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Perceptions of ELA Teachers on their Preparedness for Implementing Technology-Dependent Standards

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Perceptions of ELA teachers on their preparedness for implementing technology-dependent standards

By

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This study investigated teacher perceptions of preparedness for implementing the English Language Arts Common Core State Standards/Mississippi College and Career Readiness Standards (ELA CCSS/MCCRS) that require the use of technology. Participants included 101 ELA teachers in Mississippi from varying backgrounds and school sizes who responded to a survey via email. The survey was comprised of questions written in order to expand on professional development opportunities teachers have had available to them, technology that teachers have access to in their schools/districts, levels of self-efficacy teachers have with technology use, value assigned to technology in the classroom, and support that teachers have within their school/district for issues related to technology. Descriptive statistics, plots, and regression models are included to highlight factors that have an effect on the amount of technology teachers are or are not using in conjunction with the ELA CCSS/MCCRS. The findings revealed that teachers in Mississippi believe that the integration of technology into the ELA Standards is important, but they are not all equipped with the technology nor support needed in order to meet the standards in the way that they are written. The results also showed that

although teachers do assign a high level of value to technology use in the classroom, this was not enough of an influence to inform the amount of technology implemented into their classrooms. The same was true for self-efficacy. Value and self-efficacy related to technology are integral for implementation, but if teachers are not supplied with the applicable technologies or appropriate professional development and support in order to utilize classroom technology, then they are not enough to affect implementation. Many areas such as availability and use of technology, teacher value and self-efficacy for technology, issues with professional development, educational policy, and additional research were informed by the results revealed in this study.

DEDICATION

I dedicate my dissertation to my family and friends. A special feeling of gratitude to my husband, Steven, my number one supporter of this goal and dream of mine and who gave not one complaint over the past 5 years. Also a special thank you, to my children who I know at times grew tired of me not being home due to attending classes or sitting for hours at the dining table as I wrote or made edits. I did my best not to miss any of their activities or events, but when I would fall short they were not quick to complain. They knew I was working hard on "that paper" and constantly would ask what page I was on just to keep me going. They are no doubt my greatest accomplishment, and I am so glad to have them by my side as I achieve this as well.

I also owe a great amount of thanks to my parents, Butch and Sharon Tindall, as well as my mother-in-law, Bonnie Burton, for helping me countless times with the children or anything else that I needed them to do in order for me to spend time on my research. I would not be where I am today without their love, guidance, and support.

Lastly, to my extended family, my friends. They have had a huge impact on me being successful in finishing this goal because they were willing to step in and offer whatever I needed at any time. Whether it be someone to help with the kids, or just offer words of encouragement, they never let me down. The saying "it takes a village to raise a family" is indeed true, but it also seems to take one in order to complete an advanced degree. So thankful to be a part of the village that I am in.

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I must also give a very special thanks to Dr. Devon Brenner. She interviewed and accepted me into the doctoral program when she was the graduate coordinator and then transitioned eventually into my committee chair until she left to complete an educational fellowship. Dr. Brenner taught me so much and has a patience about her that is unwavering. I will forever be grateful to the contributions she has made to my education.

I also want to thank all of the teachers who participated in my study to help make this dream of mine a reality. I know as a former teacher that time is a precious commodity and I am so appreciative that you all used some of yours in order to help me.

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CHAPTER I

INTRODUCTION

Expectations for using technology in the classroom are rapidly increasing (Zelowski, Gleason, Cox, & Bismarck, 2013). Technology may be seen as either an integral part of daily instruction or as a supplemental resource (Cwikla, 2002). Technology application is built into the Common Core State Standards (CCSS) that have been implemented in most states for mathematics and English language arts (ELA). The CCSS have now transitioned to the Mississippi College and Career Readiness Standards (MCCRS) because the state of Mississippi amended and adopted a modified version of the CCSS. Both sets of standards are included in this study because teachers may be more familiar with one title than the other. Both names are referred to in this study to make sure that the teachers surveyed understood what was being referenced. According to the Common Core State Standard Initiative (CCSSI, 2012), the standards are designed to be robust and relevant to the real world, reflecting knowledge and skills that our young people need for success in college and careers. With the technological component embedded in many of the ELA standards, students will be required to study both ELA content area skills and technological tools. With the use of various forms of technology such as computers, tablets, iPads, Interactive White Boards, and video cameras, the possibilities for enhancing student learning experiences are now more abundant than in the past (Bennett & Maton, 2010). The desired effect is students developing an

understanding of the technology used to meet ELA CCSS/MCCRS objectives. Students are then able to transfer the required knowledge necessary to implement the same technology in applicable future situations. With this, two separate avenues of learning are explored: the actual standard containing ELA content and the technological knowledge or skills. In order for this to occur, the teacher must examine available technology and how it may be used in the most beneficial way for the students to reach standard mastery. Teachers being familiar with only the subject content that they are teaching is no longer enough. With the shift towards 21st Century Learning Skills, teachers are increasingly required to demonstrate student technology use in the classroom. Pedagogical practices, content knowledge, and technological tools now need to merge in order to create alternate teaching methods (Ertmer & Ottenbriet-Leftwich, 2010).

ELA and Technology Integration

ELA objectives and technology have been fused in the CCSS as an attempt to ensure that both sets of skills will be mastered authentically. The ELA CCSS are divided into four main categories. Table 1 lists the ELA standard categories and the number of standards within each category that require the use of technology in order to achieve mastery. This table represents a compilation of the standards for ELA students in Grades 6-12. Many of the standards are similar throughout the grades, but as the grade increases so does the level of difficulty. A complete list of the ELA standards represented in this table may be found in Appendix A.

Table 1

Table of ELA CCSS Categories and Number of Standards that Require Technology

Category	**Number of Standards**
Reading Literature Standards	1
Reading Informational Text	4
Writing	10
Speaking and Listening	7

In order to meet the standards, teachers need support from their local districts by way of purchasing technology and providing professional development opportunities. Professional development opportunities will enable teachers to learn to implement new technologies or to use existing technologies in the most beneficial way to meet new expectations. Technology-rich ELA classrooms along with CCSS/MCCRS requirements are not something that will be implemented and perfected initially. This coupling will be a work in progress that is expected to produce new and different teaching methods. Teachers must have knowledge beyond content knowledge in order to teach effectively (Schulman, 1986).

The combination of content related teaching approaches as well as the proper arrangement of the content is known as pedagogical content knowledge (PCK). The model that combines the knowledge needed in order to thoroughly teach with technology is known as technology, pedagogy, and content knowledge (TPACK). This model arose from the conglomeration of types of knowledge that are essential for teaching with

technology. By looking at all of these facets as one, the educator can determine the best teacher practices to implement with the available instructional technologies (Mishra, Koehler, & Kereluik, 2009).

Statement of the Problem

ELA teachers are now expected to integrate technology into their teaching methods. With CCSS/MCCRS demands, teachers will be required to use technology as an instructional tool as well as guide their students in using technology to show mastery on certain standards. In order for this to occur, teachers will need to be given access to said technologies and receive training on proper use of the technology. Many factors can affect the level of aid that teachers receive. A possible factor could include school size, which in turn may affect the amount of funding a district receives that can be devoted to technology purchasing. Other factors could be level of support, feelings of self-efficacy related to technology, and the level of value that teachers equate with technology in the classroom. All schools will be held to the same standards, regardless of funding. This study investigated teacher perceptions of preparedness for implementation of ELA CCSS/MCCRS and the technology related standards especially in relation to professional development and available technology, teacher's beliefs on the importance of technology being present in the ELA CCSS/MCCRS, as well as factors that influence individual teacher levels of technology use in their classroom.

Statement of Purpose

The main purpose of this study was to examine teachers' perceptions of their level of preparedness in implementing the ELA CCSS/MCCRS that require the use of

technology as well as related factors that may influence these perceptions. The ELA CCSS/MCCRS have caused a great impetus to be placed on technology usage in the classroom in relation to literacy and language (Schwartz, 2013). Because this was not as prevalent before these standards were introduced, ELA teachers have not often been the focus of technology implementation studies. ELA teachers in Grades 6-12 were surveyed for insight into possible factors that are hindering teacher classroom technology implementation, as well as issues that are enhancing their technological practices.

Research Questions

The researcher attempted to answer the following questions:

1. How prepared do English Language Arts teachers perceive themselves to be for implementing the English Language Arts Common Core State Standards/College and Career Readiness Standards that require the use of technology in Grades 6-12 classrooms, especially in relation to the amount of technology available to them in their schools, the level of support they have in their schools or districts, and the amount of professional development they have received?
2. Do teachers believe that the integration of technology into the English Language Arts Common Core State Standards/College and Career Readiness Standards is important?
3. How do the following factors affect the amount of technology teachers are using with the English Language Arts Common Core State Standards/College and Career Readiness Standards?
    a. Self-efficacy related to everyday technology use

b. Self-efficacy related to classroom technology use

c. Value assigned to technology

d. Technology needed for standards

e. Support

f. School size/number of students served

Justification

A better understanding of teachers' perceptions of preparedness for ELA CCSS/MCCRS implementation requiring the use of technology enables districts or educational entities to determine what changes need to occur in order to fill these gaps related to available technology, professional development, and resources, or enhance the reasons behind those teachers that possess a high level of preparedness. Professional development opportunities may be shaped around these responses in order to better serve teachers striving to fully implement the standards as they are written. Plans related to teachers support and technological resources could be impacted from the results reported. This study is meant to be a guide that will reveal strengths and weaknesses that can be built upon for future research regarding ELA CCSS/MCCRS implementation strategies. The outcome of this study is beneficial by serving as a model for steps that may be taken in order to implement classroom technology successfully for ELA teachers.

Definition of Terms

21st Century Learning Skills - certain core competencies involving digital literacies, problem solving, collaboration, and critical thinking that are

believed to be essential for students to learn in order to thrive in today's world.

Common Core State Standards – The CCSSI (2012) explains that the Common Core standards are goals for what students should know and be able to do at each grade level. These standards are to be a guiding factor for teachers by detailing what information they need to educate their students on as well as an explanation for parents to understand what their children should know by a certain grade.

Curriculum - Encompasses what is taught and how (Mississippi Department of Education, 2015).

Educational Technology - Tools, techniques, or processes that facilitate the application of senses, memory, and cognition to enhance teaching practices and improve learning outcomes (Aziz, 2010).

Mississippi College and Career Readiness Standards (MCCRS) - The Mississippi Department of Education (2015) describes the MCCRS as English and Mathematics learning goals for students in K-12th grades and a roadmap to quality education. These standards are very similar to and adapted from the CCSS for use in the state of Mississippi.

Pedagogy - The art or science of teaching, education, or instructional methods ("Pedagogy", n.d.).

Pedagogical Content Knowledge (PCK) - Schulman (1986) defined this as teachers' interpretations and transformations of subject-matter knowledge in the context of facilitating student learning.

Perceived Ease of Use (PEOU) - Defined by Davis (1989), this is the degree to which a person believes that using technology would be free from effort.

Perceived Usefulness (PU) - Davis (1989), explained that this is the degree to which a person believes that using technology would enhance job performance.

Standards - Goals or guidelines of what students should learn at particular ages or grade levels (Mississippi Department of Education, 2015).

Technology - The National Math and Science Initiative (2013), defines technology as any tool that can be used to help promote human learning, including-but not limited to- calculators, tablets, iPads, Smart Boards, video cameras, digital cameras, MP3 players, and computers.

Technology Acceptance Model (TAM) - Developed by Davis (1989), this model explains how users come to accept and then use a new technology that is presented to them. Two factors that often influence an individual's use of technology are perceived usefulness and perceived ease-of-use.

Technology, Pedagogy, and Content Knowledge (TPACK) – Koehler and Mishra (2009), defines this as the knowledge needed by teachers to integrate technology into their teaching, while also addressing the components of the essential content knowledge. TPACK occurs at the intersection of content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK). This model was built upon Schulman's (1986) theories on pedagogical content knowledge.

CHAPTER II

REVIEW OF THE LITERATURE

The CCSS Initiative have been adopted by many states, growing in both popularity and controversy. The standards that accompany this educational zeitgeist of today establish high goals and expectations for students. According to the CCSSI (2012), the standards promote equality by assuring that all students, no matter where they live, are prepared with the skills they need to collaborate and compete with peers in the United States and abroad. The CCSS are said to include rigorous content and application through higher-order skills (Sloan, 2010). Another purpose of the CCSS is to fuse old and new educational expectations. Based heavily on the CCSS the now MCCRS were implemented in the state of Mississippi in the 2015-2016 school year. This review of literature will provide insight into the development and intentions of the CCSS/MCCRS as well as reveal the expectations and issues that accompany them. The ELA CCSS/MCCRS have technology-based applications embedded into the standards and merged with language arts content. Because the technological requirement present in the ELA CCSS/MCCRS is the main focus of this study, the literature will be reviewed on the use of technology in the classroom.

