scales of challenge, curiosity, and independence into two separate questions, which yielded both an intrinsic motivation and an extrinsic motivation item. The findings from their study replicated and clarified Harter's original scale results. Lepper et al.,

concluded that when intrinsic motivation and extrinsic motivation are addressed separately, there continues to be a steady decline in reported intrinsic motivation with increased grade and age. Additionally, there is no evidence of an increase being reported in relation to extrinsic motivation. Results of the administration of Harter's scales (original and modified) provide strong evidence that intrinsic motivation in school and student interest in subjects show a decrease with age and grade in school.

According to Irvin et al., (2009) reading, writing, and learning are social activities and are much more productive to the students when they have the opportunity to work with others upon completion of a reading or writing assignment in a collaborative environment. Examples of approaches utilizing collaboration include reciprocal teaching, group summarizing, or responding to others' writing through digital means such as threaded discussions. When teachers afford students the opportunity to participate in a collaborative learning environment, students are challenged to develop higher levels of comprehension, persistence, and engagement with the content over time (Irvin et al., 2009).

Purpose of the Study

The purpose of this study is to explore eighth grade students' interactions with response journals in language arts. The primary purpose of this study is to examine whether digital or traditional methods of responding to literature elicits better writing in 6+1 writing traits as measured by an electronic essay scorer. A secondary purpose is to determine if one method of writing is more effective than the other in motivating middle school learners.

Research Questions

These two questions will guide the study.

1. Which method of responding to literature (digital or traditional writing) elicits better student writing, as measured by an electronic essay grader, in the 6+1 writing traits of ideas and voice?
2. Does method of responding to literature (digital or traditional writing) impact the level of motivation to write in middle school students?

Chapter 3

Methodology

The purpose of this study was to examine the use of digital means of responding through threaded discussions as a tool for improving writing in the language arts classroom. Student attitudes toward using digital means as opposed to traditional means of responding to literature were also explored. Eighty-two students at a rural middle school in Georgia had the opportunity to utilize both traditional written journals and threaded discussions for six weeks each. The same two teachers (not the researcher) taught all students at different times during the day.

A mixed method quasi-experimental crossover design (Creswell, 2009) was used. The crossover design allowed all students to serve as part of the treatment and control groups at different points in the study. Quantitative and qualitative data were collected from intact groups during the course of the study. The mixed methods research design involved more than collecting qualitative and quantitative data; it involved using both approaches in tandem to strengthen the study (Creswell, 2009). The following research questions were explored in this study:

1. Which method of responding to literature (digital or traditional writing) elicits better student writing, as measured by an electronic essay grader, in the 6+1 writing traits of ideas and voice?
2. Does method of responding to literature (digital or traditional writing) impact the level of motivation to write in middle school students?

Treatment Group

The treatment group was comprised of students in eighth grade who responded to the literature digitally. When students responded via digital means, they had access to all student

responses within the classroom and had the opportunity to read and respond to as many posts as time permitted. Having access to all responses did not mean that time allowed students to respond to all of the posts; generally, students responded to only a few of their classmates' postings. Initially, approximately half of the students served as the treatment group and the other half as the control group. After six weeks, the groups switched roles, with the treatment group now serving as the control and the control group receiving the treatment intervention. The point at which the groups switched roles was referred to as the crossover.

Control Group

The control group was comprised of eighth grade students responding to literature via the traditional method. This method of responding to literature involved writing in response to a teacher-generated prompt using pencil and paper. Since digital responses involved writing interactively with others, the two methods of responding were inherently different. Therefore, partnerships were formed for the traditional writing group to control for the interaction that occurred for the digital group. These traditional responses were completed individually, but were later shared with and read by a partner who commented on the entry. The partners did not change unless a student withdrew from the school or a new student enrolled, and then new partners were assigned as needed.

Quantitative Methods of Data Collection

Quantitative data consisted of the writing scores in the traits of ideas and voice, as generated by the automated essay scorer (Appendix A). Quantitative data were also collected from the *Scale of Intrinsic Versus Extrinsic Orientation in the Classroom* (IvEOC) (Harter, 1981), a self-assessment designed to produce an overall score that designates whether a child is more extrinsically or intrinsically motivated (Appendix B).

Quantitative data were also collected from a survey developed by Erickson (2009). The survey was designed to measure the attitudes of students using traditional journals as opposed to blogs in the science classroom. This survey was modified slightly for use in the current study; “science” was changed to “language arts” in all items and “blogs” was changed to “threaded discussions”. The survey will hereafter be referred to as the *Erickson Preference for Responding Survey* (EPRS) (Appendix C). The EPRS survey is a four point Likert-scale survey comprised of twelve questions that ask students to rate their experiences regarding their current method of responding to literature.

Qualitative Methods

This study explored the attitudes of students regarding the use of digital methods of responding in comparison to the use of the traditional means of responding to the literature. Qualitative data were collected through the use of modified focus group questionnaires. Fifteen students (3 from each block) completed the survey, consisting of eleven open-ended questions (Appendix D).

Participants

Data collection took place at East Jackson Middle School in Commerce, Georgia. Permission to conduct the study was granted by the system school superintendent (Appendix E). All 124 eighth grade students in five language arts classes were invited to participate in the study and given the student assent form (Appendix F) and a parental consent form (Appendix G), both of which were required to be signed in the affirmative and returned before students’ results were used in the study.

Ninety-two students returned the forms with permission to participate, one responded in the negative, and thirty-one students did not return the forms. All eighth grade students at EJMS

received instruction according to the 6+1 Trait® Writing model throughout their language arts instruction in sixth and seventh grades. They continued to receive instruction based on this model in eighth grade. The activities included in the study, with the exception of threaded discussions, were part of the normal school day and part of the eighth grade curriculum at EJMS.

Inviting all eighth grade students to participate in the study made it likely that all populations, ethnicities, achievement levels, and subgroups represented at the school were adequately represented in the study. All classes at EJMS were balanced for race, gender, and ability level, with the goal being student heterogeneity in each class. The total number of students involved from beginning to end was 82. Several factors such as absenteeism, relocation, or insufficient information for evaluation, contributed to the loss of students from start to finish. Student ability levels ranged from marginally below grade level to marginally above grade level, as indicated by Lexile reading scores reported from the Criterion Referenced Competency Test (CRCT). Of the eighty-two students who participated in the study, 40 were females and 42 were males. The breakdown of ethnicities of the study group was 86% White, 8% African American, 3% multiracial, 2% Asian, and 1% Hispanic. Grade seven CRCT scores in the area of language arts revealed that 73% of the students met standards and 27% exceeded standards.

In addition to the eighth grade student participants, two eighth grade teachers played a pivotal role in the study, the English/Language Arts teacher and the extended learning time (ELT) teacher. ELT is a 55-minute class period in which students are either remediated or accelerated and is an extension of the regular content classroom. Students attend their ELT class every day and the class is designed so that students have a content area focus each day; Monday

is math, Tuesday is language arts, Wednesday is science, Thursday is social studies, and Friday served as an additional language arts focus day.

As soon as the researcher decided to focus the study on eighth grade, she approached the eighth grade language arts teacher and the ELT teacher, explained the intended study, and asked if they were interested in participating. Both teachers were eager to participate and see what results would be yielded as an outcome of the study. These teachers received a consent form (Appendix H) explaining the research and their roles in the study. The consent form indicated that their formal evaluations were not dependent on their participation in this study.

School portraiture. Research was conducted in one of three middle schools in the Jackson County School System. East Jackson Middle School (EJMS) opened in August 2000 and is adjacent to one of the feeder elementary schools and the high school into which the middle school feeds. There is one other elementary school that serves as a feeder school for EJMS. EJMS follows the middle school concept and has five wings, one for each grade level, one for exploratory classes that includes computers, chorus, band, art, agriculture technology, and family and consumer sciences, and one for the media center. Five computer labs, one located on each hallway, are accessible to all students within the building. There is also a gymnasium, a football field, and a softball field behind the school, as well as a greenhouse located outside of the agriculture technology classroom. Students' schedules include five 60-minute classes in the areas of English/language arts, math, science, and social studies, and one ELT class. All students attend two 45-minute exploratory classes daily.

The official school report card (2010-2011) released by the Governor's Office of Student Achievement provides CRCT results for 68 females and 69 males. This report was based on the group of students involved in the study when they were seventh graders. The current makeup of

the grade level is slightly different from the 2010-2011 grade level composition, with 124 students. Table 1 shows two years' worth of demographic data for the group involved in the study. As can be seen, the enrollment and ethnicity of the group has fluctuated only slightly. The differences in the make-up of the ethnicities from year-to-year can be attributed to mobility into and out of the school system.

Table 1

School Summary Report for Current 8th Grade Students

Ethnic Group	Number of Students 2010-2011	Number of Students 2011-2012
Asian/Pacific Islander	2	2
Black/Non-Hispanic	6	7
Hispanic	6	6
American Indian/Alaskan Native		
White/Non-Hispanic	119	105
Multiracial	4	4
<i>Total</i>	137	124

The 2010-2011 Criterion Referenced Competency Tests (CRCTs) results indicated that most students met or exceeded standards in all areas tested by the CRCT in seventh grade (Table 2). As can be seen, EJMS has a high meets and exceeds percentage of the CRCT.

Table 2

Current Eighth Grade Students 2010-11 CRCT Scores

	Reading	Language arts	Math	Science	Social studies
Level 1 <800	5%	1%	8%	12%	9%
Level 2 800-849	75%	64%	60%	51%	40%
Level 3 >849	20%	35%	32%	37%	51%
% Meets/Exceeds	95%	99%	92%	88%	91%

Note. <800=Does not meet, 800-849=meet, >849=exceeds

Eighth grade students participating in the study took the state writing assessment in January of 2012. Average annual writing scores for eighth grade students have continued to increase. Eighty-nine percent of eighth grade students in the 2010-2011 school year met or exceeded on the 8th grade middle grades writing assessment as compared to 81.3% in the 2009-2010 school year. Results from the 2011-12 administration are not yet available.

Free or reduced lunch percentage is reported as a school and not on a grade level basis. Seventy-five percent of students at EJMS receive free or reduced lunch, which indicates a high level of poverty school-wide.

Instruments

Data collection tools included writing scores as reported by the automated essay scorer, the Erickson Preference for Responding survey, the scale of Intrinsic versus Extrinsic Orientation in the Classroom survey, and the modified focus group questionnaire.

Essay Scorer

Essay scorer, an element of *Reader's Journey*, played an integral part of the research. This program allowed students to submit their individual writing piece and receive scores based

on each writing trait. Once students have submitted their essay into the program, they immediately receive a report back from the program that gives them a score in each area. The essay scorer assigns a score from 1 to 6 with one being low and six being high. Each of the six traits of writing, ideas, organization, conventions, sentence fluency, word choice, and voice are assigned a score ranging from 1 to 6. For the purpose of this study, student writing scores were explored in the areas of ideas and voice.

Reader's Journey Essay Scorer is backed by research indicating that its scores agree with human rater scores better than human rater scores agree with each other. The company that publishes the essay scorer program used for the study, Pearson Education, conducted an analysis in order to evaluate the reliability and validity of the program and how well it correlated to human raters. The automatic scoring program recorded a reliability correlation of .87 with human readers. Research from the program also indicates that the scores correlate significantly higher with age and schooling than human scores do which demonstrates validity. Finally, the National Science Foundation and the National Board of Medical Examiners have positively evaluated the program.

Erickson Preference for Responding Survey (EPRS)

The Erickson Preference for Responding Survey (EPRS) was administered to students twice during the course of the study. The first administration of the EPRS was at the crossover (approximately 6 weeks) and the second administration was at the end of the study (approximately 6 weeks). The survey was initially developed for use with science; therefore, the term "science" in all questions was replaced with "language arts" for the current study. The survey took approximately 20 minutes for students to complete and was administered to each block during their normal ELT time.

The survey was comprised of 12 questions and asked students to respond to questions that probed their background with digital and traditional journals, thoughts about the experience (method of responding), perceptions of the effect on learning, sense of class community, and future interest. Students responded using a four-point Likert scale of “Strongly Agree,” “Agree,” “Disagree,” and “Strongly Disagree.” After data were collected, the responses were assigned a numerical value (4, 3, 2, 1) for data analysis purposes.

A Scale of Intrinsic Versus Extrinsic Orientation in the Classroom (IvEOC)

The most frequently used method of assessing intrinsic and extrinsic motivation has been through participants’ self-report. In 1981, Harter developed a self-report instrument consisting of 30 statements comprising five scales, each assessing a different motivational component. Each of the items in Harter’s (1981) instrument contrasts intrinsic and extrinsic motivation. Students read the two contrasting statements and identify which is more like them. They then indicate whether the statement is “really true for me” or “sort of true for me”. The measure of motivation was administered twice during the course of the study, at the crossover point of the study, and again at the conclusion of the study.

The IvEOC survey is administered in a whole group setting. It was administered during the ELT class and took students approximately 45 minutes to complete. Once surveys were collected, students’ responses were individually recorded on a spreadsheet. Scores were entered by each student’s responses (1, 2, 3, 4) to each question by subscale; Challenge, Curiosity, Mastery, Judgment, and Criteria. The subscale of Challenge refers to the preference for a challenge versus the preference for easy work; Curiosity refers to a child’s interest versus pleasing the teacher or good grades; Mastery refers to independence versus dependence on the teacher; Judgment refers to independence to make judgments versus reliance on teacher’s

judgment; and Criteria refers to knowing when success or failure has occurred versus external sources of evaluation such as teacher feedback or grades. An average score of 4 designated the maximum intrinsic orientation, and a score of 1 designated the maximum extrinsic orientation. Each child had five scores, one for each subscale, ranging from 1 to 4 which depicted each child's profile across the dimensions. The survey was not designed to produce a total scale score because this would mask the subscale differences in the profiles of individual students.

Reliability and validity data are available on the IvEOC (Harter, 1981) survey and indicate that it is a reliable and valid instrument for measuring student motivation. The validity of the scale was based on factor analytic procedures. The factor pattern revealed that a five-factor solution, reflecting the five identified subscales, was appropriate. The average loadings for items on their designated factors were between .46 and .53 (Harter, 1981).

Modified Focus Groups

The final data collection technique was a modified focus group that took place at the end of the study. The open-ended questionnaire consisted of 11 questions designed to gauge students' attitudes toward both methods of responding to the literature. The ELT teacher randomly selected three students from each of her five blocks. The fifteen respondents completed the questionnaires in a room across from their classroom and were encouraged by the researcher to discuss their responses amongst themselves. The researcher was present during these modified focus groups to serve as a facilitator as students completed the questionnaires. The researcher was there to review student responses and ensure students addressed the questions asked. In some cases, some students did not address a specific element of a question and the researcher asked them to complete and clarify their answer. For instance, one question asked students to provide a one-word adjective to describe their most recent method of

responding to the literature and some students did not do this. Students utilized the entire 60-minute block of time to complete the questionnaires.

Materials

Materials in the study included the texts, *Roll of Thunder Hear My Cry* (Taylor, 1976) and *The Diary of Anne Frank* (Goodrich & Hackett, 1958). Other materials utilized in the study included the teaching scripts to be read for the teachers and students, EPRS survey, IvEOC survey, modified focus group questionnaire, Edmodo along with appropriate hardware, curriculum map, essay scorer software, and student journals in which traditional responses were recorded.

The script (Appendix I) used for introducing all students to Edmodo setup was carefully designed by the researcher and Instructional Technology Specialist (ITS) to ensure that it was written in an easy to follow step-by-step format and that the language was easy for the students to understand. It was delivered in a consistent manner, by the ITS, so that each group received the same training, set of directions, and expectations for utilizing the program. The researcher designed a script to be used for the traditional journal groups (Appendix J) and digital groups (Appendix K) outlining the expectations for each method of responding to literature. The instructional coach explained these expectations with each group prior to their method of responding to the literature so that it would be fresh in the minds of the students. The traditional journals used by the students consisted of spiral bound composition notebooks.

Edmodo was the threaded discussion (digital) tool used for the study. It was chosen after discussions between the researcher, ITS, and system technology coordinator. Threaded discussions had not been used by the system when the study began so there were lengthy discussions about which program to use. Edmodo was chosen for several reasons. First,

Edmodo was designed to allow students to write on a “wall” allowing others to see the post and respond, which is similar to Facebook. Facebook was widely used by the general population, including teenagers, so students were already familiar with its layout. Second, Edmodo was a free platform that was suggested by the system technology coordinator. Furthermore, Edmodo was designed with specific “controls” that could be set by the classroom teacher; for example, the teacher could decide whether to make the discussion posts public or private and could set up discussion groups based on the class roster. Once the decision was made to use Edmodo, the ITS created user groups and enrolled students according to their specific block. Before students logged in, the ITS posted the question that students were to respond to during their specific class period. Students logged in to their user group and responded to the question posted by the ITS.

The middle school language arts curriculum is mapped for the entire school year including plans for the novels to be read and essay prompts for literature responses. Students read the novel, *Roll of Thunder Hear My Cry* by Mildred Taylor (1976) in Fall 2011. The text reflects the genre of historical fiction and all eighth grade students read this at the same time. The book is 274 pages in length and comprised of 12 chapters. Students began reading the text in mid-September 2011 and finished mid-December 2011. The class averaged reading one chapter per week and responded to the literature, via traditional journals or digitally, approximately nine times throughout the reading of the book. There were approximately two weeks that students did not respond due to the school system schedule reflecting in shortened school weeks. The second text students read during the course of the study was the play *Anne Frank* (1958) written by Frances Goodrich and Albert Hackett. The class began reading this text the end of January (2012) and culminated mid-February. The text consists of two acts and is comprised of 61 pages. Students were required to respond to three prompts based on the *Anne*

Frank text. The questions that students responded to, with both texts read, addressed topics such as characterization, theme, plot development, conflict, and significance of setting. Each weekly required response to literature was an opportunity for students to have dialogue with classmates about the text they were reading with the goal of improving voice and ideas in writing before the formal essay scorer prompts were administered. Responding to the literature took place as students completed each chapter in the selected texts that represented multicultural literature. The ELT teacher graded every response to literature and feedback was given with both methods of responding. The ELT teacher offered comments specifically related to the prompt itself as well as ideas, word choice, and conventions.

The Researcher

The researcher is also the Assistant Principal for Instruction at the school where the study was conducted. The researcher took several steps to distance herself from the subjects of the study. The principal of the school handled all eighth grade student discipline, and the principal conducted any formal observations of the two teachers involved in the study during the course of the study during the 2011-12 academic year. The researcher distanced herself from this element of evaluation in an attempt to minimize the likelihood that teachers and students would feel retribution or undue influence for choosing not to have their results utilized in the study.

Data Management

The data collected during the research process were stored in a secure location (locked filing cabinet) in the researcher's office. Within the drawer are the student assent forms, parent consent forms, IvEOC survey results, EPRS survey results, and copies of student writing reports from the essay scorer. The teachers kept the journals and essay scorer reports in their classrooms as a part of regular classroom instruction and management. Multiple backups of the data were

made and stored in a secure location, in the researcher's testing room, and on the researcher's hard drive.

Procedure

Two eighth grade teachers were approached about the possibility of participating in the study and asked if the researcher's ideas for the study might fit into their normal course of instruction. Once it was determined that the study and language arts instruction would coincide, the researcher obtained permission from the district Superintendent to conduct the study at EJMS. An informed consent letter was sent home to each guardian asking for permission to use their student's written or digital work and essay scorer results in the study.

In eighth grade, student schedules consist of five academic blocks, with classes that last one hour. The language arts block meets daily and the ELT language arts class meets two times per week, each with an average class size of 25 students. The ELT and language arts teachers decided that Blocks 1, 3, and 5 would begin the study by responding through traditional literature journals and Blocks 2 and 4 would begin by responding digitally. The blocks that responded digitally first were designated as digital groups due to the fact that it was a new technology tool that would be integrated and that it would be easier to "troubleshoot" in two blocks rather than three.

The crossover design allowed each student to participate in both methods of responding to the literature at different points in the study. At the beginning of the study students who responded digitally were referred to as the treatment group and the students who responded with traditional writing comprised the control group. Thus, two classes served as the treatment group, Group D1, and three served as the control, Group T1, for the first six weeks of the study. At the six-week point, the groups switched treatment conditions and the two classes who initially

responded digitally had an opportunity to respond to the literature via traditional written methods and were then referred to as T2 while the remaining three classes served as the treatment group, Group D2, and responded digitally.

Students read the selected text during language arts for approximately 15 minutes four days per week. Reading alternated among students reading independently, partner reading, and teacher read-aloud. The lesson carried over into the ELT period one day a week, during which students participated in the actual responding to the literature via digital and traditional methods. Students had 15 minutes to respond to the essay prompt individually and 10 minutes to respond to their partner each week during the extended learning time (ELT). Students spent a total of 14 weeks reading the two selected texts and approximately six weeks responding using traditional methods and six weeks using digital methods. Students in both groups responded twice a week to the literature prompt posed in the language arts classroom.

The digital means of responding in the classroom afforded students the opportunity to view and respond to multiple students' posts because of the ease with which threaded discussions were designed to display student responses. Since the threaded discussions were displayed in the public forum, students had the opportunity to view other students responses to the questions posed and respond to multiple posts during the allotted time. However, the students who utilized the traditional means had to experience the process a little bit differently. Responding to literature in the traditional manner did not provide easy access to others' writing and limited the number of peers to whom students could respond. For this reason, students were paired with another student in the classroom, and they exchanged journals, read, and responded to each other.

Prior to students beginning to respond to each other's journal responses, the researcher wrote a script to explain how to write entries and respond to the entries of others, using the traditional and digital responses. In an effort to limit the researcher's interactions with the students directly involved in the study, the instructional coach delivered the information to the eighth grade language arts classes. The instructional coach is in the classrooms on a regular basis working with teachers in the implementation of new concepts and endeavors. Having the instructional coach deliver the information regarding proper guidelines and expectations for digital responses helped ensure that students were hearing consistent information from a non-biased person.