Many studies have been conducted in order to determine barriers to technology implementation or other related issues concerning classroom technology use (Brinkerhoff, 2006; Schoepp, 2005; Yang & Huang, 2007). However, the ELA

CCSS/MCCRS requiring technology use for mastery is fairly new, so there is not a large research base on this topic. In the past, technology integration into standards instruction was an option that could be implemented at the teacher's choice. One aspect of this study will focus on technology integration in relation to the ELA CCSS/MCCRS and the fact that it is a requirement in order to implement these standards.

In educational uses of technology, Jonassen, Carr, and Yueh (1996) made a distinction between learning from computers and learning with computers. It is important that just because technological tools are available, the teacher does not automatically become a facilitator. The teacher needs to stay involved in the delivery of the content in order to still lead the classroom. Technological tools may be added as reinforcement and enrichment; but should not take over daily instruction. It is the role of the teacher to determine how the technology should be used in an effort to enhance the curriculum and to meet the expectations of the ELA CCSS/MCCRS.

Although the standards are well written and clear on what expectations exist, the individual teachers still have the freedom to determine how they will introduce ELA skills and technology to their students. Morrell (2012), explained that it is the responsibility of ELA teachers to acquire 21st Century literacies without abandoning commitment to the traditional literacies that have defined the education of the previous 20 centuries. In other words, teachers need to find ways to fuse the methods that they have used throughout the years with new technologies to create learning and application experiences.

Although there are multiple ELA CCSS/MCCRS that require the use of technology, students working collaboratively is a requirement in one of the ELA

CCSS/MCCRS due to the fact that collaboration and teamwork are abundant in college and careers. For example, students are required to create original works and then post them online in a way that collaboration is possible. The collaboration tools, such as emails, blogs, or forums, merely create a means for the student work to become readily available for collaboration. Multiple learning opportunities are expected in order to aid students in mastering technological abilities as well as ELA skills that will prepare them and enable them to be successful in both college and careers.

Theoretical Framework

Teachers' choosing to incorporate technology into their classroom practices may be affected by many factors. A predominant factor can be how efficacious teachers feel not only with using technology, but with incorporating it into existing content and pedagogical practices that they already have in place. Additional contributors that are related to teachers' use of technology include the expectancy value theory and the technology acceptance model.

Self-Efficacy

How skilled individuals perceive themselves to be at a task may determine the amount in which they use particular skills. Much of this may be attributed to the idea of self-efficacy. Bandura (1977) explained that self-efficacy is a determining factor for how much effort and time will be spent on a task. Bandura (1977) also categorized self-efficacy as a powerful force in learning and motivation. Self-efficacy is affected by many sources. The four sources identified by Bandura (1997) were mastery/personal experiences, observation, social persuasion, and emotional responses.

Research supports that mastery experiences are most often predictors for self-efficacy (Usher & Pajares, 2008). Mastery experiences can be categorized as past successes or failures that authentically shape an individual's self-efficacy in relation to a particular situation. Observations contribute to self-efficacy. Watching others fail or succeed at a common task may affect one's own feelings of self-efficacy, but observations are not as valuable as actual experiences in predicting further use of a skill, such as technology in the classroom (Abbitt, 2014). Social persuasion is described as the feedback that individuals receive regarding their use of a new skill. If individuals receive positive feedback, then they may be more prone to continue the use of the skill (Hattie & Temperley, 2007) whereas if criticism is delivered then they are more likely to halt or discontinue the use of the skill (Vallerand & Reid, 1984). Lastly, Bandura (1986) explained that emotional responses also affect feelings of self-efficacy and adequateness. How individuals feel when putting a particular skill to use can affect if they will continue use of that skill. For example, an individual that feels anxiety may in turn feel incompetent in completing the task that the skill is needed for, while another individual who feels energized and confident will approach the task in a completely different manner (Usher & Pajares, 2008).

Teachers' technology usage may be affected by how efficacious they feel in using technology in the classroom. Cahill, Gallo, Lisman, and Weinstein (2006) explained the idea of self-efficacy as the components in a behavioral repertoire or ability. Individual teachers' behavioral repertoire is comprised of how they choose to teach in their classroom. Teachers not only need to be aware of how to use technology and most of its components, but also how to fuse the technology with their pedagogical methods, and

content knowledge of the classes they are teaching. This section discusses two dimensions of self-efficacy which may be factors contributing to technology use in the classroom: computer related self-efficacy, and technological pedagogical related self-efficacy.

Computer Related Self-Efficacy. Computer self-efficacy, how confident teachers feel in using computers, has a significant influence on individuals' expectations of their outcomes of using computers, their anxiety related to computer use, and the amount of computer use that they exhibit in the classroom (Compeau & Higgins, 1995). Anderson and Manniger (2007) stated, that teachers' self-efficacy beliefs towards technology use is the most significant determining factor when deciding if they will integrate technology into their classroom practices. Teachers of today are faced with rising to the expectations of the CCSS, 21st Century Learning Skills, and any other new standards they are asked to implement each year (Mishra & Koehler, 2006). Currently, teachers are responsible for meeting requirements that hinge upon technology integration in the classroom. Teachers will have a difficult time meeting these requirements if they have a low level of computer related self-efficacy. Teachers computer related self-efficacy can improve with meaningful training and repeated use of technology that the teacher deems to be important in their classrooms (Kao & Tsai, 2009). Meaning, teachers will be more likely to use technology if they feel comfortable with it and believe that it will make a difference in their classrooms. This thought is expanded in a later section devoted to teachers' beliefs about technology.

Another factor contributing to teachers' computer self-efficacy is the amount of training they have received. The U.S. Congress Office of Technology Assessment (1995)

revealed that the lack of teacher training is one of the biggest factors hindering teachers from adding technology into their curriculum. This determination was made 20 years ago, and more recent studies still report the same result (Ekanayake & Wishart, 2015; Harris & Sass, 2011). Teachers may believe that lessons could be more effective with technology woven into the delivery, but they are reluctant to incorporate this technology without the proper knowledge of how to use it and with low computer related self-efficacy (Lawless & Pellegrino, 2007; Mueller, Wood, Willoughby, Ross, & Specht, 2008). A study involving 356 teachers in West Virginia focused on intensive professional development on technology implementation in the classroom and the long term effects on teachers' computer self-efficacy (Watson, 2006). The teachers were surveyed before and after the 5 day professional development session using the Personal Internet Teaching Efficacy Beliefs Scale (PITEBS). The teachers were also surveyed again 7 years later in order to see if their feelings of self-efficacy were still high. The study revealed that professional development related to technology had a statistically significant impact on teacher self-efficacy both at the time of the professional development and in future long term effects.

Technological Pedagogical Related Self-Efficacy. Teacher pedagogy may best be described as the method and practice of teaching, as well as the art of student guidance. All educators practice pedagogy, but not in the same way. Much like a classroom curriculum, pedagogy may be individualized and unique. Vygotsky (1978) referred to teacher pedagogy as a scaffold used to support the curriculum and materials that teachers use in their classrooms. Although pedagogy is more of a personal approach to teaching, it can be informed or influenced by multiple factors that in turn contribute to

an educator's construal of perceived self-efficacy. Zimmerman (2000) explained that self-efficacy is not influenced by a single contributor, rather multidimensional variations of factors make up an individual's level of self-efficacy. He also identified that a possible factor affecting self-efficacy related to pedagogy may include environmental influences. Pajares (1992) explained that all teachers have beliefs, and that these beliefs inform how they feel about their work, their subject matter, and their roles. If teachers believe that they need to incorporate technology into their pedagogical practices, then they are more likely to actually do so. Kagan (1992) stated that teacher's beliefs are evident in their teaching styles and instructional strategies. All of this combined is what an educational environment consists of. Educational environments of today have been influenced by the addition of technological related pedagogy. Teachers' current pedagogical methods and concepts are being altered in order to integrate technology. Pyle and Dziuban (2001) stated that educational technology has been a driving force for teachers to possess online or technological pedagogy as well. The demands of ELA CCSS/MCCRS mirror this argument. With new standards come evolved expectations linked to technology implementation in the classroom. Mishra and Koehler (2005) explained an approach that can contribute to this merging of technology and pedagogy called Learning Technology by Design. The basis of this approach is that teachers may practice and learn technological skills while incorporating them into authentic pedagogical practices. Ertmer, Gopalakrishnan, and Ross (2001) explained that the best approach is to introduce teachers to technology that will support their immediate needs. If teachers play a more active role then they may feel more efficacious in using technology. Bandura (2006) explained that perceived self-efficacy should be measured against the level of tasks and

challenges that need to be completed in order to meet demands. The ELA CCSS/MCCRS exemplify these challenges with which both teachers and students are currently faced. Teachers' levels of self-efficacy with classroom technology as well as the content that they are to incorporate with it will in turn affect how well the student achieves outcomes related to the standards.

Expectancy Value Theory

Expectancy value theory, developed initially in the 1950s, suggests that the amount of effort an individual is willing to spend on a task is determined by the amount of success he or she expects to achieve from the task at hand (Wigfield & Eccles, 2000). A portion of this study will focus on teacher's assignment of a value level for technology which could be affected by expected success of classroom technology integration, specifically in relation to the ELA classroom.

Eccles (1983) explained that expectancies for success may best be described as how well teachers think something will work or how valuable it will prove to be to them and their students. Teachers look at situations and then assign a value to each task which in turn influences why or why not the method was used.

Subjective task values can be broken down further into four categories (Wigfield, 2010):

- Attainment value: Importance to self
- Intrinsic Value: Enjoyment or interest
- Utility Value: Usefulness or relevance
- Cost: Not only monetary but also the cost of time, stress, and so forth.

Although each of these factors can be very important to a teacher while forming a decision, this study will focus more closely on the aspect of utility value. Arbreton and Blumenfield (1997) explained that utility value may be seen as how much a task is related to an individual's future and current goals. Another way of explaining this component is the perceived usefulness that the task has in achieving goals. When venturing into topics such as perceived usefulness, the Technology Acceptance Model (TAM) comes into view.

Technology Acceptance Model (TAM)

The TAM was formed from ideas within expectancy value theory. Davis (1989) introduced the TAM (*Figure 1*) and stated that the purpose is to explain computer use behavior as well as factors attributed to technology acceptance. This model has been redeveloped in many ways and is used in a variety of settings in order to gauge the interest or apprehension of individuals in using technology. The idea behind the original model is that the more useful individuals perceive a technology to be coupled with the level of ease they assign to it will in turn affect their willingness to actually use it (Zhang & Xu, 2011). This model is being examined because the value that teachers assign to the use of technology in the classroom could have a direct effect on the amount of technology that they integrate into their individual classrooms.

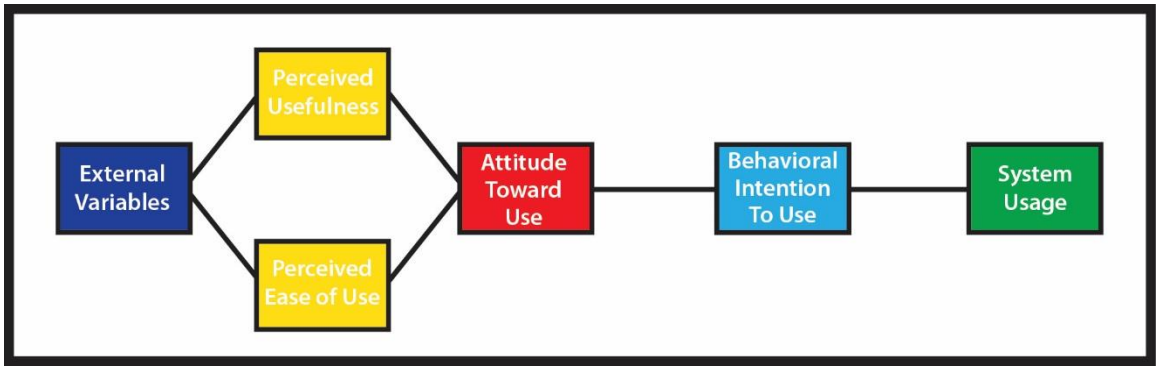

Figure 1. Technology Acceptance Model was developed by Davis in 1989 This adaptation was created by Owen (2011).

Educational Reform and National Standards

Educational reform has a long history. New reforms are born and each time it is hoped that these reforms will redefine and reshape the educational process, but results always seem to fall short of the desired expectations (Martin & Lazaro, 2011). Cuban (2012) stated that as early as the 1890s major educational reforms were developed to determine graduation requirements involving the number of classes that must be taken. By the early 1900s, different routes were set up for students with different goals, such as college or direct entry into the workforce. In 1959 President Eisenhower discussed presenting national goals for education to make the U.S. more competitive with other nations (Ross, Morrison, & Lowther, 2010). Although tests such as the Scholastic Aptitude Test (SAT) have been in existence since 1926, by the 1980s test rankings began to rise in importance and they have only grown in magnitude today (Jennings & Sohn, 2014). In 1989 President Bush oversaw the development of national standards in core subjects that would lay the groundwork for GOALS 2000. This program was met with questions and apprehensions just as No Child Left Behind. One of the main criticisms of

President George W. Bush's No Child Left Behind Act was the requirement of state-mandated standardized testing as a way of assessing school performance. Testing seems to be a driving force in creating and maintaining educational reform and policies. States want a way to measure how well their students are being taught. The reality is that in the world of education, new goals and challenges will always exist. Along with testing trends the idea of a national set of standards is not new. The current push is for teachers to familiarize themselves with and implement the CCSS/MCCRS.