Once students arrived to the ELT classroom, according to their assigned block, students in both groups (treatment and control) had 15 minutes to respond to the prompt posed by the language arts teacher. The control group then had 10 minutes to respond to their partner in writing (control) and the digital group read and responded to threaded discussions (treatment). All writing activities took place in the classroom rather than as a homework assignment. The expectations and instructions for digital responses and traditional journals were delivered to classes prior to each method's utilization.

In an effort to ensure that all students were trained to use the threaded discussion program in the same manner, the ITS instructed each class how to navigate Edmodo. The ITS delivered the training to each group approximately one week before each class began to respond. Each training session took approximately one hour. She was also present for the digital session for the two weeks after the initial training to answer any questions that students had regarding Edmodo. The script (Appendix K) instructed students how to sign onto the site. Next, the script introduced students to the Edmodo homepage and showed them exactly what they would see

once the logged in. Finally, the script required students to follow along with the ITS as she walked them through the features of Edmodo that they would use. These features included the calendar view, how to upload their personal picture, and how to access and reply to posts.

Before exchanging journals, students received instruction on how to respond to each other in both the traditional responses and digital responses (Appendix L, Appendix M). The language arts teacher and ELT teacher demonstrated to the class how to respond to a traditional prompt through modeling. The language arts teacher emailed the ELT teacher her response to the literature and the ELT teacher projected the language arts teacher's response on the SMART board and talked the students through how she responded to her "partner's journal." The ELT teacher "thought out loud" her process for responding to her partner's journal. During her demonstration, she referred to the guidelines for responding to their partner's writing that were shared with the class by the instructional coach. Prior to the activity of exchanging traditional journals, students had the opportunity to identify 3 or 4 people with whom they wanted to work and the teacher made the selection of the actual pairs so that she could minimize problems that might occur as a result of self-selecting partners while increasing student buy-in. The only requirement was that the students remain with the same partner for exchanging journals throughout the activity.

Three times throughout the course of the study, the ELT teacher had all language arts students respond to the generic expository and persuasive writing prompts posed by the automated essay scorer program. Expository and persuasive writing were discussed and practiced in the language arts classroom as part of an activity already specified by the curriculum map. The writing prompts that were administered are displayed in Table 3. The first writing prompt (persuasive) was given before the study began and served as the baseline data, the second

was given at the end of the first half of the treatment, before the digital and traditional writing groups switched roles (at the crossover), and the third (expository) was given at the end of the study.

Table 3

Writing Prompts

September 9, 2011	All people are expected to obey laws at home, school, and in your community. Think of a specific law that you are expected to follow. Write an essay explaining how the law affects you, and why you think it is fair or unfair. Use reasons and examples to support your choice.
December 14, 2011	Some people argue that freedom of expression ends at the school entrance. Choose an issue involving self-expression, such as school uniforms or the rights of school newspapers. Write an editorial expressing your position on the issue you selected.
February 20, 2012	In some schools, students must maintain a “C” average in order to participate in school sports, clubs, and other after-school activities. Do you think this policy is fair? What are your views on this policy? Write an essay explaining your point of view. Use reasons and examples to support your position.

Data Analysis

Quantitative and qualitative techniques were used to analyze the data from the four instruments used in this study. The 12-question EPRS survey asked students to rate their level of agreement or disagreement to statements about their experiences with different methods of responding to literature. The survey was administered at crossover and then again at the end of the study. A Chi-square analysis was used to examine attitudes between groups to determine if the differences between responses were greater than chance.

Students were administered the IvEOC self-assessment which measured intrinsic and extrinsic orientation in the classroom. The survey was administered twice, once at the crossover

and again at the end of study. Subscale means were calculated for each student. The IvEOC was designed to assess student motivation individually. However, the purpose of this study was to look at groups and not individuals; therefore, mean scores were generated individually and then by groups as a whole. Scores for each of the six subscales were compared using paired samples t-tests. Group D1 and T1 scores were compared and group D2 and T2 subscale scores were compared.

The AES generated scores ranging from a low of one to a high of six in the areas of ideas and voice. Ideas and voice scores from each of the three AES-scored writing prompts, one each at the beginning of the study, at crossover, and at the end, were compared using independent samples t-tests. The baseline data was used to compare students' beginning level of writing across groups. The crossover data from writing were used to compare D1 to T1 and end of the study data compared D2 to T2 in the traits of ideas and voice.

Qualitative data were collected from student open-ended questionnaires generated in a modified focus group. Fifteen students completed questionnaires exploring students' experience and attitudes using digital methods as compared to traditional writing journals. A summary data matrix, based on emergent themes, was developed for each block.

Positive Effects for the Teachers, Students, Schools, and System

The researcher expected results from the study to lend itself to information that would be valuable for the teachers, students, schools, and system. Jackson County is a school system well equipped with technology. The researcher shared findings from the study with the company responsible for producing the automated essay scorer program, Pearson Education. If educators are made aware that exposing students to literature response through digital responses increases

writing scores as assessed by the electronic essay scorer, this information will prove to be valuable to the company as well.

If the research indicates that the exposure to digital responses produces better writers in the areas of voice and ideas, then the district, as a whole, will benefit from the findings of the study. Those findings would make an argument for the increased “push” to expose students to the digital means of responding where they have the opportunity to read the different experiences of classmates, be exposed to different points of view, and network with varied vocabularies of classmates.

Chapter 4

Results

Overview

The purpose of this study was to explore which method of writing, digital or traditional, produced higher writing scores and which method facilitated student motivation for writing in middle school students.

These two research questions were explored:

1. Which method of responding to literature (digital or traditional writing) elicits better student writing, as measured by an electronic essay scorer, in the 6+1 writing traits of ideas and voice?
2. Does method of responding to literature (digital or traditional writing) impact the level of motivation to write in middle school students?

The study spanned a 14-week period and involved two teachers and 82 students who completed the study. While 124 students participated in some portion of the study, factors such as absenteeism, relocation, or insufficient information for evaluation, contributed to student mortality.

Approximately half of the students began the study by responding to literature via digital methods, and the other half through traditional methods. Midway through the study, students switched their method of responding so that all students had the opportunity to participate with both digital and traditional methods of responding. Students spent six weeks utilizing each method of responding.

Quantitative Findings and Results

EPRS Survey

At the end of each treatment period, the students in both groups completed a Likert-scale survey, the EPRS survey, quantifying their reactions to responding to the literature (Appendix C). The first administration of the survey, which took place immediately before students switched to their second method of responding (hereafter referred to as the crossover), allowed 82 students an opportunity to rate their experience with digital or traditional journal writing. The crossover design allowed all students to serve as part of the treatment and control groups at different points in the study. The second administration of the survey took place after the 82 students participated in the second method of responding to literature. The survey asked students to rate their experience with method of responding, using the designations “Strongly Agree,” “Agree,” “Disagree,” and “Strongly Disagree.” The questions were designed to gather data regarding student’s perceptions of the method’s effect on learning, class community, future interest in using the response method, and overall experience.

For data analysis purposes, the responses were collapsed into two categories “Agree” and “Disagree.” The survey questions were constructed so that “strongly agree” and “agree” indicated a more positive response or attitude toward the experience of the digital or traditional journal. A “disagree” or “strongly disagree,” indicated a negative response reflecting their experiences of using the digital or traditional journal. Tables 4 and 5 present summary response statistics for the treatment and control groups at the crossover and end of the study. The data show the percentage of students who indicated Strongly Agree/Agree versus the percentage of students in each group who indicated Strongly Disagree/Disagree.

The results of the chi-square analysis of the EPRS administered at the end of the study indicated statistically different differences, at the .05 level of significance, between the two groups on questionnaire items 1 and 10. For these items, the digital group indicated a stronger

proportion of agreement than did the writing group. For all other items on both administrations of the survey, there was no difference in response patterns between the groups.

Table 4

Results of Chi-square Test and Descriptive Statistics for Response Preference by Response Group at Crossover

Response Preference	Response Style		Chi-square
	Traditional	Digital	
		Q1	
Agree	27 (56%)	18 (53%)	$\chi^2=0.01$
Disagree	21 (44%)	16 (47%)	
		Q2	
Agree	31 (65%)	25 (74%)	$\chi^2=0.38$
Disagree	17 (35%)	9 (26%)	
		Q3	
Agree	29 (60%)	26 (76%)	$\chi^2=1.65$
Disagree	19 (40%)	8 (24%)	
		Q4	
Agree	26 (54%)	20 (59%)	$\chi^2=0.04$
Disagree	22 (46%)	14 (41%)	
		Q5	
Agree	32 (67%)	22 (65%)	$\chi^2=0$
Disagree	16 (33%)	12 (35%)	
		Q6	
Agree	27 (56%)	27 (79%)	$\chi^2=3.77$
Disagree	21 (44%)	7 (21%)	
		Q7	
Agree	34 (70%)	20 (59%)	$\chi^2=.0.8$
Disagree	14 (30%)	14 (41%)	
		Q8	
Agree	29 (60%)	24 (71%)	$\chi^2=0.51$
Disagree	19 (40%)	10 (29%)	
		Q9	
Agree	24 (50%)	18 (53%)	$\chi^2=0$
Disagree	24 (50%)	16 (47%)	

	Traditional	Q10 Digital	Chi-square
Agree	18 (38%)	18 (53%)	$\chi^2=1.35$
Disagree	30 (62%)	16 (47%)	
	Traditional	Q11 Digital	Chi-square
Agree	18 (38%)	15 (44%)	$\chi^2=0.14$
Disagree	30 (62%)	19 (56%)	
	Traditional	Q12 Digital	Chi-square
Agree	28 (58%)	20 (59%)	$\chi^2=0.03$
Disagree	20 (42%)	14 (41%)	

df = 1; *p<0.05.

Table 5

Results of Chi-square Test and Descriptive Statistics for Response Preference by Response Group at the End of Study

Response Preference	Response Style		Chi-square
	Traditional	Digital	
		Q1	
Agree	12 (35%)	38 (79%)	$\chi^2=14.31^*$
Disagree	22 (65%)	10 (21%)	
		Q2	
Agree	25 (74%)	33 (69%)	$\chi^2=0.05$
Disagree	9 (26%)	15 (31%)	
		Q3	
Agree	17 (50%)	33 (69%)	$\chi^2=2.21$
Disagree	17 (50%)	15 (31%)	
		Q4	
Agree	12 (35%)	25 (52%)	$\chi^2=1.64$
Disagree	22 (65%)	23 (48%)	
		Q5	
Agree	18 (53%)	32 (67%)	$\chi^2=1.05$
Disagree	16 (47%)	16 (33%)	
		Q6	
Agree	19 (56%)	35 (73%)	$\chi^2=1.87$
Disagree	15 (44%)	13 (27%)	
		Q7	
Agree	19 (56%)	32 (67%)	$\chi^2=.58$
Disagree	15 (44%)	16 (33%)	
		Q8	
Agree	20 (59%)	34 (71%)	$\chi^2=0.8$
Disagree	14 (41%)	14 (29%)	
		Q9	
Agree	15 (44%)	29 (60%)	$\chi^2=1.52$
Disagree	19 (56%)	19 (40%)	

	Q10		Chi-square
	Traditional	Digital	
Agree	8 (24%)	26 (54%)	$\chi^2=6.49^*$
Disagree	26 (76%)	22 (46%)	
	Q11		Chi-square
	Traditional	Digital	
Agree	10 (29%)	24 (50%)	$\chi^2=2.68$
Disagree	24 (71%)	24 (50%)	
	Q12		Chi-square
	Traditional	Digital	
Agree	18 (53%)	35 (73%)	$\chi^2=2.66$
Disagree	16 (47%)	13 (27%)	

df = 1; *p<0.05.

Results from the IvEOC Survey at Crossover and End of Study

The IvEOC is a self-report instrument designed by Harter (1981) to measure intrinsic and extrinsic motivation. The scale is comprised of 30 statements representing five scales that measured student motivation. Students were scored according to the subscales of Challenge, Curiosity, Mastery, Judgment, and Criteria. Student scores ranged from 1 to 4 with 1 designating the maximum extrinsic orientation and 4 representing maximum intrinsic orientation. This instrument was administered twice during the study, once at the crossover and then again at the end of the study.

There was a statistically significant difference, at the .05 level, in the subscale of Mastery at the crossover administration and in the subscale of Criteria at the end of the study. Descriptive statistics in Table 6 show that students in T1 scored higher on the subscale of Mastery than did D1. Table 7 shows that students in T2 scored higher on the subscale of Criteria than did D2.

Because of this difference in these two subscales, a Bonferroni correction test was used to further analyze the data. The Bonferroni correction test was used to determine if the differences in the two groups were a fluke. The normal p value alpha is .05. For this kind of analysis, the

.05 p value alpha is divided by the number of tests within the set, which is 5. By narrowing the p value set to .01, instead of .05, for this analysis, reduces the chance of Type I errors. An analysis of the Bonferroni correction showed the subscales of Mastery and Criteria reflected the p values of .021 and .037 respectively, which is not statistically significant different.

Table 6

Results of t-Test and Descriptive Statistics for IvEOC Results by Group at Crossover

Subscale	M	SD	n	95% CI for Mean Difference	t	df
Challenge T1 Crossover	2.46	.81	48	-.091, .606	1.47	74.01
Challenge D1 Crossover	2.20	.76	34			
Curiosity T1 Crossover	2.44	.65	48	-.182, .374	.690	73.54
Curiosity D1 Crossover	2.34	.61	34			
Mastery T1 Crossover	2.61	.73	48	-.182, .375	2.36*	73.45
Mastery D1 Crossover	2.24	.69	34			
Judgment T1 Crossover	2.65	.66	48	-.257, .372	.366	66.56
Judgment D1 Crossover	2.59	.73	34			
Criteria T1 Crossover	2.43	.76	48	-.209, .387	.593	79.13
Criteria D1 Crossover	2.34	.60	34			

*p < .05.

Table 7

Results of t-Test and Descriptive Statistics for IvEOC Results by Group at End

Subscale	M	SD	n	95% CI for Mean Difference	t	df
Challenge D2 End	2.35	.68	48	-.226, .450	.662	63.86
Challenge T2 End	2.24	.80	34			
Curiosity D2 End	2.35	.63	48	-.400, .157	-.868	71.86
Curiosity T2 End	2.48	.62	34			
Mastery D2 End	2.58	.68	48	-.137, .496	1.13	67.65
Mastery T2 End	2.40	.73	34			
Judgment D2 End	2.60	.62	48	-.392, .191	-.687	67.93
Judgment T2 End	2.70	.67	34			
Criteria D2 End	2.38	.82	48	-.695, -.021	-2.12*	76.95
Criteria T2 End	2.74	.70	34			

*p < .05.

Writing Results

The AES was used to assess student writing in the trait areas of ideas and voice. Student writing was assigned a score by the program ranging from 1 to 6. Students were administered the initial baseline writing prompt in August. The prompt was administered again at the crossover and then once again at the end of the study.

The only area that reported a statistically significant difference, at the $p < .05$ level, in writing was ideas and it occurred at the final writing prompt assessed by the AES. There was a statistically significant difference with a p-value of .009 between D2 and T2. Table 8 reports group descriptive statistics and results of t-tests for the writing results between groups.

Table 8

Results of t-Test and Descriptive Statistics for Writing Results by Group at Baseline, Crossover, and End of Study

Writing Trait	M	SD	n	95% CI for Mean Difference	t	df
Ideas T1 Baseline	3.06	1.33	48	-1.024, .090	-1.67	75.68
Ideas D1 Baseline	3.53	1.19	34			
Voice T1 Baseline	3.35	1.25	48	-.957, .018	-1.92	79.26
Voice D1 Baseline	3.82	.99	34			
Ideas T1 Crossover	4.02	1.19	48	-.467, .509	.085	77.27
Ideas D1 Crossover	4.00	1.02	34			
Voice T1 Crossover	3.83	1.17	48	-.586, .430	-.308	73.51
Voice D1 Crossover	3.91	1.11	34			
Ideas D2 End	3.85	1.17	48	.168, 1.129	2.69*	76.78
Ideas T2 End	3.21	1.01	34			
Voice D2 End	3.75	1.19	48	-.044, .897	1.803	78.96
Voice T2 End	3.32	.95	34			

* $p < .05$.

Qualitative Data Analysis

Qualitative data were collected from students in a modified focus group format. The questions posed in the survey were designed to gauge student attitudes toward their most recent method of responding to literature. Three students from each of the five blocks were given an open-ended questionnaire to complete. Nine students from the digital group completed the questionnaires related to threaded discussions and six students responded to the questionnaire related to traditional writing journals. This was based on the method used by the student at the end of the study. Students were placed in a room together (by block) and allowed to discuss the method of responding as they completed their questionnaires.

Interview questions covered six categories: background with threaded discussions or dialogue journals; description about the experience, effect on learning; sense of community; and future use. The researcher was in the classroom with students as they completed the questionnaires and was available if students had additional questions about the method of responding or clarifications regarding the questions.

A summary data matrix was developed for each block of questionnaires (three students per block). Pseudonyms were assigned in an effort to protect student anonymity.

Digital Group Student Responses and Emergent Themes

Background. This section was designed in an effort to ascertain previous experiences that students had with threaded discussions. Students responded to the questions: What did you know about threaded discussions (traditional journals) before using one in this class? Have you written or responded using a threaded discussion (traditional journal) before this class?

None of the 9 students had experience with using threaded discussions before. Two of the 9 students indicated that they had heard of threaded discussions but had never used them. Jake responded, “I had little knowledge of threaded discussions before this class.” Seven students had never heard of threaded discussions before this experience.

Describing the experience. Eight of the 9 students in the digital group communicated an excitement about the experience. Students were asked to give one adjective describing the threaded discussion experience, 8 students responded with positive comments. Students responded with “good”, “interesting”, “fun”, “fantastic”, “useful”, “amazing”, and “ok.” Will stated, “At first I didn’t like it, I thought it was stupid, but now it’s kinda fun.” Megan noted, “The threaded discussions are amazing and I like them better than writing in journals.” The one adjective that described a negative experience was “boring.” Karson stated, “I felt that you could do a lot more with it.”

Students had a variety of responses regarding the purpose of the threaded discussions. Draven stated, “It was a way to see if students were paying attention.” Jake stated, “It helps us to learn stuff.” Anna responded, “It is a good way to get the students to respond to their given topic. It is easier on the students and the teachers to use threaded discussions.”

Students also made the connection between the threaded discussions and responding to literature. Andrew said, “I think it is used to see what people know about the book and how much they have been paying attention.” Ty also felt that it was used to see if “students were paying attention in class so that they could respond to the question asked.”

All nine students responded that they liked the active piece of threaded discussions. Allison stated, “I liked reading other people’s responses.” Will responded, “I like to type.” Jake

said, “I like the personalized part of it and that it was like Facebook.” Anna said, “I liked that I could see my classmates post and see what they thought about the given topic.”

Effect on listening. The day of threaded discussions, Ms. Williams informed the students that they would use them when they got to Mrs. Becker’s classroom. Five students reported that when they knew they would be using threaded discussions that day, they listened more carefully in class. Four students reported that knowing they would be participating in threaded discussions did not change their listening or participation in their language arts class.

Writing. Four students noted that they liked knowing that other students would be reading their writing. Jake stated, “I tried to make my writing real good and understanding.” Megan reported, “It didn’t really bother me that others would be reading my writing, but I tried to make mine long.” Anna responded, “Knowing that other classmates would read my post made me want to improve my vocabulary and the way I write.”

Five students responded that it did not bother them that others would be reading their responses. Karson stated, “I always write in the same context whether I use threaded discussions or respond with a traditional journal.” Andrew responded, “I didn’t really care if other people could read it and it didn’t make me change my writing.”

Anticipation for class. Five students responded that they looked forward to going to class when they knew they would be using threaded discussions. Megan and Will reported that they looked forward to going to class. Anna stated, “I looked forward to doing something different.” Three students stated that knowing they would be using threaded discussions on a particular day did not change their anticipation for class. One student reported that he did not look forward to going to class when he knew they would be using threaded discussions. Ty said, “Dang it, it’s too high tech. I don’t like using computers to write.”

Connection with classmates. Four students responded that using threaded discussions helped them get to know other people in their class. Andrew stated, “I would ask other people like my friends about the response so that I could get a better understanding.” Jake responded, “I got to know other students and my friends better.” Allison replied, “It showed how people were comprehending what we read.” Five students responded that blogs were not helpful in getting to know people. Megan stated, “I didn’t pay that much attention to other’s posts.”

Negatives. When asked if there was anything that they did not like about using threaded discussions, there were negative responses reported by the students. The responses included not liking using computers and boring.

Positives. When students were asked what they liked about using the threaded discussions in class, they were overwhelmingly positive with their comments. Megan stated, “I liked how easy it was.” Karson liked that he could see other peer’s work. Will responded that he liked to type. Anna stated, “It is a good and easy way to get your response to your teacher.” Ty replied, “I liked that I could read other people’s posts to help me get a better understanding of the text.”

Future use. Responses from the students were varied when asked if they would continue using a threaded discussion on their own outside of class. One student responded with a yes but only if it was required for class. Two students responded with “maybe.” Six students responded with no. Allison said, “I would rather write it.” Will replied, “It was fun but not that fun.” Karson responded, “I don’t have the extra time.”

Traditional Journal Student Responses and Emergent Themes

Background. Three of the students recalled using traditional journals before and three did not recall ever using them. Hannah replied, “I have used one before language arts before.”

Trevor responded, "I have probably done about 7 or 8 of them before in language arts classes."

Christina said, "I have a journal at home that I write in."