With the CCSS/MCCRS not only do teachers have to learn a new set of standards that are to be implemented, but they also have to incorporate technology that is needed in conjunction with meeting these standards. No matter what standards are called, the fusing of technology with new expectations will only continue to increase (Schmidt & Cohen, 2014). In order to meet these challenges, teachers, administrators, and district officials need to come together and devise strategies that will aid their students in being successful once implementation occurs (Levy, 2008).

History of the Common Core State Standards

This study was focused on the technology components of the ELA CCSS/MCCRS and their implementation in the state of Mississippi in Grade 6-12 classrooms. The CCSS/MCCRS are intended to be a consistent, clear understanding of what students are expected to learn and achieve to be prepared for college and careers so that teachers and parents know how to help them. According to the CCSSI (2012) the standards are aligned with college work and expectations. They are rigorous, and built upon the strengths and lessons of current standards. The main intent of the CCSS is for students to be achieving the same educational goals across the country, so they will be

prepared to perform and succeed in a global economy and society. Although the CCSS are not a national requirement, they have been implemented in 45 states and the District of Columbia. The CCSSI is coordinated by two groups: the National Governor's Association (NGA) and the Council of Chief State School Officers (CCSSO). The CCSSI (2012) explains that the NGA and CCSSO developed the standards using input from teachers, school administrators, and experts. The CCSS exist in two areas: K-12 mathematics and K-12 English language arts and partially overlap other subjects including science and social studies. Math and ELA may have been chosen because they are the most often tested for accountability factors.

Rothman (2012) stated that under No Child Left Behind each state was required to administer the National Assessment of Educational Processes (NAEP) in reading and mathematics every 2 years. State tests may show high passage rates for the subject area based on state designed assessments, but score much lower NAEP assessments. Discrepancies such as this raised concerns about states having varying levels of difficulty with individual sets of state standards testing instruments. These concerns were a factor in determining the need to a national curriculum. Final draft forms of the CCSS were released in 2010.

Also in 2010, the U.S Department of Education Office of Educational Technology released the National Education Technology Plan (NETP) which described how technology could help transform American education for the 21st Century. This plan suggested the idea that because technology is at the core of daily work and life, it also needs to be leveraged and included in standards in order to create powerful learning experiences. This thought is the driving force in the justification of having technological

skills embedded into the ELA CCSS/MCCRS. Although many states had already begun to use the CCSS in their schools, full implementation was projected for the 2014-2015 school year. Mississippi completed one required year with the CCSS before transitioning the name to the Mississippi College and Career Readiness Standards. Some schools/districts in the state chose to implement before the required year so they had a longer time of use with the CCSS.

One primary misconception is that the CCSS/MCCRS are a curriculum to be followed in the same way by each teacher. The CCSS/MCCRS are expectations for students to achieve in certain subjects at particular grade levels. Teachers may choose curriculum and instructional methods tailored to their own students' needs. Although many standards do require specific tools to reach mastery, such as technology, the way that the teachers, schools, or districts choose to accomplish this mastery is up to them. Ultimately teachers, principals, superintendents, and technology coordinators need to decide how the standards will be met in their districts. Although this is a somewhat national initiative, the task of implementation will have to be more individually and personally tailored to teacher's pedagogical and instructional methods at the district/school levels to be effective.

Technology and National Standards

It will become a priority for all teachers to receive technology based professional development opportunities. Some general technologies such as word processing may be able to cross over into multiple subject areas, but with the new demands of the CCSS all areas will have to use some type of technologies in order to show mastery on many standards. Zilkowski, Gleason, Cox, and Bismark (2013) stated that combining standards

and technology applications is not a newly formed requirement, at least not in the realm of mathematics. The authors explained that the CCSS are not the first set of standards to initiate a relationship between technology integration for teaching and learning mathematics. Although this study focused on the technological component in the ELA CCSS/MCCRS, it presents an example in which technology and standards were combined once before. This expectation is also substantiated by groups in mathematics education, such as the National Council of Teachers of Mathematics (NCTM) and the Association of Mathematics Teacher Educators (AMTE).

These groups reiterate the fact that technology is essential in driving forward success for mathematics not only in the classroom, but in a changing world as well. Digital technologies are fundamentally shifting learning and content delivery in the language arts classroom (Edwards-Groves, 2012). Until now, the only guidelines mapping out technology use in the classroom were the International Society for Technology in Education (ISTE) standards. These are to be modeled and applied by teachers as they use classroom technology to engage students, improve learning, and enrich professional practices. According to ISTE (2008), all teachers should meet the following standards and performance indicators:

1. Facilitate and improve student learning
2. Design and develop digital age learning experiences and assessments
3. Model digital age work and learning
4. Promote model citizenship and responsibility
5. Engage in professional growth and leadership

Although this study focused on technology use in the ELA classroom, these statements show the importance of technology use across subject areas and the expectations teachers are striving to meet.

Technology and the ELA CCSS/MCCRS

Before the introduction of the CCSS/MCCRS, classroom technology implementation was an individual choice made by teachers. Now that the standards explicitly state that the use of technology is required, many teachers are struggling (Sipila, 2014). Educators are often presented with new programs or expectations they are required to learn and implement. Similar to other innovations, teachers will not spend precious time, energy, and resources learning about a new technological tool and incorporating it into current pedagogical practices if it is not valued (Bauer & Kenton, 2005; Zhao & Cziko, 2001). A key in encouraging implementation is to foster meaning and value related to the technology as well as efficacy for integrating technology.

TPACK

TPACK is a framework that provides the foundations in which to examine the integration of technology in the ELA classroom to meet CCSS/MCCRS goals. Built upon Shulman's (1986) construct of pedagogical content knowledge, TPACK further encompasses teacher's knowledge of technology as it relates to content and pedagogy (Koehler & Mishra, 2009). The interaction between the components of TPACK is what makes the idea important (see Figure 2). The outer circle of the TPACK figure reveals the flow that is needed in order for the many components of teaching to produce continuity with technology in the classroom, such as experiences, resources, and teacher training. In

some situations there may be disconnect between the areas of TPACK, such as when technology in a classroom is underutilized or being used for purposes other than intended. Teachers often appropriate the technology for uses based on the given affordances, even if it is for something different from the initial intention of use. According to Bruce and Hogan (1998) teachers may use certain traditional technologies daily in order to complete mundane tasks such as checking emails or posting lesson plans, but other educational goals can be achieved from those same technologies. Another possibility is that newer technologies may become available, but using these cause teachers to struggle and make them uncomfortable with incorporating different technology in their teaching methods. Addressing these issues is not easily done, but is imperative in order to successfully implement TPACK in today's classrooms and meet implementation standards.

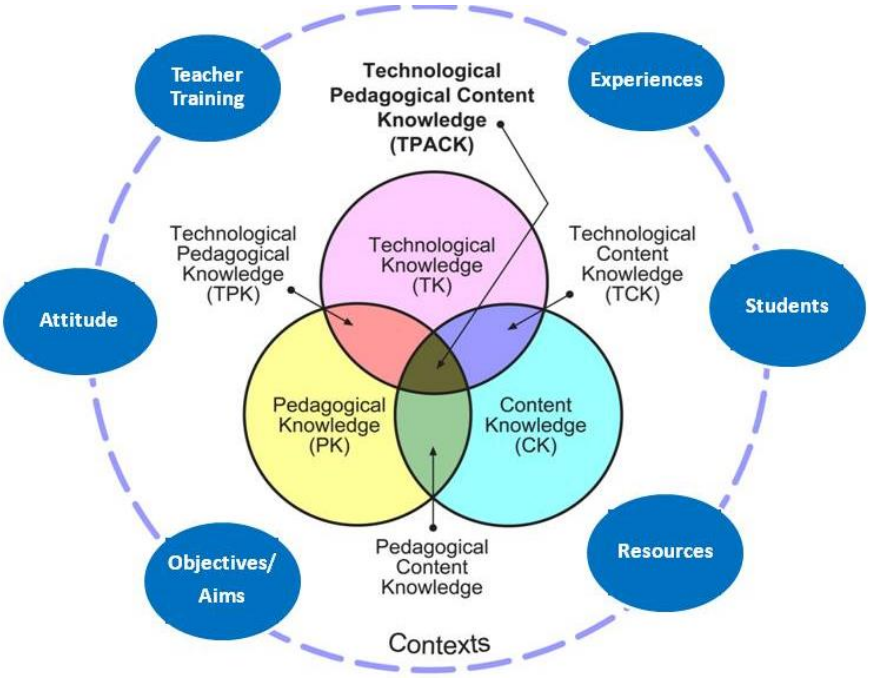

Figure 2. Context influence on TPACK knowledge

Koehler & Mishra (2009).

Classroom Technology Integration

The National Math and Science Initiative (2013) defines technology as any tool that can promote human learning. One of the earliest forms of technology in the classroom was the chalkboard, which has now been innovated into Interactive white boards. Cuban (1986) explained that since the mid-19th Century, classrooms have been home to a succession of technologies including textbooks, radios, films, and televisions. Computer use began influencing student learning over 30 years ago, but in more recent years there has been greater advocacy for technology in the classroom due to the instantaneous access of information and opportunities that it offers for collaboration, as well as additional tools that are made available for students that they otherwise would not possess (Cuban, 2001; Dunham & Hennessy, 2008; Mouza, 2002). For example, students can use the internet to access to information, such as pictures and videos, about countries they are studying so that they may see what the area being discussed looks like. Students also have access to collaborative technology, such as online blogs, wikis, or tools like Google Docs in order to work together on documents or projects. In order to meet the technological expectations of the ELA CCSS/MCCRS, tools such as these must be available to students and teachers.

In the field of educational technology, numerous doors have opened allowing teachers to integrate technology based tools into their curriculum, possibly changing the way traditional subjects are usually taught, and altering the way that students perceive or think about the content before them (Bebell, Russell, & O'Dwyer, 2014). Numerous programs or applications are being developed daily that allow affordances or experiences that students have never had in ways to use and learn knowledge related to many topics.

Although classroom technology continues to be a revolving door with new tools becoming available daily, teachers are still labeled as being opposed to change (Cuban, 1986). This resistance to change may be due to numerous barriers that can exist and hinder the progression of classroom technology integration.

Barriers to Technology Integration

Although research shows that the use of technology can help student learning, multiple reasons exist that can hinder the amount of technology that teachers are incorporating into their classrooms (Collins & Halverson, 2010). A study conducted Hew & Brush (2006) pointed out that the most common barriers that interfere with technology integration in the classroom are lack of resources due to funding, and teacher beliefs. Another common barrier that can exist is teacher professional development. These barriers are elaborated on below.

Lack of Resources

In order to implement the new requirements in the ELA CCSS/MCCRS, teachers will need access to technology provided by their schools/districts. Plair (2008) stated that despite legislative requirements and national technology plans, making technology significant in classrooms has still not happened. Many schools/districts are working to align with the expectations of the ELA CCSS/MCCRS by using the technology already available to them or making purchases when feasible.

Lack of resources could consist of more than just technological tools, but also lack of access, time, and technical support in the school or district. The Center on Education Policy (2012) has conducted surveys in an attempt to determine how the states

view the CCSS with the technological components and foresee full implementation occurring. The general consensus is that the states agree that the CCSS are far more rigorous and challenging than the previous standards taught, but the biggest issue is the lack of funding to make full implementation a reality. States not having adequate funding can affect many areas linked to technology implementation required for certain ELA CCSS/MCCRS objectives.

In 2012, the Public Broadcasting System surveyed 500 teachers across the United States on the topic of classroom technology. This study found that 70% mentioned funding as the biggest obstacle in providing classroom technology for use in technology integration. Without funding, states, districts, and individual schools may be unable to provide technological tools, software, training, and other supplemental materials or support needed in order to sufficiently instruct students in the way that the standards are written (Bouck, 2004).

Having access to technology is more than just making sure that it is available in the school. It entails making sure that teachers are provided with the right types of technology as well as an adequate location in which it may be used by both the teachers and students. Of the teachers surveyed by the Public Broadcasting System (2012), 91% agreed that they had access to computers in their classrooms, but only 22% stated that they had the right amount of technology available to them that was needed in order to meet expectations.