Describing the experience. Students who used the traditional journals were mixed in the comments regarding the overall experience of using the traditional journals. The adjectives used to describe the experience with traditional journals included "helpful," "descriptive," "phenomenal," and "interesting and amazing." Four of the six responded that it was a positive experience and that they liked this method of responding. Masen said, "I would rather use paper and pencil than the computer." Kaylah responded, "I liked writing to the book responses because it lets the teacher know who is understanding the book and who is not." Hannah replied, "I think it was a good experience because you get to write more and you can get more developed with you writing." Christina responded, "I liked threaded discussions better than writing." Trevor replied, "We were only doing this so that the teachers could see if we were paying attention."

Students reported a variety of responses about what they felt the purpose of the traditional journals was. Kaylah stated, "They are for students to express how much they are understanding and learning." Hannah replied, "Journals are for learning to write better." Mac wrote, "To show how much you really know."

Effect on listening. Students knew the days they would be writing and responding in their journals. Five of the six students responded that they listened more carefully to the reading and discussion of the text on these days. Mac responded, "If you didn't pay attention during the reading of the text then you didn't know how to respond to the journal topic." Masen said, "I tried to pay more attention so that I could get a better grade." Hannah was the only student who stated that journals did not change the extent to which she listened in the classroom.

Writing. Five students reported that they liked that someone else would be reading their writing. Trevor said, “I tried my best since I knew someone else would be reading my writing.” Masen replied, “I wanted everyone to read my response because they might get help from it.” Kaylah responded, “I liked knowing what others thought about my responses.” One student did not like it that other students would be able to read her responses. Christina said, “I didn’t like the fact that others could steal my ideas.”

Anticipation for class. Two students said that traditional journals made no difference in their anticipation of going to class. Trevor said, “It didn’t change the way I felt about going to class.” One student did not look forward to going to class when traditional journals were going to be used. Masen stated, “I did not look forward to going to class because I did not like having to respond to my partner.” Three students reported that they looked forward to going to class when they knew they would be using the journals. Christina said, “Writing in the traditional journals gave me a break from doing normal classwork.” Mac replied, “I kinda looked forward to doing them because I really got to express my thoughts and feelings.” Kaylah responded, “I liked writing better than typing so I looked forward to it.”

Connection with classmates. Student responses to whether or not they made connections with their classmates as a result of the traditional journals were mixed. Masen never paid attention to anyone’s traditional journal except for his and his partner’s. Christina and Kaylah felt that it allowed them to let the teacher know how much they knew or did not know about the topic. Hannah and Mac felt that that they made a connection with their partners because they provided feedback to each other.

Negatives. Students reported no negative experiences about using the traditional journals.

Positives. Masen and Trevor felt that writing in the traditional journals helped them to recall what they had read in the book. Mac liked that Mrs. Becker gave them the opportunity to go back over and re-read what they had wrote before exchanging journals with their partner. Kaylah liked that she could express, in her journal, what she did not understand because her teacher would be reading her response.

Future use. Three students responded that they would use traditional journals outside of class. Christiana responded she currently has a journal at home that she uses. Mac replied, “It is a great way to put something down on paper and not forget it.” Hannah responded, “It would be my own personal journal at home and I would be able to read all of my writings at a later time.” Kaylah responded with maybe, “I may want to use one to make sure that I am really understanding what I am reading.” Two students responded that they would not use a traditional journal outside of class.

Table 9

Summary Matrix for Modified Focus Group for Digital Responses (Block 1)

Student	Describing the Experience	Effect on Learning, Listening, Classwork	Writing	Anticipation for Class	Connection with Classmates/Teacher
Jake	“fun” “I had no knowledge of threaded discussions before this class.”	I always paid attention in class so it didn’t change the way I listened.	“I tried to make my writing clear so that people could understand it.”	I liked using it because it was like Facebook. Knowing we were going to be using the threaded discussions didn’t change how I felt about going to class.	“I now know people in my class better.”
Draven	“fantastic” “It helped me.”	If I listen [to the discussion of the book], I can write better.	It helped me to keep my thoughts in order	I was used to it because we had been using them for a while.	It helped me see to see how my friends wrote.
Anna	“useful” “You can post at whatever time you’d like and the teacher still gets to see your work. It’s much easier to use rather than just writing.”	It made me listen better in class. I had to make sure that I paid attention to the book so that I could answer my assignment.	“Knowing that other classmates would read my post made me want to improve my vocabulary and the way I write.”	I looked forward to doing something different.	It really didn’t help me to know my classmates better because I already knew them.

Table 10

Summary Matrix for Modified Focus Group for Traditional Responses (Block 2)

Student	Describing the Experience	Effect on Learning, Listening, Classwork	Writing	Anticipation for Class	Connection with Classmates/Teacher
Trevor	“descriptive” It’s very vivid and see what the writers are saying about the story.	“I paid more attention when I knew we would be using the journals.” Using the traditional journals “helps me remember stuff about the book we have been reading.”	This helps us to think and help us learn about the story.	It didn’t change the way I felt about going to class.	“When I read other student papers it helps me know how educated they are and how you should talk to them.”
Kaylah	“amazing and interesting”	I listened more so that I would know what to write so that I could get it correct.	Journals allowed me to express how much I learned and understood. “I liked knowing how others think about my writing.”	I like writing better than typing so I looked forward to it.	“We get to tell the teacher how much we understand and get help if we don’t. I got to know how my classmates express their feelings and thoughts.”
Hannah	“helpful”	Using journals did not change the way I listened or wrote in the classroom.	“It made me feel good [that others would read my writing] because it made me be more confident with my writing.”	Writing in the journals didn’t change the way I felt about going to class.	Got to know her partner better because it provided her with feedback from her teacher and partner.

Table 11

Summary Matrix for Modified Focus Group for Digital Responses (Block 3)

Student	Describing the Experience	Effect on Learning, Listening, Classwork	Writing	Anticipation for Class	Connection with Classmates/Teacher
Andrew	“convenient” It is easy to post your response on the website.	I paid close attention to listen for examples to back up my answers in my writing.	You get the opportunity to thoroughly explain your thoughts [about the book] in writing.	I looked forward to coming to class because I liked threaded discussions better than writing.	I would ask other people like my friends about the response to get a better understanding.
Ty	“ok” At first I made bad grades but when I got the hang of it I did much better.	Knowing I would have to respond to a post about the book made me listen closer to the reading of the book and class discussion.	I liked that I could read other peoples posts to help me get a better understanding of the book.	“Dang it, it’s [too high tech. I don’t like using computers to write.”	I felt embarrassed if I wrote bad and others read it.
Megan	“amazing” The blogs are amazing and I like them better than writing in journals.	I listened more carefully to the reading of the book and I read the posts carefully.	I tried to write long responses in my posts.	I looked forward to going to class because [threaded discussions] made the work for the class much easier.	I didn’t really pay much attention to other people’s posts.

Table 12

Summary Matrix for Modified Focus Group for Traditional Responses (Block 4)

Student	Describing the Experience	Effect on Learning, Listening, Classwork	Writing	Anticipation for Class	Connection with Classmates/Teacher
Mac	“phenomenal”	If you didn’t pay attention during the reading of the text then you didn’t know how to respond to the journal topic.	It did not change the way I wrote because I was sharing my thoughts about the text in my journal.	“I kinda looked forward to doing them because I really got to express my thoughts and feelings.”	“I became closer to my partner because I got to express my feelings [through writing] with my partner and I got to read about his thoughts and feelings.”
Masen	“helpful”	“I tried to pay more attention so that I could get a better grade.”	“I wanted everyone to read it because they might get help from it.”	“I did not look forward to going to class because I did not like having to respond to my partner.”	“I never paid attention to anyone’s [journal] but my partner’s and mine.”
Christina	“helpful”	“It made me pay more attention to the reading of the book.”	“I liked it that other students couldn’t see my answers.”	“Writing in the traditional journals gave me a break from doing normal classwork so I looked forward to going to class.”	It allowed me to let the teacher how much I knew or did not know about the text or the writing prompt.

Table 13

Summary Matrix for Modified Focus Group for Digital Responses (Block 5)

Student	Describing the Experience	Effect on Learning, Listening, Classwork	Writing	Anticipation for Class	Connection with Classmates/Teacher
Karson	“boring” “There should have been more that we could have don’t with it.”	“I always pay attention in my classes. I carefully read my assignments.”	Using [threaded discussions] did not change my writing. I always write in the same context.	It didn’t matter to me if we used blogs or not so it didn’t change how I felt about going to class.	“It helps us learn about others point of view.”
Allison	“good” I liked reading other peoples responses.	I didn’t really think about it. It “didn’t change how I did my work. “	I would rather write it than use threaded discussions.	It didn’t change how I felt about going to class. No talk of threaded discussions outside of the classroom.	“It showed me how much better the class comprehended what we were reading.”
Will	“interesting” “At first I didn’t like it, I thought it was stupid, but now it’s kinda fun.”	It didn’t change how I listened or wrote.	It is easier to redo or make corrections on the computer than it is on paper.	I looked forward to going to class because I liked using the computers [for threaded discussions].	“I liked that I got to read the posts of everyone in my class.”

Quantitative Results

Overall, data collected from the IvEOC survey and AES program showed no statistical difference in method of responding to the literature and motivation. However, analysis of data collected from the IvEOC survey showed a statistical difference in the subscale of Mastery between D1 and T1 on the first administration of the survey and between D2 and T2 in Criteria at the final administration.

Data collected from the EPRS survey indicated differences in methods of responding between the two groups on Items 1 and 10 at the end of the study.

The AES assigned scores to writing samples, in the areas of ideas and voice, three times throughout the course of the study. The trait of ideas showed a statistical difference between D2 and T2 on the final administration.

Qualitative Results

Data from modified focus groups revealed that students perceived the threaded discussions as a positive, engaging way to respond to the literature. Student responses showed that students were split on the method, which was an indication that there were no differences between the groups.

Chapter 5

Discussion and Conclusions

Overview

This mixed method quasi-experimental study took place from September to February of the 2011-2012 school year. There were two goals of this study. The first goal was to determine whether digital means, specifically threaded discussions, as compared to traditional writing journals, improved student writing scores in the areas of ideas and voice as measured by an automated essay scorer (AES). The second goal of the study was to determine if one method of responding to literature (digital versus traditional writing) increased motivation of middle school students to write. The study also provided students with the opportunity to describe their experiences with using both methods of responding.

Research Question 1: Student Writing and Method Used

Results from the independent t-tests of the AES data show a statistically significant difference favoring the digital group, at the .05 level, at the final administration of the survey in the trait of ideas ($p=.009$). This difference means that one group, the digital group, scored better in the area of ideas than the other group at the end of study; however, no statistically significant difference was found in this area at the crossover, the point in the study where students changed their method of responding to literature. The fact that there were no statistical differences found at the crossover, in either ideas or voice, may be an indicator that students were exposed to a limited number of their peers' experiences and responses at that time or it could be due to chance (statistical error). However, by the end of the study students had been exposed to other students' ideas and experiences for 14 weeks which may contribute to the difference found in the writing area of ideas. The longer period of time for students to practice writing coupled with the

exposure to others' writing may also have played a factor in these results. Engaging students with authentic literacy activities such as collaborating and making real-life connections through journal writing, reading, talking, and writing about things that matter to them (Knobel, 1999; Wade & Moje, 2000) is one way to expose students to each other's writing within the classroom on a daily basis.