Zhao, Pugh, Sheldon, and Byers (2002) pointed out that although schools may have more than adequate computer labs, all teachers need to be given ample opportunities to use the resources equally rather than trying to compete with one another for time with

technology. Selwyn (1999) found that the best technological resources seem to be made available for use in technology rich classes, which puts teachers of non-technological subjects (such as ELA) at a disadvantage. This is known as subject culture. Goodson and Mangan (1995) explained that subject culture refers to a general set of expectations that have grown up around a particular subject and shape the thoughts about and definitions of that subject. Technology rich classes would be those that required a computer per student in order to complete daily work or activities. In the past, ELA was not seen as a heavy technological area so it is taking time for teachers and administrators to recognize it as such.

It is essential to have technical support for technological issues that may arise. Oftentimes, due to school budgets, few positions are available to fill this need so the technical staff becomes overwhelmed and cannot respond to all of the issues or requests of teachers in a timely manner (Cuban, 2001). If already hesitant teachers do not have support then they will not follow through with technology integration thus handicapping the overall goal of the ELA CCSS/MCCRS.

Ertmer (2005) explained that with increased access and requirements for technology use need to be accompanied by increased opportunities for teachers to gain knowledge on technological skills. Chou and Tsai (2002) explained that through using classroom technology, new avenues are created in order to access materials and resources that students may otherwise not have access to. Students may be able to experience things as never before through the use of technology in the classroom. However, in order for students to be exposed to such opportunities, teachers must not only receive professional

development on how to do this, but also gain access to the technology needed in for these experiences to occur.

Teacher Beliefs in Relation to Technology

With technology available there is still personal apprehension from teachers to integrate. Researchers have found many reasons why those apprehensions exist, some being personal factors, behavioral factors, environmental factors, attitude of the teacher, self-efficacy of the teacher, and perceived usefulness of the technology (Dusick, 1998; Mumtaz, 2006). Broadly, it seems that teacher beliefs are a frontrunner in the reasons that integration may not occur. In a study conducted by Anderson, Groulx, and Maninger (2011), 217 pre-service teachers were surveyed in an effort to determine their intentions to use or not use technology in the classroom. The results revealed that value beliefs were significantly correlated with intentions to use classroom technology, as well as the expectations for using technology. Six items on the survey administered related to computer self-efficacy and gauged the teacher's comfort level in selecting technology, implementing the technology, and using other technology for administrative tasks in the classroom. The researchers revealed that a correlation also existed between value beliefs and computer self-efficacy. This is an important relationship showing that the more a teacher values technology the higher level of self-efficacy he or she will feel with using technology in their classroom.

Because value is a factor in teacher technology use, a study was examined in order to determine what affects the value that teachers place on classroom technology. A two phase case study with eight participants was conducted to determine ways that teachers use technology in the classroom, and reasons for not using technology more

often (Ertmer, Ottenbriet-Leftwich, Sadik, Sendurur, & Sendurur, 2012). The first phase consisted of individual interviews and phase two was spent analyzing answers in search of similarities. The findings revealed that teacher value beliefs and technology usage were very closely related. It also revealed that the main use of technology by teachers was as a communication tool. Rather than applying the resources in the classroom, technology was used as a means to connect with parents and other teachers through email or instant messenger programs. This is because the technology was of value to them in this way.

Argwal and Prasad (1998) further explain that when teachers choose whether or not they are willing to try out a new technology in their classroom it is a form of personal innovation. They may have been told how to do it, but still choose not to incorporate the technology. This issue is not as easily addressed. If teachers need more practice on how to use a skill that can be arranged, but when personal beliefs are fueling barriers to technology implementation, there is not as much that can be done to remedy this. Additional personal beliefs may be related to the amount of acceptance a teacher has regarding technology as well as the level of value a teacher equates with a particular technology or teaching method combined with technology usage. These beliefs may be directed back to the topics discussed earlier related to self-efficacy, expectancy value, and the technology acceptance model.

As discussed, a teacher's computer related self-efficacy plays a key role in classroom technology implementation. A teacher may not feel efficacious enough about a particular technology which can hinder his or her decision of implementation (Agarwal & Karahanna, 2000). A study consisting of 764 teachers found teacher confidence to be the

main predictor in teachers' amount of technology use (Wozney, Venkatesh, & Abrami, 2006). Computer self-efficacy may be influenced by teachers participating in professional development situations that adhere to what they will be using the technology for in their classrooms, in relation to the content with which they will be combining it. If the teachers are allowed to practice what they will be using with meaningful professional development opportunities, then they will be more likely to implement it into their classroom curriculum.

Teacher Development

Along with existing challenges, such as, teachers not having access to the desired technology in order to address each standard, the other factors that account for low levels of technology use are related to teachers' acceptance of technology and change. The U.S. Department of Education (2010) stated that many of our existing educators do not have the same understanding and ease with using technology as part of their daily lives as professionals in other sectors. From reading this it may be inferred that more professional development on technology needs to occur. However, the type of professional development is key. It is ideal to allow teachers to use the technology they will have available so that they may become interested and excited about what it could mean for their students. With the CCSS providing the impetus, districts are now feeling the pressure for student success, but are not necessarily providing the teachers with all the needed tools in order to make these desired successes possible. Financial allocations are being used to purchase reading programs, textbooks, technology, and other teaching tools, but not enough emphasis is being placed on cultivating teachers themselves (Ertmer & Ottenbreit-Leftwich, 2010).

The goal of successful professional development opportunities, is to instill the idea in educators that they should implement what they learn in order for their teaching practices to evolve. Cuban (2012) informs us that we know the expectations set forth by the standards and we know how students will be assessed, but that none of this will prove successful without instructional change. If teachers would take a step back and not think of technology as a way to change teaching and learning, but rather a tool to use for enhancing the curriculum in ways that they see fit, then the transition could be much easier (Ottenbriet-Leftwich, Glazewski, Newby, & Ertmer, 2010). Just because technology is available does not mean that better learning experiences will occur. Technology needs to be understood by the teachers before it can benefit student learning. School districts should determine ways they may provide ample time for teachers to be introduced to familiarize themselves with new technologies in order to best merge technology and CCSS implementation.

Mishra, Koehler, and Kereluik (2009) explained that many times newer technologies that are brought into schools fail because the trainers are focused on instructing the teachers on how to navigate through the technology, rather than how to approach teaching their particular subject matter through the use of the newer technologies. Professional development itself can be identified as a barrier when it lacks connection to actual classroom practices and only focuses on the technical skills required to use the technology (Bradshaw, 2002; Hinson, LaPrairie, & Heroman, 2006; Mouza, 2009; Wells, 2007). However, it is possible that teachers obtain the needed technological skills but chose not to carry the new knowledge into their classroom (Hsu, 2010). In this sense, knowledge and skill level related to professional development are an issue when

defining barriers to technology integration. Chellia & Clark (2011) point out that "technology by itself cannot change the nature of classroom instruction unless educators are able to evaluate and integrate the use of that technology into the curriculum" (p. 276). Either teachers do not know how to use it, or they choose not to because it is not easy to use.

Funding Issues Impacting Teacher Development

The amount of technology that a school/district has available can be affected by the funding that it has available. At the onset of CCSS, one requirement was that at a specific time all students would be tested electronically and schools would be expected to make sure that they were in compliance with the technological needs for this to occur. The Partnership for Assessment of Readiness for College and Career (PARCC) was developed as an assessment tool to accompany the CCSS. Implementation of instructional and classroom technology is an essential part of the CCSS, leading to the culmination of the final assessment (PARCC, 2014). Other online testing platforms are available throughout the United States, but Mississippi opted to use PARCC when CCSS implementation was decided upon. Not only is technology needed in order to teach mastery of the CCSS, but this test is taken online by the students. Funding seems to be an issue related to the amount of technology that schools have available. All schools that have implemented the CCSS will be expected to do so fully as well as test in the appropriate manner. The PARCC assessment was an online testing program. Now students in Mississippi are assessed using the Measure of Academic Progress (MAP), which also has online components.

Beyond the state level, funding must be divided up by districts and then schools. The factor of size comes into play here as well. Schools are obviously given funds based on their size. Rural schools are held to the same academic expectations as the urban schools, in terms of accountability. Bourk (2004) explained that some believe that rural schools have the advantage due to smaller class sizes and a larger sense of community, but some discount the fact that rural schools are underfunded and do not have the abundance of resources that larger schools have available to them. Although funding models do vary by state, in Mississippi the tax base of a community greatly influences the funding for the district it is within. The National Center for Education Statistics (2013) stated that over 12 million students, or 24% of the students in the nation attend rural schools. This study sampled teachers from both urban and rural school settings of varying sizes in order to see if student population plays a role in ELA CCSS technology implementation.

Summary

It may be seen that the combination of ELA CCSS/MCCRS and technological applications is affected by multiple factors. Educational reforms, such as the ELA CCSS/MCRRS, guide classroom expectations that teachers are responsible for meeting. Factors lie with teachers and school districts influencing how they will carry out these expectations such as technology integration, teacher professional development, and overcoming barriers that effect technology implementation in the classroom. All of these pieces are interwoven and together determine how these standards will be taught and ultimately mastered by 6^{th}-12^{th} grade ELA students. Additional factors such as self-efficacy with technology use, value of technology, support within a school/district, and

number of students served, will be examined for their effect on technology use in the classroom. The survey used in conjunction with this study was designed to explore these influences and to further explain the ELA CCSS/MCCRS implementation process.

CHAPTER III

METHODS

The English Language Arts Common Core State Standards/Mississippi College and Career Readiness Standards (ELA CCSS/MCCRS) have been designed such that students need to use technology in order to fully meet them. This study investigated teacher perceptions of preparedness for implementation of these standards.

Research Questions

Specific research questions being addressed included the following:

1. How prepared do English language arts teachers perceive themselves to be for implementing the English language arts Common Core State Standards/Mississippi College and Career Readiness Standards that require the use of technology in 6^{th}-12^{th} grade classrooms, especially in relation to the technology available to them in their schools, the level of support they have in their schools or districts, and the amount of professional development that they have received?
2. Do teachers believe that the integration of technology into the English Language Arts Common Core State Standards/Mississippi College and Career Readiness Standards is important?

3. How do the following factors affect the amount of technology teachers are using with the English Language Arts Common Core State Standards/Mississippi College and Career Readiness Standards?
    a. Self-efficacy related to everyday technology use
    b. Self-efficacy related to classroom technology use
    c. Value assigned to technology
    d. Technology needed for standards
    e. Support
    f. School size/number of students served

Design

This quantitative descriptive study used a self- report survey focused on identifying teacher perspectives regarding the implementation of ELA CCSS/MCCRS requiring the use of technology. The information collected in the study was also analyzed with multiple regressions in an effort to predict the teachers' technology use in their classroom.

Participants

The population of interest included sixth-12th grade ELA teachers across the state of Mississippi who would have implemented the ELA CCSS in the 2014-2015 school year. To determine sample size, the researcher referred to Cohen and Cohen (1983) and found that in order to show significance, with approximately six predictors, a sample size of at least 100 was needed in order to produce an R^2 value of 12% at the 0.05 alpha level.

After obtaining IRB approval, the survey was sent via a listserv provided to the researcher by the Office of Clinical and Field Based Instruction (OCFBI) at Mississippi State University. This listserv contained the names and email addresses of all ELA mentor teachers in the state of Mississippi. By disseminating the survey statewide, a sample of teachers could be assessed from varying backgrounds and school sizes.

Of the 623 listserv members, 238 had undeliverable email addresses or belonged to teachers who had changed subject areas. Therefore the initial outreach was to 385 teachers. Initially 126 surveys were attempted and there was a 36% dropout rate. The overall response rate of the survey was 26%. Thus, the survey was attempted by 101 ELA teachers in the state of Mississippi after removing those (n=24) through list wise deletion who did not answer the majority of the survey.

Mean age for participants was 40.61 (*SD*= 10.00) with a range of 22 to 66. The teachers were 96% female and 4% male. The majority of the sample was Caucasian (79.2%) with the remainder of the teachers reporting that they were African American (18.8%) or chose not to report their ethnicity at all (2%). The participants had been teaching for an average of 14.15 years *(SD*= 8.02) or a median of 14 years ranging from teachers who were just beginning their first year to others who were in their 34th year of teaching. The average number of years spent in the ELA classroom alone was 11.78 years *(SD*= 7.97) or a median of 12 years. Highest degrees held by participants included: bachelor's (40.6%), master's (53.4%), specialist (5%), and doctorate (1%). The participants were teaching in schools with an average of 445.77 students *(SD*= 346.23) ranging from 18 to 1,700.

Instrument

The researcher created a survey that would explore topics relevant to the research questions. These included: (a) general background information on each teacher, (b) the amount of technology that teachers have available to them, (c) how much technology they are using in their classrooms weekly, (d) the professional development opportunities that they have had available to them in effort to prepare them for the ELA CCSS/MCCRS, (e) the amount of support that they have in their school/district, (f) self-efficacy related to technology use both in the classroom and in everyday life, (g) value assigned to technology, and (h) the level of importance teachers believe about merging technology and language arts skills in the ELA CCSS/MCCRS. The complete survey, as seen by participants online is included in Appendix B. It consisted of 58 items including open ended, Likert scale items, and multiple choice formats. All Likert scale questions followed a scale in which they could chose and answer ranging from Strongly Disagree (1) to Strongly Agree (5). Appendix C organizes the questions by topic area: background information (10 questions), available technology (16 questions), importance of ELA standards with technology (9 questions), professional development (10 questions), support (3 questions), value (7 questions), self-efficacy with technology in everyday use (1 question), and self-efficacy with technology in the classroom (3 questions).