Another possibility for the statistically significant difference found in the trait of ideas with the digital group at the final administration, may be that students were exposed to more information through the format of the threaded discussions. Campbell (2003) reports that the collaborative environments provide students with the opportunity to develop and improve writing skills because students work together in the collaborative environment to produce texts, share thoughts, and respond to what others have written.

The statistically significant difference in the trait of ideas supports the fact that writing with technology helps to produce better writers (Kulik, 2003; O'Dwyer, Russell, Bebell, & Tucker-Seeley, 2005). These findings also support the need to integrate different methods of student response and instructional methods within the classroom that would entail using both methods of responding. Utilizing both methods of responding to literature is an example of providing differentiation within the classroom, which is noted as a best practice by Carol Ann Tomlinson (2003) who challenges teachers to call upon a range of instructional strategies and to see that what is learned and the learning environment are shaped to the individual learner.

The fact that the trait of voice showed no statistically significant difference contradicts the research by Sperling and Appleman (2011) who maintain that voice might better be taught in community discourse of classroom practice. The finding of no difference in the trait of voice between the two groups may be an indicator that collaboration was not a factor in the trait of

voice in writing. Collaboration may not be a factor because in the current study, both groups had the opportunity to collaborate for the same amount of time.

Research Question 2: Method Motivating Students

Data collected from the *Scale of Intrinsic Versus Extrinsic Orientation in the Classroom* (IvEOC) indicated that the subscale of Mastery showed a statistically significant difference ($p=.021$) at the crossover administration of the survey. No other statistically significant findings were found at the crossover. The subscale of Criteria showed a statistically significant difference at the end of the study administration of this instrument ($p=.037$). No other subscales showed a difference at the end of the study. The subscale of Mastery examined students' preference to work on their own and problem solve versus relying on teacher guidance. The subscale of Criteria was designed to assess if students can self-determine if they have succeeded at a task or if they are dependent on grades or feedback from the teacher to tell them this. The IvEOC rating scale ranges from 1 to 4 with 1 indicating maximum student extrinsic motivation and 4 indicating maximum intrinsic motivation. The mean for group T1 in the Mastery subscale indicated a slightly higher level of intrinsic motivation. The mean for T2, at the end of the study in the subscale of Criteria indicated a higher level of intrinsic motivation. These findings indicate a slightly higher level of intrinsic motivation in the writing groups which might indicate that this group of students was more motivated to write using traditional means. Harter (1981) maintains that students with a higher score on the subscale of Mastery indicate that they are intrinsically motivated to engage in the mastery process. A higher score in the Criteria subscale indicates that students can make judgments autonomously.

Because of the difference in these two subscales on the IvEOC survey, a Bonferroni correction test was used to further analyze the data. The further analysis was conducted because

multiple comparisons showed some statistically significant findings; therefore, the Bonferroni correction test was used to determine if the differences were statistical anomalies. A standard alpha level is .05. For this kind of analysis, the .05 alpha level is divided by the number of tests within the set, which is 5. By lowering the alpha level to .01 for the analysis, instead of .05, the chance of Type I errors was reduced. An analysis of the Bonferroni correction showed the subscales of Mastery and Criteria reflected the p values of .021 and .037 respectively, which is not a statistically significant difference. Results from the Bonferroni correction test indicated there were no differences between groups, which means that any differences that might exist between groups are very small. Therefore, it appears there is no difference between the groups on motivation. This outcome is inconsistent with the work of Boling, Castek, Zawilinski, Barton, and Nierlich (2008) who maintain that writing for an audience of peers, via technology, better motivates groups of students to revise and edit their work as opposed to traditional pencil and paper activities. Modified focus group interviews indicated that perhaps this lack of motivation to share by digital means could be attributed to students' hesitation to sharing their thoughts, regarding the text read, with a group of their peers.

The EPRS survey asked students to rate their experience with method of responding to literature, using the designations "Strongly Agree," "Agree," "Disagree," and "Strongly Disagree." The questions were designed to gather data regarding students' perceptions of the method's effect on learning, class community, future interest in using the response method, and thoughts regarding the experience. A more positive response indicated that students preferred a specific method of responding while a more negative response indicated that students did not favor that method. The results of the chi-square analysis on the EPRS data at the end of the study indicated a statistically significant difference in attitudes regarding methods of responding on

questions 1 and 10 (I enjoyed using a threaded discussion in my class and I would like to do another threaded discussion or continue this one, respectively). On both of these questions, the digital group reported more positive responses than did the writing group, which indicated that, the digital group enjoyed using this method of responding.

Finding little difference in students' attitudes could lead one to infer that students are already accustomed to using technology outside of school and that using technology in school had no impact on their attitudes toward writing. Integrating technology into the school day may be a new practice for teachers but students are already using digital tools outside of the classroom to communicate with their peers. According to a 2010 survey by Reinberg, on average, teenagers between the ages of 8 and 18 spend approximately 7 hours and 38 minutes a day watching TV, playing video games, or surfing the net. This alarming number adds up to be more than 53 hours per week. This may contribute to the reason why, overwhelmingly, students may not have been motivated by the use of technology within the classroom.

Qualitative data show differences that reflect overall ambivalence in attitudes towards methods of responding to literature. Attitudes regarding the two different methods of responding appeared to be evenly split with about half of the students preferring traditional writing journals and the other half preferring digital means of responding. These findings could be directly related to student preference. Modified focus group interviews indicated that some students liked to write better while others preferred to use digital means. The fact that there was no preferred method indicated that teachers should vary their mode of instruction by incorporating digital literacies (Larson, 2009) and traditional writing practices (Kozlow & Bellamy, 2004) together, as companions, to add variation and this should not negatively impact learning or student motivation.

Limitations of the Study

There were several limitations to this study. First, the design of the study was quasi-experimental because intact classes were utilized for data collection. This type of design is typical with action research but it still does not allow for the control afforded with a true experiment. A true experimental design would have allowed the subjects to be randomly assigned to groups. A true experimental design would have allowed the researcher to group students of the same ability level together to see what their results would have yielded.

Another limitation of the study was the *Scale of Intrinsic Versus Extrinsic Orientation in the Classroom* survey developed by Susan Harter (1981). This survey may have been too long and confusing for the current sample of eighth grade students to use. The question format was designed so that students had to first decide which kind of kid is most like him or her, and then whether the statement is only sort of true or really true for him or her. Despite the fact that Harter (1981) used the survey with elementary and middle school students, it appeared that students in the current study might have randomly marked responses that were not reflective of their actual motivation. As individual student information was being entered into the computer, it was obvious that a few students had circled all “ones” or “fours” throughout the survey. It is the researcher’s belief that students may have been overwhelmed by the large number of questions and format of the survey and for that reason, the responses may not have been indicative of true student motivation.

The automated essay scorer used by the school also presented a limitation that might have impacted the study. The prompts to which students were asked to respond were not reflective of the book being read because they were prompts already developed by the company and not teacher created. The prompts within the program were generic expository and persuasive

prompts that had no connection to the text. Within the classroom, students were afforded the opportunity to discuss the texts being read and express their opinions and thoughts about their reading. There is a possibility that the scores in the areas of ideas and voice might have been different had the writing prompt reflected the discussions held within the classroom.

Another limitation was the length of the study. The study included interruptions such as holidays, testing, and teacher workdays. A study that lasted for a longer period of time, perhaps for the entire school year, may have provided stronger quantitative data that could prove a stronger difference between the traditional and digital groups.

Recommendations for Future Research

This study might serve as a springboard for subsequent research that can provide insight into how threaded discussions or other digital means could be used in conjunction with traditional writing journals. Another avenue for possible exploration could be continued research into the use of automated essay scorer programs in the language arts classroom. Some recommendations include:

1. Track a group of students from sixth through eighth grade and explore their attitudes towards threaded discussions versus traditional writing over an extended period of time. Once students are introduced to the concept of threaded discussions in sixth grade, do they become better users of them over time (in the classroom setting)?
2. Compare the use of individual student threaded discussions with whole class threaded discussions. Would individual ownership of a discussion have an effect on writing and learning?
3. Explore guided prompts versus student-generated topics. Do the prompts improve interaction when students have the opportunity to choose their own prompt?

4. Track student writing scores in the traits of ideas and voice from sixth to eighth grade in conjunction with using threaded discussions. Do student scores in ideas and voice improve over a period of time?

Conclusion

This study addressed research in the areas of writing, technology, automated essay scorer, and literacy by comparing the use of digital to traditional writing journals and analyzing data from eighty-two eighth grade students in language arts classes. The use of digital and traditional writing journals and the attitudes of students based on the two different methods used was examined. The study explored if one method produced higher scores in the traits of ideas and voice as measured by an automated essay scorer. Another component of the study was to explore whether students were more motivated to write based on their method of responding to literature.

In this fourteen-week study, the use of threaded discussions did not significantly improve student writing scores in the trait of voice. However, the trait of ideas did show a difference at the end of the study. Quantitative analysis between the two methods of responding showed a slightly significant difference between groups based on their method of responding, in favor of digital means on two out of 12 questions. Statistically significant differences between groups in the subscales of Mastery, at the crossover, and Criteria, at the end, were also evident. Qualitative analysis showed that students did not prefer one method of responding to the other.

The Mindset List (McBride & Nief, 2012) released by Beloit College may provide a rationale for integrating digital means of writing into the curriculum. According to this list, the college Class of 2012, who were born in 1990, has grown up in an era where computers and rapid communication were the norm. These students have seldom used landlines during their

adolescence and they will meet their college roommates by Facebook before they ever meet in person. Students use technology daily and school prepares students for work and life; therefore, educators should utilize any opportunity to integrate authentic literacy events (Knobel, 1999; Wade & Moje, 2000) into student's daily lives.

Moayeri purports "Even though image and multimedia are becoming increasingly prevalent, text still dominates especially in educational setting and academia" (2010, p. 42). However, the ever-changing definition of new literacies (Compton-Lily, 2009) and what it means to be literate calls for educators to provide opportunities to bridge technology use at home with school (O'Brien & Scharber, 2008). There can be a balance between traditional and digital as suggested by McKenna, et al., (2008) who maintains that collaborative writing processes utilizing traditional paper-and-pencil tools are enhanced by the integration of the computer.