Most items, specifically the ones related to background information, available technology, professional development, and district/school support in relation to technology were created by the researcher in consultation with an educational psychologist. The items focused on the ELA Standards were formed using the text of the standards. The Technology Implementation Questionnaire (TIQ) was referenced to

develop questions on the survey related to value and self-efficacy (Wozney, Venkatesh, & Abrami, 2006).

See Table 2 for reliability information on created variables that would serve as factors in the multiple regression in this study. A target goal of .70 for Cronbach's alpha was used in determining internal consistency of the factors. In the table below, the abbreviation S.E. will be used to refer to self-efficacy.

Table 2

Reliability for Created Variables

Factor Name	**Cronbach's Alpha**	**Number of Items**	**Questions #s**
SE Everyday Tech	N/A	1	46
SE Classroom Tech	.835	3	47-49
Value	.915	7	39-45
Available Technology	.963	8	8-15
Support	.763	3	36-38
# of Students Served	N/A	1	BG

The researcher scaled the school size variable. Due to the fact that all independent variables were measured in Likert scale, the researcher determined that scaling the number of students served by each school would be a better way to represent the variable of school size, especially as a predictor in the multiple regression. The range collected by the survey was 18-1700 students. The schools were categorized by levels created from enrollment numbers. The Mississippi High School Activities Association (2015) uses the

following levels: 1A (0-200 students), 2A (201-284 students), 3A (285-470 students), 4A (475-760), 5A (761-1099), and 6A (1100- 2000). The researcher opted to use the same classification levels to represent the schools. The percentage of each level may be seen in Table 3.

Table 3

School Levels and Percentage of Schools Participating

School Level	**Percentage of Schools Participating**
Level 1A	25.9%
Level 2A	7.4%
Level 3A	18.5%
Level 4A	35.8%
Level 5A	8.6%
Level 6A	3.7%

The dependent variable for the regression analysis was created by totaling all of the weekly minutes that each participant reported using technology in their classroom with students. Participants manually entered the minutes that they use technology in their classroom per week early in the survey. These calculations included multiple types of technological devices: computers, iPads, whiteboards, the Internet, cameras, student devices, and any other technological tools not listed.

Procedures

The initial email with the survey was sent out on August 25, 2015. The survey was available for 4 weeks with two reminders sent out over that time. The first reminder email was sent out to the same email addresses on September 14, 2015 and an email that served as the final reminder was sent on September 30, 2015. After 6 weeks, the survey was closed and data were analyzed.

The survey was accompanied by directions and a statement alluding to the fact that upon answering the survey the participant was agreeing to consent for his or her information to be used in the study. Full anonymity of the participants was offered; however they did have the option to add their email addresses in order to be eligible for an incentive drawing. The incentive offered was a gift card for participants to have a chance to earn for their participation. Three participants names were chosen after all data had been received and they were awarded the gift cards.

Data Analysis

Descriptive statistics, correlations, plots, and multiple regression analysis were used with the data collected from the survey. Gravetter and Wallnau (2010) explained that the role of descriptive statistics is "to summarize, organize, and simplify data" (p. 6). Multiple regression is used as an attempt to assess the relationship between a dependent variable and a set of independent variables. The researcher also chose to share responses from open ended questions in order to further explain teachers' thoughts and comments in relation to research topics.

CHAPTER IV

RESULTS

This chapter presents the results of the survey data in multiple sections. First, information is reported on teachers' perceptions of their level of preparedness in meeting the English Language Arts Common Core State Standards/Mississippi College and Career Readiness Standards that require the use of technology and the effect that available technology and professional development opportunities have on their perceptions of preparedness. Second, data was collected and analyzed in order to report the level of importance that teachers believe exists with the merging of technology and the ELA CCSS/MCCRS. Lastly, information was reported and used in an effort to see if factors such as self-efficacy, value, available technology, number of students in a school, and support effect the amount of technology teachers use in class. Correlations, plots, and regression models are also presented to investigate these issues..

Descriptive Analysis for Research Question One

The first research question investigated teacher perceptions of their level of preparedness to implement the ELA CCSS/MCCRS that require technology use, particularly in relation to the amount of technology that they had available to them and the amount of professional development that they had received. Technology use is presented in two of the three research questions, but it is being examined for different

components. In this question teachers were asked to provide the researcher with all of the types of technology that they have available to them for instructional purposes.

Available Technology

In order to determine what technology teachers had available to them for all instructional purposes, participants were asked to fill in a table like the one below (see Table 4 and Appendix B) Teachers were asked to indicate technology availability in their individual classroom, computer lab, or both by checking the boxes like the ones in the sample below.

Table 4

Technology Available to Teachers

Type of Technology	**Classroom**	**Computer Lab**
Computers	□	□
iPads and other tablets	□	□
Interactive White Boards	□	□
Internet Access	□	□
Digital Cameras	□	□
Other	□	□

In addition, participants were asked to indicate the number of minutes per week they use each type of technology *with their students* for instructional purposes. This was important to ask because the amount of technology that they are using to prepare for class is not what is being examined in this study. It is necessary to differentiate what

technology is being used *with the students* in order to help them learn and master the ELA CCSS/MCCRS in comparison to technology that teachers are using for preparation rather than instruction. This research study is only examining the classroom instructional use for technology in relation to the ELA CCSS/MCCRS rather than for preparation or planning for class. The "other" option was added in case teachers are using some additional form of technology in order to instruct that was not listed in the survey choices. The available technology that teachers reported having access to in their classrooms and labs are compiled in Table 5 below.

Table 5

Percentages of Teachers Reporting Availability of Technology By Type

Type of Technology	**Classroom Availability**	**Lab Availability**
Internet Access	87.1%	64.4%
Computers	76.2%	76.2%
Interactive Whiteboards	73.3%	21.8%
iPads and Other Tablets	36.6%	17.8%
Other	21.8%	4%
Digital Cameras	19.8%	10.9%

The technology represented in Table 5 is organized by highest total of reported percentages of availability in the classroom. For the most part, a similar trend of availability is evident in both classrooms and labs.

It is evident that the technological tools most available to the teachers surveyed are internet access (64.4% in lab or 87.1% in classroom) computers (76.2% in both lab and classroom), and Interactive White Boards (21.8% in labs and 73.3% in classrooms). Although the standards (Appendix A) call for the use of multiple types of technology, tools such as iPads and digital cameras are not nearly as abundant in supply (Only 37% and 20% respectively, available in classrooms).

Participants were asked to identify how many minutes per week they used each type technology that was listed either in their classroom or lab with their students. In Table 6, results are organized by the number of minutes used in the classroom weekly from greatest to least.

Table 6

Minutes of Technology Used Per Week

Technology	**Average Minutes per Week**	**Range**	**Standard Deviation**
Internet Access	113.59	0-500	115.70
White Boards	113.35	0-500	130.38
Computers	97.80	0-600	116.76
iPads	29.71	0-200	52.81
Other	23.53	0-250	50.73
Student Devices	6.39	0-100	20.09
Digital Cameras	2.67	0-90	12.41
TOTAL	258.10	0-1500	327.05

Because this was an open ended question only the numbers that teachers chose to report were available for analysis. The survey asked for an overall evaluation of classroom technology that they are implementing, but it did not specify only in relation to the ELA CCSS/MCCRS. It is also important to note that the technology can have overlap when the minutes are reported. For example, when the interactive whiteboard use is reported it is highly likely that a computer and/or the internet are also being used at the same time. That needs to be taken into consideration when the number of hour's used per week are reviewed.

Three outliers were removed in order to provide a more accurate analysis and not skew the data. The researcher determined that any total number of technology use hours over 1500 would be removed. This determination was made by the following reasoning: if teachers were using technology for the full 50 minute class period every day for an entire week and teaching a maximum of six classes, then 1500 would be the highest number of minutes that they could report per week. After additions of the minutes were made, three participants had a number exceeding 1500 and were removed.

Teachers (n= 63) are using digital cameras less than any other technology mentioned in the survey. Participants reported using digital cameras an average of 2.67 minutes per week (*SD*=12.41). However, teachers (n= 79) do seem to use computers that are available to them an average of 97.8 minutes a week (*SD*=116.76), as well as Internet (n= 54) 113.59 minutes per week (*SD*=115.70), and Interactive White Boards (n= 54) 113.35 minutes per week (*SD* =130.38). Teachers using one technological tool for 2.67 minutes per week possibly with multiple classes, and using another tool for 97.80 minutes weekly gives a true representation to how underutilized certain classroom

technologies really are. The fact that these three types of technology have the largest average minutes of use per week is due in part to the information in Table 5 that shows that these are also the most available types of technology for the teachers surveyed.

Teachers were asked to provide the names of programs or software that they use with students in order to meet the expectations of the ELA CCSS/MCCRS. See Table 7 below for a summary of the responses organized by the skills in which they are used for. The words that are in **bold** were mentioned 10 or more times by participants.

Table 7

Software or Programs Used for ELA CCSS/MCCRS

Type Of Program	**Programs**			
Writing/ Research Programs	**MS Word** **Ebscohost** iTunes University	Easy Bib Learn 360	**Write to Learn** Turn It In	Essay Scorer Pages
Presentation Programs	Google Slides **Power Point**	**Prezi** Wordle	iMovie	Keynotes
Assessment Programs	Accelerated Reader Study Island	Poll Anywhere USA Test Prep	**Mastery Connect**	**Compass Odyssey**
Collaboration Programs	**Google Docs**	**Canvas**	Pocket	Google Classroom
Supplemental Resources	Smart Exchange **Compass Odyssey** Pearson Success Net	Class Dojo Starfall	Online ELA Textbook **You Tube** Brain Pop	Destination Learning Think Central iStation

It may be seen that some of the programs, especially those in bold, are being used by multiple participants. This is a comprehensive list of all the programs that are being used. Some were mentioned only once and others were mentioned more, but the researcher wanted to point out those that are being utilized the most. Those programs/software include: MS Word, Ebscohost, Write to Learn, Prezi, PowerPoint, Mastery Connect, Compass Odyssey, Google Docs, Canvas, and YouTube. With this variety there are options for multiple learning categories which may be seen in Table 7.

Lastly, in addition to providing the types of technology available to teachers and the minutes that they use them per week, at the close of the survey participants were given the opportunity to provide additional comments through an open ended question in which they were asked if they had anything that they would like to say regarding the ELA CCSS/MCCRS that require the use of technology. The comments that were made regarding technology availability in the classroom were as follows:

> "I believe that technology is a great way to help our students learn and be prepared for a technology world. However, most schools are not preparing them because there aren't enough resources in our area."
>
> "I would like to have the opportunity to use more technology in the classroom, but we don't have enough resources."
>
> "Our students are falling behind in the world of technology because of our lack of internet service."
>
> "Our internet speed prohibits much use of technology in the classroom."

These comments portray the frustrations of teachers that want to do what is expected of them, use technology in the classroom, but are hindered by issues that are out of their control.

Support

Support from the school or district in which the teachers are located is an important issue as well. In this study, the researcher focused on what type of support teachers had available to them at the district/school level. Support comes in many forms. Teachers need to feel support from their district in ways such as having access to technology in their classrooms, having help when technological issues arise, and being given opportunities to attend and learn more about the technology that they are expected to incorporate into their classroom curriculum. Those are the three areas of support explored in this study.

First, teachers were asked if they felt prepared by their district to use the technology that they already have available to them. Of the teachers surveyed, 49% did not feel prepared by their district in order to use available technology. It may also be seen that 51.3% agreed that they had been prepared, but that is a pretty even distribution and an alarmingly large number of teachers that do not feel prepared to use tools that they have available to them already in their schools.

The next level of support measured was if the teachers believed that they had support from their school/district when faced with technological questions or needs. Sixty-five percent of teachers' surveyed agreed that they felt that they had that type of support available to them. Schools/Districts need to make sure that they have staff in place to aid teachers when technological issues arise. If teachers are already apprehensive

to the idea of implementing technology into the classroom, they will be more so if they do not think anyone will be available to help when something unplanned arises.

Lastly, the study focused on the support that teachers felt with being given opportunities by their school or district to attend ELA CCSS/MCCRS professional development. Fifty-eight percent of the participants agreed that said opportunities were available to them. One participant in this survey study made the following comment in relation to support and professional development:

> "I don't feel that our school district has prepared all the teachers for use of technology. They only prepare certain teachers and not all of us".