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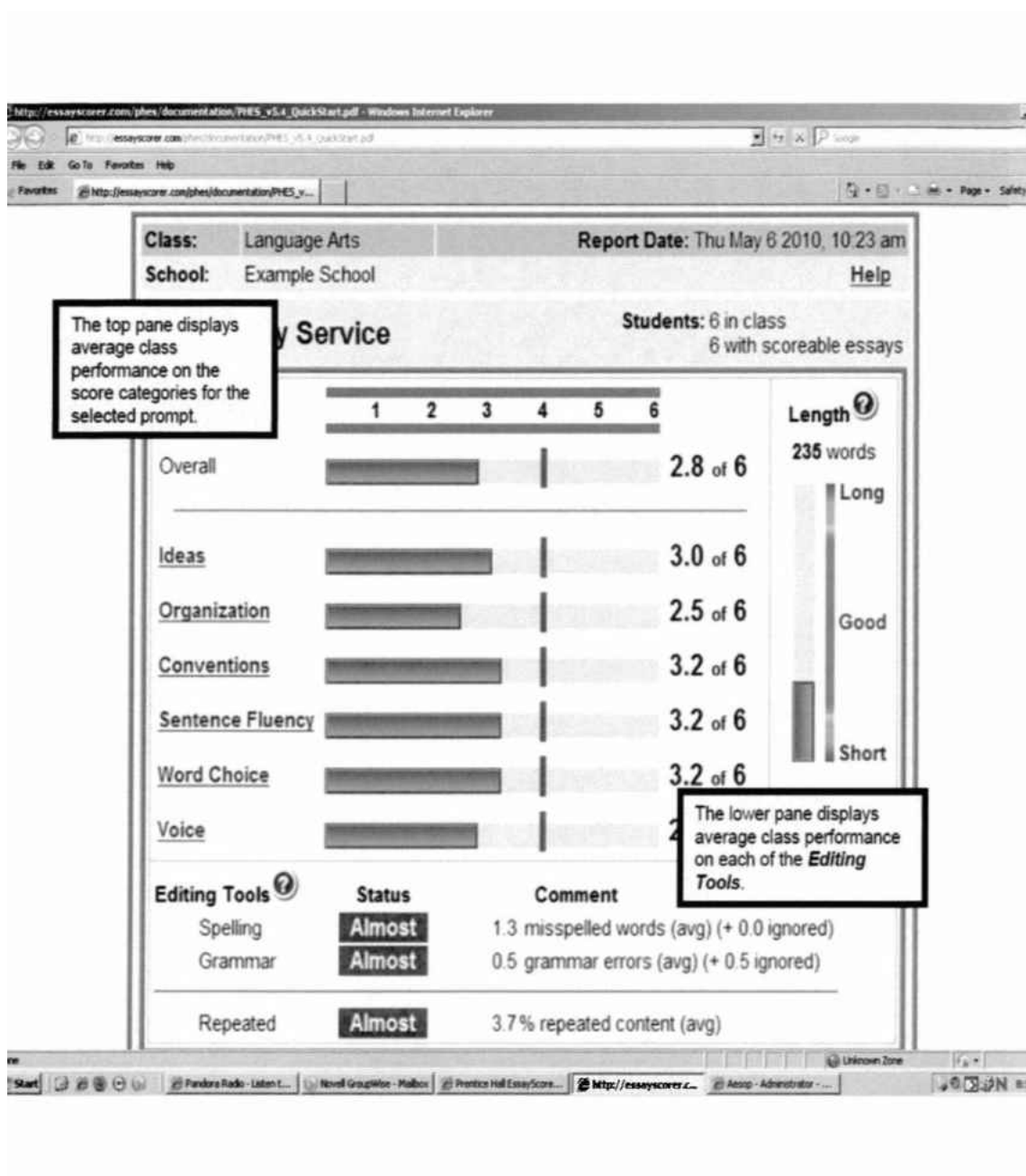
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Appendix A

Sample Essay Scorer Report



Appendix B

A Scale of Intrinsic Versus Extrinsic Orientation

In the Classroom

In the Classroom

Pupil's Form

Name _____ Age _____ Birthday (Month) _____ (Day) _____
 Grade _____ Teacher _____ Boy or Girl (circle which)

Sample Questions

	Really True for Me	Sort of True for Me		BUT		Sort of True for Me	Really True for Me
(a)	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch T.V.	<input type="checkbox"/>	<input type="checkbox"/>
(b)	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like hamburgers better than hot dogs	BUT	Other kids like hot dogs better than hamburgers.	<input type="checkbox"/>	<input type="checkbox"/>
<hr/>							
1.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like hard work because its a challenge	BUT	Other kids prefer easy work that they are sure they can do	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	When some kids don't understand something right away they want the teacher to tell them the answer	BUT	Other kids would rather try and figure it out by themselves	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids work on problems to learn how to solve them	BUT	Other kids work on problems because you're supposed to	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids almost always think that what the teacher says is O.K.	BUT	Other kids sometimes think their own ideas are better	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids know when they've made mistakes without checking with the teacher	BUT	Other kids need to check with the teacher to know if they've made a mistake	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like difficult problems because they enjoy trying to figure them out	BUT	Other kids don't like to figure out difficult problems	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do their school-work because the teacher tells them to	BUT	Other kids do their school-work to find out about alot of things they've been wanting to know	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for Me	Sort of True for Me			Sort of True for Me	Really True for Me	
8.	<input type="checkbox"/>	<input type="checkbox"/>	When some kids make a mistake they would rather figure out the right answer by themselves	BUT	Other kids would rather ask the teacher how to get the right answer	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids know whether or not they're doing well in school without grades	BUT	Other kids need to have grades to know how well they are doing in school	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids agree with the teacher because they think the teacher is right about most things	BUT	Other kids don't agree with the teacher sometimes and stick to their own opinion	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids would rather just learn what they have to in school	BUT	Other kids would rather learn about as much as they can	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like to learn things on their own that interest them	BUT	Other kids think its better to do things that the teacher thinks they should be learning	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids read things because they are interested in the subject	BUT	Other kids read things because the teacher wants them to	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids need to get their report cards to tell how they are doing in school	BUT	Other kids know for themselves how they are doing even before they get their report card	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	If some kids get stuck on a problem they ask the teacher for help	BUT	Other kids keep trying to figure out the problem on their own	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like to go on to new work that's at a more difficult level	BUT	Other kids would rather stick to the assignments which are pretty easy to do	<input type="checkbox"/>	<input type="checkbox"/>
17.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids think that what the teacher thinks of their work is the most important thing	BUT	For other kids what <i>they</i> think of their work is the most important thing	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids ask questions in class because they want to learn new things	BUT	Other kids ask questions because they want the teacher to notice them	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids aren't really sure if they've done well on a test until they get their papers back with a mark on it	BUT	Other kids pretty much know how well they did even before they get their paper back	<input type="checkbox"/>	<input type="checkbox"/>

	Really True for Me	Sort of True for Me			Sort of True for Me	Really True for Me	
20.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like the teacher to help them plan what to do next	BUT	Other kids like to make their own plans for what to do next	<input type="checkbox"/>	<input type="checkbox"/>
21.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids think they should have a say in what work they do in school	BUT	Other kids think that the teacher should decide what work they should do	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like school subjects where its pretty easy to just learn the answers	BUT	Other kids like those school subjects that make them think pretty hard and figure things out	<input type="checkbox"/>	<input type="checkbox"/>
23.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids aren't sure if their work is really good or not until the teacher tells them	BUT	Other kids know if its good or not before the teacher tells them	<input type="checkbox"/>	<input type="checkbox"/>
24.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like to try to figure out how to do school assignments on their own	BUT	Other kids would rather ask the teacher how it should be done	<input type="checkbox"/>	<input type="checkbox"/>
25.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids do extra projects so they can get better grades	BUT	Other kids do extra projects because they learn about things that interest them	<input type="checkbox"/>	<input type="checkbox"/>
26.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids think its best if they decide when to work on each school subject	BUT	Other kids think that the teacher is the best one to decide when to work on things	<input type="checkbox"/>	<input type="checkbox"/>
27.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids know they didn't do their best on an assignment when they turn it in	BUT	Other kids have to wait til the teacher grades it to know that they didn't do as well as they could have	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't like difficult schoolwork because they have to work too hard	BUT	Other kids like difficult schoolwork because they find it more interesting	<input type="checkbox"/>	<input type="checkbox"/>
29.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like to do their schoolwork without help	BUT	Other kids like to have the teacher help them do their schoolwork	<input type="checkbox"/>	<input type="checkbox"/>
30.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids work really hard to get good grades	BUT	Other kids work hard because they really like to learn things	<input type="checkbox"/>	<input type="checkbox"/>

Appendix C

Post Survey EPRS: Traditional Journals (Blogs)

INSTRUCTIONS: Please rate how strongly you agree with each of the following statements by placing a check mark in the appropriate box.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. I enjoyed using a traditional writing journal in my language arts class				
2. I could usually think of things to write about in my journal.				
3. I enjoyed reading what my partner had to say in his/her journal.				
4. I enjoyed responding to my partner's journal.				
5. I liked it that my partner could read what I had written.				
6. I liked it that other students could respond to what I had written.				
7. I learned things from other students' responses to me.				
8. When I knew we were going to use the writing journal, I read my work more carefully or listened more carefully in class.				
9. If possible, I would have worked on my writing journal outside of class time.				
10. I would like to do another writing journal or continue this one.				
11. Using a writing journal made me feel more connected to people in my class.				
12. Doing a writing journal made me think more deeply about my writing and responding to literature.				

Appendix D

Modified Focus Group Interview Questions Traditional (Blog)

Background

1. What did you know about traditional writing journals (blog) before using one in this class? Have you written or responded in a writing journal before this class?

Thoughts about the Experience

2. Tell me about these past six weeks and your use of a traditional writing journal (blog). What did you think about the experience?
3. If you had to choose one adjective to describe the use of a traditional writing journal (blog), what would it be? Why that word?
4. What did you like about using a traditional writing journal (blog) in your ELA class?
5. What did you not like about using a traditional writing journal (blog)? Did you have any difficulties?

Effect on Learning

6. What do you think is the purpose for using a traditional writing journal (blogs)? Would you recommend other teachers use traditional writing journals (blogs)? Why?
7. When you knew that you would be using your traditional writing journal (blog) that day, did it change how you read your assignment or listen in class? Explain.
8. What do you think you gained by being involved in using a traditional writing journal (blog)?

Relationship with Classmates (Community)

9. How did you feel knowing that others would read your writing on your traditional writing journal (blog)? Did it make a difference in what or how you wrote?
10. How did using the traditional writing journal (blogs) make you feel about coming to class? Did it help you get to know other students better? Explain.

Future

11. Would you continue using a traditional writing journal (blogs) on your own, outside of class? Why or why not?

Appendix E

Permission Letter From Superintendent



1660 Winder Highway
Jefferson, Ga 30549
www.jackson.k12.ga.us

Phone: 706-367-5151
Fax: 706-367-9457

Mrs. Lynne Wheeler, Chairperson

Dr. Shannon Adams, Superintendent

February 8, 2011

TO WHOM IT MAY CONCERN:

The purpose of this letter is to verify that Anna Savage will be granted permission to access subjects in our school system in order to conduct research for her dissertation. Furthermore, she has been authorized to carry out the study on school premises.

It is my understanding that the research represents partial fulfillment of the requirements for a Doctorate through Georgia Southern University. I am also aware that the topic of her dissertation is Examining blogs in 8th grade by comparing traditional with electronic methods of responding to the literature and the impact on student writing. Ms. Savage will have our complete cooperation and support as she goes about the task of gathering the data for her study.

If additional information is required, please feel free to contact me at any time.

Respectfully

A handwritten signature in cursive that reads 'Shannon Adams'.

Dr. Shannon Adams, Superintendent
Jackson County Schools

Appendix F

Student Assent Form

COLLEGE OF EDUCATION

DEPARTMENT OF CURRICULUM STUDIES

I am Ms. Anna Savage, a graduate student at Georgia Southern University and assistant principal at EJMS. I am conducting a study on methods of responding to your reading (digital response or traditional writing) and how it impacts student writing, in 8th grade, as assessed by an electronic essay scorer.

You are being asked to participate in a project that will be used to learn if one method of responding to the literature produces better writers than another method. The additional element of the research is that I will ask you to answer some questions about what you find interesting and what makes you want to complete your work. I will be using the work that you produce in class as part of the regular assignment.

The information that I will collect comes from the work you are already doing in Ms. Williams and Mrs. Becker's classrooms. If you do not want me to use your scores in my study I will not. The extra item that you will be doing that is not part of your normal school day is taking the survey. You do not have to take the survey if you do not want to.

Your teachers will not see the answers to the survey that will be administered which examines your motivation. The survey will be given to you three times throughout the study and be kept in a locked cabinet in the room next to my office and only I will have access to these.

If you or your parent/guardian has any questions about this form or the project, please call me at 706.335.2083 or my advisor, Dr. Griffin, at 912.478.0695 or the Research Compliance Office Box 8005; IRB@georgiasouthern.edu; 912.478-0843.

Thank you!

If you understand the information above and want to do the project, please sign your name on the line below:

Yes, I will participate in this project: _____

Child's Name: _____

Investigator's Signature: _____

Date: _____

Appendix G

Parental Consent Form

COLLEGE OF EDUCATION

DEPARTMENT OF CURRICULUM STUDIES

Dear Parent or Guardian:

A study will be conducted at your child's school in the next few months. As you know, I serve as the Assistant Principal for Instruction at EJMS. Additionally, I am a graduate student at Georgia Southern University in the Curriculum Studies Department and will be the person conducting the research. The purpose of the study is to analyze different methods of responding to the reading (digital or traditional journal writing) and the impact each method has on student writing, in 8th grade, as assessed by an electronic essay scorer. The title of my study is: *Examining blogs in 8th grade by comparing traditional with digital methods of responding to the literature and the impact on student writing.*

A benefit of participating in the study is to help determine if students in middle school should be responding to the reading by electronic methods or if the traditional method of writing in journals produces better writing. Another benefit is testing a new instructional method to see if it produces better writing and motivation.

All activities in the study are already taking place in your child's classroom and will take place from late-September until mid-March. If you give permission, your child's writing scores will be used in the study. Your child will also be given a self-assessment survey to complete which measures motivation for writing.

The information that I will collect comes from the work your child is already doing in Ms. Williams and Mrs. Becker's classrooms. If you do not want me to use your child's scores in my study I will not use them. The additional item included in the study which is not part of your normal school day is a 30-item survey. Your child does not have to take the survey if you do not want him/her to. The risks from participating in this study are no more than would be encountered in everyday life.

In order to protect the confidentiality of the child, a number and not the child's name will appear on all of the information given to me. All information pertaining to the study will be kept in a locked filing cabinet in the office at East Jackson Middle School. Ms. Savage, Mrs. Becker, and Ms. Williams will be the only people who have access to student work.

If you have any questions or concerns regarding this study at any time, please feel free to contact Anna Savage, Curriculum Studies major, at 706.335.2083, or Dr. Marlynn Griffin, advisor, at 912.478.0695 or the Research Compliance Office Box 8005; IRB@georgiasouthern.edu; 912.478-0843.

If you are giving permission for your child to participate in the experiment, please sign the form below and return it to your child's teacher as soon as possible. Thank you very much for your time.

Anna Savage
Curriculum Studies Major

Dr. Marlynn Griffin
Curriculum, Foundations, and Reading
Professor of Educational Psychology

Investigator's Signature _____

Child's Name: _____

Parent or Guardian's Signature: _____

Date: _____

Appendix H

Letter to Teachers Involved in the Study

August 24, 2011

Mrs. Becker and Ms. Williams:

Thank you both so very much for allowing me to collect data and use student work samples from your classes to conduct my study for Georgia Southern University. No extra work will be required from you, as I will be collecting data from what is already taking place within your classrooms.

I want to take this opportunity to inform you that I will not be conducting your formal teacher evaluations this year nor will I be processing eighth grade discipline referrals in an attempt to distance myself from these two areas and my study.

If you should decide not to participate in the study, no negative impact will result.

Thank you so much for your cooperation.

Sincerely,

Anna Savage

.....
I have been informed of the study and understand that I will not be evaluated and in no way does this impact my daily teaching responsibilities.

Appendix I

Edmodo Script

Initial Setup

Prior to student training, the following will need to be done:

1. Sign Up with a teacher account
2. Create a group for each class (Each group will have a “group code” that students will use to enroll in to a group)
3. Post one each of the following types of notes:
 - A Note with an attachment
 - A note with a link
 - An Assignment
 - An Alert
 - A Poll question
4. Share the group code with all students prior to the start of training.

Student Training

Student Sign-Up

Step 1: Navigate to Edmodo.com and click on the student sign-up link.

Step 2: Complete the Registration Form

- Enter the Group Code provided by Mrs. Williams
- Enter your student number for your username
- Enter your student number again for your password
- Entering your personal e-mail address is optional
- Enter your First and Last Name

Once you have successfully logged in do not navigate away from the homepage. Remain on the homepage and listen for my next instructions while we wait for the rest of the class to login.

Navigating the Edmodo Homepage:

Site Intro:

The look and navigation of edmodo is very similar to that of Facebook. For that reason it will be very easy to use edmodo for most of you.

How many of you have a facebook account?

What do you use facebook for?

Edmodo, just like Facebook, is used to communicate with other people. Facebook is used to communicate and “chat” with people in your personal and social lives. Edmodo is used to communicate and chat with students in your class about topics assigned by the teacher.

Look & Feel

Follow along with me as I navigate through the layout of this site. If you have a question please wait until the end and I will answer it at that time.

[Top Bar]

-Calendar- View the calendar for any upcoming events and assignment due dates

-Grades-We will not be using this feature. All grades for this class will still be posted though Infinite Campus

-Library-The library allows you, the students, to easily share files with classmates and with the teacher. Here you can view and upload files. You can upload files from your computer or add a link to your “backpack” (aka library). Library items are broken down into 4 categories:-Backpack, Attached to Posts, Sent By Me, and Turned In. You can also create folders to organize your files. For example, you might have a folder for each novel you discuss through edmodo.

-Your Name navigates to your “profile” showing all posts you have made and links/files you have shared.

-Settings allows you to edit your profile picture, your email, name, and password. Also, in the right hand column you have the option to setup notifications by email and/or text message.

[Left Column:]

-Your edmodo picture is seen on the top left. You can upload your own picture later by going to the settings tab on the top right.

-Below your picture is two buttons: “Everything” and “Direct”. Everything will display everything the teacher has shared with all class members, while Direct will show only those posts that came directly to you. Teachers and students have the option of posting a note to all members of a class or a specific person.

-Below those two options are your Groups. Groups are the classes that you are assigned to. In this case you should all see Mrs. Williams ELA Period 1 or 2.

[Center Column:]

-At the top you will always see the box for a new “note” or post. Here you can type your message and/or question. You also have the option to attach a file (word document, picture, and/or PowerPoint that you have saved on your computer), link a website URL by copying it and pasting here, or adding an item from the Library. The library will show you any documents that the teacher, you, or another student has posted to the classes wall or into the library. You must also choose to send the post to the entire class or to a specific student or to Mrs. Williams.

-Below the posting box is your “news feed”. This is just like facebook in the sense that it displays the most recent post at the top and works its’ way down chronologically. Don’t forget you can navigate back and forth between seeing everything posted and things posted directly to you by choosing those in the left column.

[Right Column]

-Spotlight Section: Teachers and students can view upcoming events, assignments due, new replies to posts, new alerts posted by teachers, and direct posts from other teachers and students.

Appendix J

Guidelines for Keeping a Response Journal



Guidelines for Keeping a Response Journal

Very simply stated, a response journal is much like a diary. Only in this diary you will not be writing about that special someone you like and the kind of day you had, that nasty teacher that will not stop assigning tons of homework, and all the other popular topics that are discussed in diaries. Instead, you will be exploring your feelings about and reactions to the novel you are reading, *Roll of Thunder Hear my Cry*. Keeping a response journal will give you an opportunity to express your own opinions about what is happening in the novel you are reading. Passages that upset you, or make you happy, or that you simply do not understand, can be discussed in your journal entries.

You will be expected to make **5** written journal entries for each novel. You will be responding to the writing prompt in Mrs. Becker's room once a week. You will have 15 minutes of classroom to respond to the prompt. You will then swap your journal with your partner (the same one for each response) and have ten minutes to respond to his/her writing.

There is no set limit on how long your entries have to be. Please think carefully about what you are writing and be sure to write in complete sentences. This means that you will have to explain in detail your thoughts, feelings, ideas and opinions. You are not looking at spelling or grammar, you are only looking and responding to content.

The following are some possible statement starters for you to choose from when you are responding to your partner's journal.

I think	I liked the idea that
I wonder	Now I understand
I predict	What impressed me in this chapter was
I like	This reminded me of
I wish	I felt
I don't understand	In my opinion
This part reminds me of	I know someone like
It seems to me	One time I
I question	It was, or was not fair when
If I were _____, I would have	The author could have

You must use at least **3** of these statements when you are responding to your partner's journal. You can also make up some of your own.

Remember, your journal is an opportunity for you to explore what you think is important and share your thoughts about the literature and your partner's response.

Appendix K

Blogging Guidelines

As a student at EJMS, you are expected to follow these blogging guidelines below. Use the questions in *italics* to help you decide what is appropriate to post.

1. **Only post things that you would want everyone (your class).** *Ask yourself: Is this something I want others to see?*
2. **Do not share personal information.** *Ask yourself: Could someone find me (in real life) based on this post?*
3. **Think before you post.** *Ask yourself: Who is going to look at this, and how they are going to interpret my words?*
4. **Know who you're communicating with.** *Ask yourself: Who is going to look at this, and how are they going to interpret my words?*
5. **Consider your audience and that you're representing EJMS.** *Ask yourself: Do I have a good reason/purpose for posting this?*
6. **Know how to give constructive feedback.** *Ask yourself: What will I cause by writing this post?*
7. **Treat other people the way you want to be treated.** *Ask yourself: Would I want someone to say this to me?*
8. **Use appropriate language and proper grammar and spelling.** *Ask yourself: Would I want this post to be graded for proper grammar and spelling?*
9. **Only post information that you can verify is true (no gossiping).** *Ask yourself: Is this inappropriate, immature, or bullying?*
10. **Anytime you can use media from another source, be sure to properly cite the creator of the original work.** *Ask yourself: Who is the original creator of this work?*

Commenting guidelines:

Using digital means, you will be commenting on other people's work regularly. Good comments:

- are constructive, but not hurtful;
- consider the author and the purpose of the post;
- include personal connections to what the author wrote;
- answer a question, or add meaningful information to the content topic;
- follow the writing process.