Professional Development

The questions in the survey related to the topic of professional development investigated multiple areas to determine if teachers believed that they were prepared to implement the technology based standards of the ELA CCSS/MCCRS in relation to the amount of professional development they had received, the levels (e.g. school or district, etc.) in which these professional development opportunities were given, as well as previous professional development experiences.

Amount of Professional Development. Teachers were asked if they believed that they had been given opportunities by their district or school to attend professional development classes related to the ELA standards. All questions were in Likert scale style with the exception of one open ended question in which the participants were asked to manually enter the number of hours of professional development that they had received. The Likert scale ranged from 1-5 in which "1" meant strongly disagree and "5" meant

strongly agree. The results of teacher's perceptions regarding opportunities that they have been given to attend professional development related to the ELA CCSS/MCCRS were as follows: 12.7% of teachers strongly agreed that they had been given opportunities by their school/district to participate in professional development opportunities, 45.6% agreed, 25.3% remained neutral, 13.9% disagreed, and 2.5% strongly disagreed with the statement. Even if the two responses of strongly agree and agree are added together, only 58.6% of teachers surveyed believed they have been given the opportunity to attend professional development related specifically to the ELA CCSS/MCCRS. This means that only about half of the respondents agreed that they have been given the option or means to attend professional development opportunities related to standards that they are required to implement in their classrooms.

The teachers were asked how many hours of professional development they received on technology alone in the last three years and this yielded an average of 10.98 hours (*SD*=21.58) with a range of 0-150 hours within a three year time span. This indicates that the teachers have been exposed to only about 3 hours of technology related professional development per school year in the time span in question. One participant stated that they had received 150 hours of technology related professional development over the span of the past three years. Breaking the remaining results down into a frequency distribution yielded the following: 53% of the teachers reported receiving 0-10 hours of technology related professional development, 13% reported receiving 12-20 hours, and 13% reported receiving 21-30 hours. The survey also had a question written in order to determine if the teachers had received professional development related to the technological components of the ELA CCSS/MCCRS. The teachers reported

participating in an average of 6.12 hours (*SD*=10.82) of professional development in the past three years related to the technological components of the ELA CCSS/MCCRS ranging from 0-42 hours.

In the survey, teachers were asked to specify how many hours that they have spent planning, preparing, and educating themselves on the ELA CCSS/MCRRS. Most of the participants could not even list a number that would prove sufficient. All of the responses revealed that teachers are spending more time educating themselves rather than having actual professional development opportunities that they are attending related to the ELA CCSS/MCCRS. In order to show an idea of what teachers reported, some of the answers in the teacher's own words were as follows: "many, many hours," "countless hours, I cannot even begin to estimate," "impossible to calculate- nights, weekends, holiday, and summers"," "1000s of hours," "too many to list!!", "a semester of classwork at Mississippi State University."

Levels of Professional Development. Participants were asked to verify at what level they received professional development. The choices included school level, district level, consultants, outside, and none of the above. The participants were allowed to choose all that applied to them so the results will be over 100%. The explanation of "outside professional development" would be something that they sought out and attended on their own, not something that was organized or taught by someone in the school or district. Table 8 represents the professional development level breakdowns.

Table 8

Levels at which Teachers Reported Receiving Professional Development

PD Level	**Percentage**
School Level	56.4%
District Level	39.6%
Consultant Level	18.8%
Outside Level	31.7%
None of the Above	5%

The percentages in Table 8 reveal that the majority of teachers have received professional development organized or provided by their schools. District level professional development is a close second providing opportunities to 39.6% of teachers surveyed.

Previous Professional Development Experiences. Participants were asked if they believed that they have been prepared to implement the ELA CCSS/MCCRS based on the professional development experiences that they have had in the past. The question, written in order to determine the level of teacher preparedness to meet the expectations of ELA CCSS/MCCRS using technology related to previous professional development opportunities, yielded a mean of 3.02 (*SD*= 1.08), or a Likert score of neutral. Additional professional development questions assessed the type of delivery or experience teachers respond best to and if they are being given those professional development opportunities. These questions were all asked and measured using the same Likert scale as previous

questions mentioned from the survey results of these four questions may be seen in Table 9.

These items explored the type of professional development experiences that teachers may prefer to have in an attempt to see if they were actually what the teachers experienced with previous professional development related to the ELA CCSS/MCCRS. Teachers expressed preferences for practicing with technology when experiencing professional development (M= 4.28), however when asked if this is the experience that they received the answer hovered at a neutral spot (M= 3.14). Given the pattern in table 9, it may be inferred that interactive professional development is what the majority of teachers surveyed prefer, but they did not always receive these opportunities in their past professional development experiences.

Table 9

Questions Related to Previous Professional Development Experiences

Question	Mean Answer	Answer Scale	Standard Deviation
When receiving professional development, I prefer when I am allowed to practice using the technology being discussed.	4.28	Agree	.905
When I received professional development, I was given the opportunity to practice the technology being discussed.	3.14	Neutral	1.06
When receiving professional development, I prefer if I can see how the technology will incorporate into my classroom curriculum.	4.41	Agree	.706
When I received professional development, I was given the opportunity to practice incorporating the technology into the classroom curriculum.	3.24	Neutral	1.08

Descriptive Analysis for Research Question Two

The second research question addressed how important teachers believe it is to integrate technology into the ELA CCSS/MCCRS. When asked if they believed that merging the ELA Standards and technology is important for student learning, teachers agreed in the merging of the two areas (M= 4.17, *SD*= .733).

The participants also rated how important they believe skills within ELA Standards are that mention the use of technology using the following Likert Scale indicators: not at all (1), mildly important (2), neutral (3), important (4), and very

important (5). The table below indicates each skill that was listed as well as the mean rating (See Table 10).

Table 10

Importance of ELA Skills Rated by Participants

ELA Skills	Average Rating	Standard Deviation
Compare and contrast texts using different media formats	4.21	.995
Integrate information into multiple media types or formats	4.06	.998
Using technology to produce and publish writing	4.32	.946
Use technology to collaborate with others	4.17	.881
Gather relevant information from multiple digital sources	4.37	.993
Integrate and evaluate information presented in diverse types of media formats	4.29	.886
Integrate multimedia displays into presentations	4.23	.910

It may be noted that teachers agreed that all of the standards were important for students to learn with average mean responses ranging from 4.06-4.52. Judging by the results reported in Table 10, teachers that participated in the survey agree that these ELA CCSS/MCCRS that require the use of technology are all important for students to learn and master.

Participants were also asked a series of questions written to determine if the teachers had the technology available to them that they needed in order to help students master each ELA CCSS/MCCRS that required the use of technology. Table 11 below

provides explanations of the standards and the participants' responses. The full standards are listed in their entirety in Appendix A.

Table 11

Ratings of Available Technology for ELA Standards Predictor

Standard Number	Standard Skill	Mean	Standard Deviation
RI7.7	Compare and contrast tests using different media formats	3.65	1.167
RI6.6	Integrate information in multiple media types or formats	3.66	1.131
W6.6	Use technology to produce or publish writing	3.71	1.122
W9-10.6	Use technology to collaborate with others	3.52	1.108
W11-12.8	Use technology to gather information from multiple credible digital sources	3.69	1.161
SL12.2	Integrate and evaluate information presented in diverse types of media formats	3.57	1.105
SL7.5	Integrate multimedia displays into presentations	3.62	1.119

From the information presented in Table 11, it may be seen that all respondents reported somewhere in the "neutral" range on each individual question in relation to if they have the technology needed available to them in order to help students master each standard.

Value

The value that teachers assign to technology is closely related to how important their view is on technology in the classroom. Seven questions in the survey focused on

topics that were used to gauge the level of value that the participants might assign to technology use in the classroom. Table 12 contains a list of the questions as well as the results from the survey in relation to each topic.

Table 12

Results for Questions Used for Value Predictor

Question	**Response**
I feel that students will benefit from using technology in the classroom.	94% Agreed
I feel that using technology helps me with teaching.	99% Agreed
I feel that using technology in the classroom increases academic achievement.	84% Agreed
I feel that technology in the classroom is a valuable instruction tool.	98% Agreed
I feel that technology in the classroom motivates students to get more involved in learning activities.	95% Agreed
I feel that the use of technology in the classroom improves student learning of critical concepts and ideas.	90% Agreed
I consider the computer a helpful instructional tool.	97% Agreed

The responses to the value related questions were reported in percentages to show the high level of agreement among participants on the ideas related to the value of using technology in the classroom. The percentages are a combined number from the amount of participants that agreed or strongly agreed with the statement. It is also important to note that in all seven questions not one participant marked anything lower that a "3" or neutral

on any of the responses. This alone should represent the great importance there is to the level of value teachers assign to using technology in the classroom.

Teachers believe technology in the classroom is a positive teaching or learning tool. The participants also stated that technology helps them with teaching. With such an overwhelmingly positive attitude towards technology in the classroom, administrators should really take this as an initiative to do all that is possible in order to aid teachers the opportunity to implement as much technology as possible in the appropriate manner.

Although teachers may assign a high level of value to technology, other issues must be examined that can supersede the amount of value that they equate with technology use in the classroom. Value assigned to technology by teachers is integral for implementation, but if teachers are not supplied with the applicable technologies or the appropriate professional development needed in order to utilize classroom technology then the level of value that they assign is not enough in order to incorporate the technology into their curriculum.

Analysis for Research Question Three

The third research question was written to determine the effect particular factors have on the amount of technology that teachers are using in their classrooms with the ELA CCSS/MCCRS. The independent variables that were created for use with multiple regression analysis are self-efficacy related to everyday technology use, self-efficacy related to classroom technology use, value assigned to technology, technology teachers have available to them to use with the ELA CCSS/MCCRS, and support from school or district to assist with technology issues or provide professional development

opportunities. Below is a description of each predictor, which may be seen in Table 2 as well.

"Self-efficacy related to everyday technology use" was determined using a single question in the survey. The teachers were asked if they were confident in their ability to use technology in everyday tasks. They could chose a range of 1-5 for an answer in which "1" represented that they strongly disagreed and "5" represented that they strongly agreed. This question produced a mean of 4.1 (*SD*= .826) which would fall in the range of "agree". From this it may be inferred that the majority of the teachers surveyed believe that they are confident in their ability to use technology with everyday tasks.

The predictor of "self-efficacy related to classroom use" was created from the responses of 3 questions related to teachers and how they view themselves in their level of confidence with using technology in the classroom When these items were combined and formed this predictor, with a mean of 3.9 (*SD*= .801) was produced. This response would fall in the range of "neutral" but is on the border of agree and reveals how teachers perceive themselves and their confidence level in using technology in the classroom.

The "value" predictor was created combining seven questions written to determine how valuable teachers think that technology is not only in the classroom, but as a teaching tool. It is important to state that there was virtually no disagreement from participants when answering the questions that referred to technology as a valuable tool for teachers. In every question that was used in conjunction with the development of the value predictor, at least 85% of participants agreed that technology is a valuable tool when used in the classroom. It is also important to note that the value construct produced

a mean of 4.4 (*SD* = .504) and this indicated that teachers believed technology to be a valuable tool for their instruction.

The "available technology" predictor was created from questions written to determine if teachers had the technology available to them that is needed for students to successfully master each standard. For more detailed information see Table 11. After the questions were combined and the "available technology" predictor was created, a mean of 3.66 (*SD*= .990) was produced which still lies in the "neutral" category.

The questions that were combined to create the "support" predictor focused on three areas: support by school, support by district, and if the school/district has provided the participants with professional development opportunities in relation to the ELA CCSS/MCCRS. In this survey, support refers to, the teachers beliefs that they have been prepared by their district to use technology that they already have available to them (M= 3.29), that the teachers have support from someone in their district to answer technological related questions (M= 3.64), and that their district has made sure that they have had opportunities to attend professional development related to technology in the classroom (M= 3.42). After the individual questions were combined to create the "support" predictor, a mean of 3.46 (*SD*= .962) was revealed which is a "neutral" response.

The final predictor created for use in the regression was "number of students". At the beginning of the survey as participants were providing background information, they were also asked to provide the total number of students that their school serves. The range collected by the survey was 18-1700 students. As explained in Chapter 3, the schools were categorized by levels created from enrollment numbers. The Mississippi

High School Activities Association (2015) uses the following levels: 1A (0-200 students), 2A (201-284 students), 3A (285-470 students), 4A (475-760), 5A (761-1099), and 6A (1100- 2000). The researcher opted to use the same classification levels to represent the students served in the schools. Each number reported by the teacher was coded in SPSS using the numbers 1-6 based on the level ranking that they would be given according to student population.

The dependent variable created for the multiple regression was "minutes". This factor was created using the number of minutes that each teacher reported using classroom technology per week. The teachers reported minutes for several types of technology use. Each technology was totaled per teacher to create a total number of minutes that teachers are using technology in their classroom/lab per week.

Before running the multiple regression, the researcher ran a correlation matrix of predictor variables which may be viewed in Table 13.

Table 13

Correlations Matrix for Regression Variables

	Minutes	**Support**	**S.E. Class**	**Value**	**Ava. Tech**	**No. Stu**	**S.E. Every-day**
Minutes	1	.180	.105	.021	.273*	.018	.067
Support		1	.490**	.009	.675**	-.009	.344**
S.E. Class			1	.425**	.358**	.111	.624**
Value				1	-.135	-.041	.422**
Ava. Tech					1	.148	.270**
No. Stu.						1	.262*
S.E. Every-Day							1

Significant at the .01 alpha level **
Significant at the .05 alpha level *

After reviewing the correlations provided in the matrix, the researcher determined the items that were initially created to serve as independent variables were not significantly correlated to the dependent variable of "minutes of technology use", other than the variable of "available technology". This is not a surprising correlation in that the more technology teachers have available to them would affect the number of minutes they are using technology in the classroom weekly. This evidence indicated that a multiple regression using this model would not be the best analysis plan for the data. Multiple regression is designed in order to determine what effect factors have on predicting the outcome of a variable. Due to lack of correlations between these factors and the dependent variable, a regression would not be a good fit in order to learn more from the data collected through the survey. Using these variables, the researcher

examined relationships between some of the individual factors rather than as a whole group. Using correlations and plots these results are discussed in the upcoming sections.

Correlations

First, the most highly correlated relationships between predictors were examined from those listed in the correlation matrix. The most statistically significant positively correlated pairs included support and self-efficacy with technology use in the classroom, .490, $p < .01$, support and available technology in the classroom, .675, $p < .01$, and self-efficacy in the classroom with self-efficacy in everyday uses of technology, .624, $p < .01$.

Significant Correlations with Linear Relationships. The first correlation indicates a positive linear relationship between the amount of support that teachers have within their school/district and their feelings of self-efficacy with using technology in the classroom. This indicates that the more support a teacher believes they have in relation to using technology, the more efficacious they feel with using technology in their classroom.

The next linear relationship exists between the amounts of technology that teachers have available to them for use at their schools and the level of support that they believe they have in their school/district. This was the most highly correlated pair in the matrix. The pattern indicates that the more technology teachers have available to them at their school increases the amount of support that they will have available to them for situations regarding technology.

The final positive correlation existed between teacher's feelings of self-efficacy with using technology in everyday tasks, and their feelings of self-efficacy with using

technology in the classroom. The pattern indicates that the more efficacious a teacher feels with using technology in their everyday life, the more efficacious they feel with using technology in their classroom.

Non-Significant Correlations. When analyzing the predictors that were created in order to run the regression, it seemed as if more correlations would exist. In an effort to understand why more positive correlations between variables were not evident, plots were created for relationships in which correlations were expected to exist. Namely for relationships of technology use and value assigned by teachers to technology as well as technology use and self-efficacy of teachers related to technology. The first plot represents the relationships between the number of minutes that a teacher used technology in the classroom per week and the value that they assigned to using technology in the classroom. The second plot was created in order to examine the effect of the number of minutes that a teacher used technology in the classroom per week and the level of self-efficacy that believe they have with using technology in the classroom.

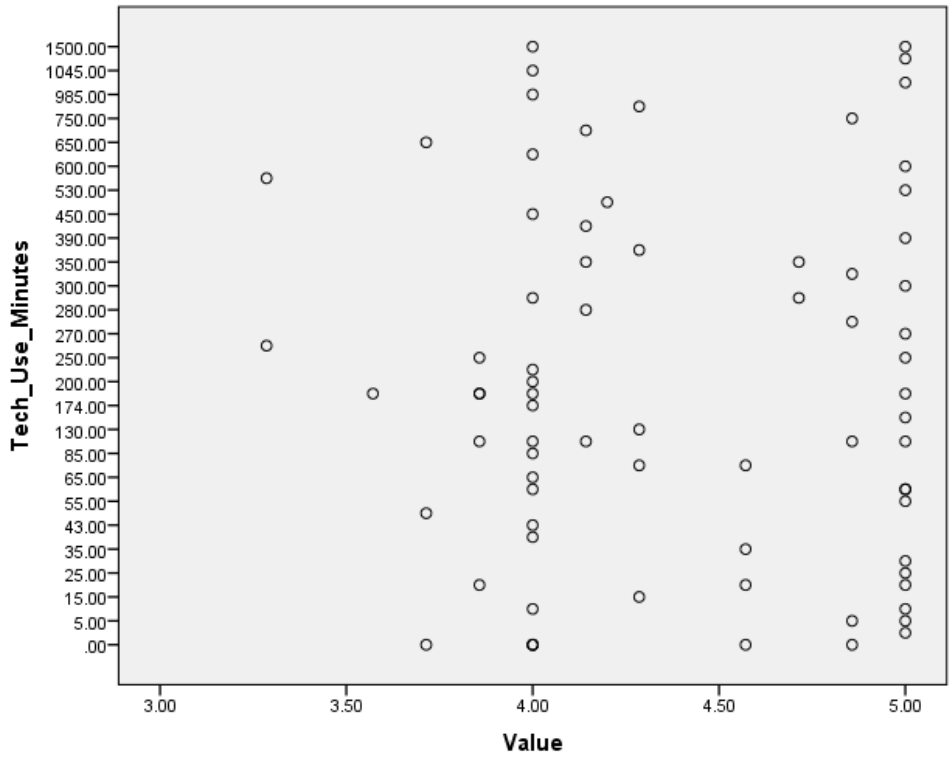

Figure 3. Relationship between the value assigned by the teachers for using technology in the classroom and the number of minutes technology is used in class per week.

These two variables, minutes of technology use per week and value, produced a correlation of .021 indicating no relationship between the two variables. One might think that the more a teacher values technology in the classroom then this would positively affect the number of minutes technology is used in their classroom per week. From the non-significant correlation and the visual represented in this plot, it may be understood that in this data set that is not the case. First of all, the value variable in the plot begins at the Likert Scale number 3, which means that no participant chose an answer below that when determining how valuable technology in the classroom was to them. Secondly, it may be seen that even at the higher value scale of 4-5, the number of minutes used per

week still stayed on the lower end of the plot. This visual representation reflects that although teachers may assign a higher value to technology, this is not directly related to the amount of time that they are using technology in their classrooms.

In research, value and self-efficacy are often related. It is also interesting that there is a high significant correlation that exists between value and self-efficacy with using technology in the classroom (.425) as well as value and self-efficacy with using technology in everyday tasks (.422). However the minutes of technology use is not significantly correlated with either of these self-efficacy factors.

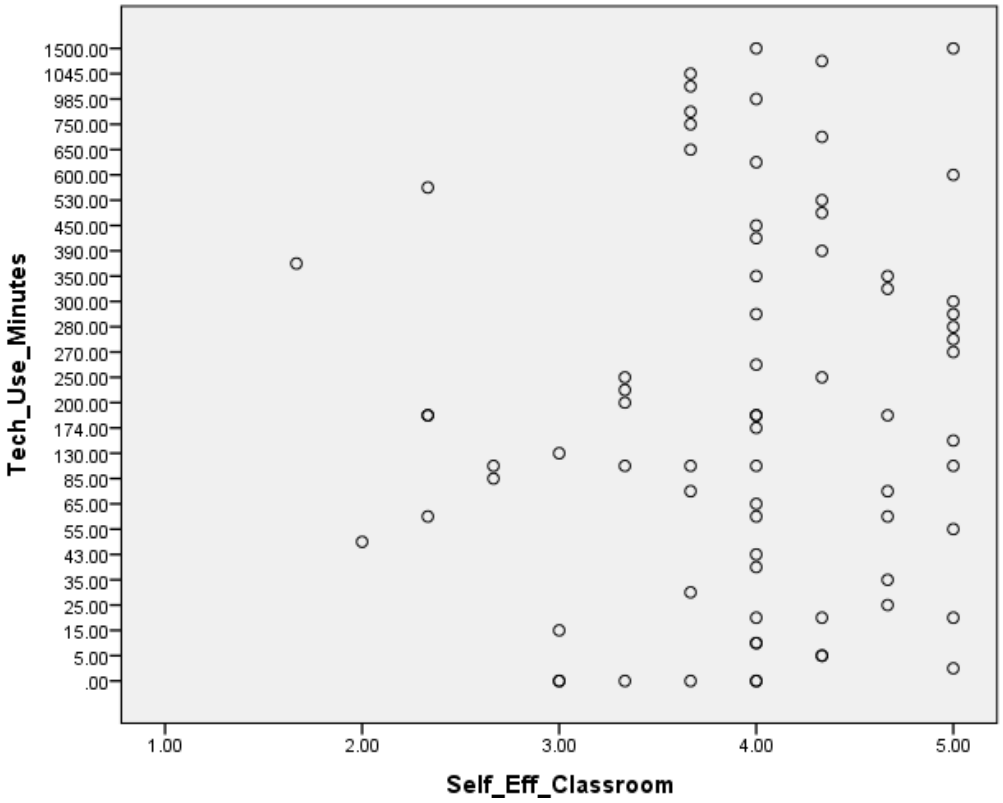

Figure 4. Relationship between the level of self-efficacy that a teacher reported in relation to using technology in the classroom and the number of minutes technology is used in the classroom weekly.

The relationship between minutes of technology use per week and self-efficacy with using technology in the classroom also produced a non-significant correlation of .105 which is represented in the plot above. Again, this is a surprising correlation that was non-significant because it would seem that the more confident that a teacher is with using technology in the classroom would positively affect the number of minutes that they are using technology in the classroom per week. This relationship does suggest that there are more factors at play than just teachers' level of self-efficacy and technology usage. In particular the amount of technology available to teachers is the only predictor that had any positive significant correlation with minutes of technology used in the classroom per week.

Multiple Regressions

Due to the initial plan of running a regression predicting minutes of technology use not being plausible, the researcher was interested in seeing what other models could be used as predictors using the variables that are mentioned in the correlation matrix (see Table 13). In an effort to more fully understand the data, the models represented below were created in an attempt to predict teachers' level of self-efficacy with using technology in the classroom, and the value that teachers assign to using technology in the classroom.

Predicting Self-Efficacy Using Technology in the Classroom. The researcher opted to continue with the plan of running a multiple regression, but rearranged the variables from how they were originally intended to participate. After reviewing the matrix of significant and non-significantly correlated variables, the researcher wanted to

determine what other relationships do exist within the predictors that were created. Using the factors that showed statistically significant correlations, a regression was run using "support" and "available technology" for independent variables and "self-efficacy with technology in the classroom" as the dependent variable. The thought behind this is that the amount of support that a teachers believes they have which is positively related to the amount of technology that they have available to them for instructional purposes, may be used in order to predict the level of self-efficacy that a teacher would label themselves to have with using technology in the classroom.

The step-wise multiple regression model with two predictors produced $R^2 = .241$, $F(2, 74) = 11.77$, $p<.001$. Although the R^2 is low and only accounts for a small amount of variance in the model, the model is significant. It may also be seen that the variable of support has a statistically significant effect on self-efficacy in the classroom related to technology use ($\beta = .46$, $p<.001$), but adding the variable of available technology does not prove to be statistically significant ($\beta = .051$, $p<.001$).

Predicting Value of Technology. It was expected that the value level a teacher assigns with technology directly affects how much they will use it in their classroom, so next regressions to predict factors that have an effect on the value that teachers believe exist in relation to technology were run. A multiple regression was tested with three independent variables including: support, available technology, and ELA technology professional development hours to see if they could be used in order to predict the dependent variable of value.

The step-wise multiple regression model with three predictors produced $R^2 = .279$, $F(1, 54) = 4.57$ $p < .05$. With an $R^2 = .279$ the model is significant. The hours of

professional development related to technology and the ELA CCSS/MCCRS has a statistically significant effect on the value that teachers assign to using technology in the classroom ($\beta = .279$, $p<.05$), but adding the remaining variables of support ($\beta = .027$, $p>.05$), available technology ($\beta = -.140$, $p>.05$), and does not prove to be statistically significant.

CHAPTER V

DISCUSSION

The current study examined teacher perceptions of their level of preparedness for implementing English Language Arts Common Core Standards/Mississippi College and Career Readiness Standards (CCSS/MCCRS) that require the use of technology as well as factors that may affect these perceptions. Previously, the expectations of mastery were mostly linked to the content of the subject studied. Since technological skills are newly required and embedded in the standards, they should be investigated with regard to teachers' beliefs and use. Such research can inform practices in all 6^{th}-12^{th} grade schools in Mississippi. In this dissertation, three research questions related to the merging of ELA skills with technology in the CCSS/MCCRS were explored. These questions focused on teacher perceptions of preparedness due to available technology as well as professional development opportunities, their beliefs on the importance of merging ELA skills with technology in the CCSS/MCCRS, and factors that may be affecting the level of technology used in a teacher's classroom. In the remainder of this chapter, the results of the study will be discussed around the ideas of appropriate use of technology, professional development, educational policy, and the need for expanded research into technology use in conjunction with the ELA CCSS/MCCRS.

Availability and Use of Technology

One of the main aims of this study was to assess what types of technology teachers have available to them in Mississippi, as well as achieve an understanding of what technology they are actually using with their students in conjunction with the ELA CCSS/MCCRS. The majority of schools were somewhat equipped with computers, with 76.2% of teachers having access to them as well as the internet (87.1% and 64.4%) in either a classroom or lab. Furthermore, ELA teachers in Mississippi report to be using each technology about 1.5 to 2 hours per week.

The U.S. Department of Education (2010) compiled a report with the National Center for Educational Statistics that revealed on a national level that 97% of teachers had a computer in their room, or at least access to one, and 93% of teachers had internet access. In comparison, these results do show Mississippi teachers reporting lower numbers than the national average. Many types of technology use were investigated in this study, with the highest reported forms being computers, internet, and interactive whiteboards. This is concerning because not all of the standards that require the use of technology can be met with just these three technological tools alone. Other standards mention creating digital text or videos and other expectations for which additional tools (e.g. IPad, digital cameras, and digital recorders) would be needed.

Presenting material in a variety of modes has been noted as a way to encourage students to develop a more versatile approach to learning (Morrison, Sweeny, & Heffernan, 2003). After computers, internet and white boards, which were the most highly available items, the next highest rated available tool was tablets/iPads, which were available to 30% of the teachers. The remaining tools-- student devices, digital cameras,

and other technological tools-- all came in with lower proportions of use than that. Another issue is that teachers are not using some of the technology that is currently available to them and tools that have been recently purchased (Ross, Morrison, & Lowther, 2010). Two issues may be at play: teachers do not have the technology available to them for their use, and/or they are not making use of what they do have available to them. For example, although 30% of teachers reported having iPads available to them, participants stated that they only used them, on average, for 29 minutes per week. If a teacher was only teaching one fifty minute section of ELA that would mean that the students only had access to the iPad for 5.8 minutes if used daily. There is a real concern if some teachers do have access to these technologies and are just choosing not to incorporate them into their curriculum or classroom activities. The real question is why are they not using tools that they have available to them for more than 5 minutes daily? Possibilities could include that the teachers have not been shown ways that the tools can be incorporated into their content area or curriculum as an enrichment or teaching tool, or it could also be a time issue. There are so many ELA skills that have to be presented and taught that perhaps teachers feel that using technology is too time consuming and not something that can be used daily. The reasons will likely differ for each teacher. This study supplies evidence that teachers are making use of computers and the internet but not necessarily other tools that may be just as important in effectively meeting ELA CCSS/MCCRS.

The results of this survey revealed that teachers in Mississippi believe that the merging of technology and ELA skills into one set of standards is important. They rated highly that all the standards that integrated a technological skill along with an ELA skill

were important for student learning. However, they did not agree that they had the technology available to them in order to help their students master those standards. In fact, almost 25% of ELA teachers surveyed in this study did not report having access to computers and even less access to all of the other types of technology listed in this survey. This is a problem. Teachers are being handed down the guidelines on requirements or standards that they are to be executing with their students, however the teachers surveyed showed that that is not happening due to lack of availability of technology.

George Washington University's Center on Education Policy (2013) reported that a combination of obstacles, such as a lack of resources and training materials as well as a continuing drop in state funding for K-12 education in many states, make it difficult for teachers and principals to fully implement the standards. Teachers are being saddled with educational reforms but are not receiving the tools needed in order to make these expectations a reality. Problems such as this should be a real reason for change in educational policy. There is more to proper implementation of an educational reform other than the end result. The Partnership for 21st Century Learning Skills (2008) has identified areas of expertise that are essential for today's students, and technology is one of the main components. It is equally important to make sure that students are not only receiving proper instruction on the ELA skills, but on technological skills as well.

In this study, the researcher attempted to build a regression model to predict the amount of technology that teachers use in their classroom based on multiple factors. It would seem that the factors of self-efficacy, value, available technology, support, and number of students served could be useful in an effort to predict how much technology

teachers are using in their classrooms weekly. However, none of the predictors was correlated with the criterion variable of interest-- teachers' reported minutes of technology use in the classroom. One reason may be how the variable was calculated-- by adding up what teachers reported as their minutes of use for individual types of technologies. It could be that it was not giving a true estimate to the amount of technology use, since an overlap existed in the representation of minutes of technology used that could skew the number represented for each teacher. For example, if a teacher is using three technologies together for one activity, but she reports them all separately the minutes of technology use she reported will be higher that what she actually used. Meaning if the teacher used a computer, a white board, and the internet all for one 30 minute activity and reported them separately it would look as if she had used technology for 90 minutes rather than 30. Situations such as this could be a reason why the prediction model could not be built. Another reason may reside in that fact that the variables investigated in this study (self-efficacy in using technology for everyday tasks, self-efficacy for using technology in the classroom, value assigned to technology by teachers, technology available for standards, support within schools/districts, and the number of students served in a school) are not helpful in attempting to predict teachers technology use. Their use may be independent of their beliefs about technology and amount of support.

Although the model did not come to fruition, it was still important to explore ideas that are important for understanding technology adoption for instruction such as value, and self-efficacy, as well as issues with professional development.

Teacher Value and Self-Efficacy in Relation to Technology

Teacher beliefs are a predominate factor in determining their teaching practices (Wilkins, 2008). If a teacher believes that something will enhance teaching or better student outcomes then they are more likely to implement it in their classroom. Technology is no different. The teachers in this study displayed a high level of value for technology as both a teaching and learning tool. However, it is not enough to find something important or useful, one must also know what to do with it. This idea was explored in the study by gauging teachers' level of self-efficacy that they would assign to themselves both in using technology in everyday tasks as well as using technology in the classroom. A positive relationship was found between these two factors indicating that if teachers use more technology in their daily life, then they also desire to incorporate technology into their daily classroom activities. Hence, they believe technology is valuable and they feel as if they are able to implement technology well enough on their own. Such findings are similar to others, for example, one study conducted with preservice teachers revealed that teachers do express similarities in their views of technology use for personal reasons and the technology that they decide to use in the classroom for educational purposes (Ottenbriet-Leftwich et al., 2010).

For teachers that want guidance or assistance, it is important for them to have support available to them. Just knowing that they have people that can help them when problems arise will make them more likely to continue technology integration in their classroom. A study conducted attests to the fact that students feel more self-efficacy towards computer use when they have higher level of support from their teachers or peers (Hsiao, Tu, & Chung, 2012). With that in mind, it may be inferred that teachers operate

under the same conditions, however their support would not only be from peers, but from administration or technology support staff. If the teachers feel at ease about using technology then it will help them put their students to ease as well.

Unfortunately, teachers assigning a high level of value or feeling efficacious with classroom technology use is not enough alone. In order for successful technology integration to occur many factors must work together. Technology integration is multifaceted. Teachers may feel the need to incorporate more technology and believe that they are able to do it, but if they do not have the tools available to them then implementation is not a reality. Or again, teachers may feel strongly about technology integration and want to do more, have an array of technology tools at their school, but have not received professional development on how to use the technology in conjunction with the ELA CCSS/MCCRS. Issues of professional development are discussed next.

Issues in Professional Development

The premise behind creating a national curriculum is that students will be at the same educational level and able to compete against each other both in college and when they begin forming careers. One factor that this study examined was how much professional development teachers have received in relation to technology use in the classroom and specifically technology use related to the ELA CCSS/MCCRS. The study revealed that teachers in Mississippi have only received an average of 10.98 hours of professional development related to classroom technology over the span of the past three years. The amount of professional development that the same teachers have received related to the technological component of the ELA CCSS/MCCRS yielded an average of 6.12 hours. The Center for Educational Statistics (2010) reported that over a span of three

years 77% of teachers nationwide participate in professional development opportunities using computers or other types of technology for an average of 32 hours. It should also be noted that this report was published six years ago before the drive for incorporating technology into classroom standards had occurred. That being said, the number is probably higher today. On a national level, teachers are attending about 10 hours of professional development yearly related to classroom technology compared to the two to three and a half yearly hours that Mississippi teachers are receiving. That is quite a difference. Many researchers and authors reiterate the fact that technology training is important for teachers. Koehler and Mishra (2005) stated that there is no debate on the expectations that teachers need to learn how to properly use technology in their classroom, however less emphasis is placed on how they are expected to learn. Not only is professional development important for teachers, but the nature of the professional development is also important.

In addition to aforementioned concerns that existing technology is not being used, there is also a professional development issue. Possibly, the teachers are not using it because they just do not know how. A poll conducted by the Leading Education by Advancing Digital Commission (2012) resulted in a study with over 4,000 teachers nationwide reporting that although 96% of the teachers felt that incorporating technology into classroom learning was important and essential for students today, 82% of the teachers felt that they were not receiving the training needed in order to implement the technology that they had to its full potential. Of the teachers surveyed in this study in Mississippi, only about half of them stated that they felt prepared by their school/district to use the technology that they have available to them through professional development

opportunities that they have been allowed to attend. It seems that it would prove beneficial for schools/districts to poll their teachers so that they can determine what their needs are. It is important to hear teacher's concerns. They are the ones that have the closest relationship with the standards and where they have need in order to make implementation more seamless. It would be beneficial for schools to give a survey like the one used in this study to teachers in their school in order to determine what their individual needs are and make a plan in order to address these issues. Professional development is a very important piece in the implementation process. It is crucial to make sure that professional development opportunities for teachers are not just available, but meaningful (Darling-Hammond & McLaughlin, 1995). Teachers can be exposed to many hours of professional development, but if the content or the delivery is not helpful then no growth will occur.

Teachers need support both inside and outside the classroom. Giving teachers what they need is a way to have an impact on the learning outcomes of their students. Overall support, positive expectations from school administrators, technology coordinators and district personnel influence teacher's willingness to use classroom technology (Inan & Lowther, 2010). Teachers will feel more comfortable asking for additional technological needs or professional development opportunities if they feel that they have the support of their administration. Educational policy should be the starting point in order for this support to be mapped out.

Contributions and Implications for Planning, Policy, and Research

The results of this study provide a view of the challenges that teachers in Mississippi face in relation to technology in the classroom needed for full standards

implementation. It appears that action can be taken in order to aid teachers with the implementation of the ELA CCSS/MCCRS standards that require the use of technology. Issues such as funding and testing requirements may need to be amended in order to make the expectations set forth for schools and teachers more attainable with what they have available to them.

The goal of educational reform is to put policy or plans into place that will improve learning for the nation's children. With the ELA CCSS transitioning into the MCCRS for the state of Mississippi, educational policies need to be shaped about what can be done in order to better the educational experiences and outcomes for the students in the state of Mississippi. The results in this survey indicate technological needs of teachers in Mississippi in that 25% of them do not even have the needed technology for MCCRS implementation available to them. The issue is that the expectations that are required of ELA teachers are not realistic when compared to the training or resources that are available to them. Maybe in some schools everything aligns, but not in all schools. We do not only want some students in the state to succeed, rather all of them. Educational policies or plans need to be shaped by looking at schools in Mississippi and determining what their immediate needs are and what can be done to address them. These needs fall in the realm of funding for technology and support as well as professional development which will allow teachers to fully implement ELA CCSS/MCCRS.

The current study adds to literature in relation to the ELA CCSS/MCCRS. Very little research exists on this area because full required implementation of CCSS in Mississippi occurred only a year ago and then the transition to MCCRS came soon after. Multiple studies have been conducted on the topic of technology in the classroom and

professional development. However, due to this study focusing primarily on a few of the required ELA CCSS/MCCRS, more information was revealed in order to determine what measures may be taken to aid teachers with making implementation a more seamless process.

Primarily, this study revealed areas in which teachers in Mississippi are falling below the national average in professional development hours, technological tools accessibility, and internet access. These findings should cause concern and assist with creating plans in order to address these shortcomings. Problems may also be associated with the size of the school and the funding that they have available to them. This also needs to be researched further and addressed.

Due to the fact that only a small amount of research exists on teachers and their implementation of the technological components of the ELA CCSS/MCCRS, there is an abundance of opportunities in this field for future research. It would be interesting to investigate further the participants that reported feelings of being very well prepared and compare them to other participants that did not exhibit a high level of preparedness. A qualitative case study to analyze difference and similarities in participants rather than the whole group may present other interesting factors not mentioned in this study. Additional research should be undertaken to discover what variables do predict teachers' classroom technology use since the ones investigated here (value and self-efficacy for technology, size of school district, support) were unrelated to use.

Connections were made in relation to teacher levels of self-efficacy with classroom technology and the amount of support that they have available to them at their school. Already apprehensive about implementing the new ELA standards coupled with

the use of technology could be overwhelming to teachers. This finding could substantiate the need for additional support staff in order to help with technological needs as well as create a support system so that teachers' levels of efficacy continue to rise. Support is a very important factor and is related to many of the topics explored in this study. As long as teachers know that someone is there and willing to help them then they will be more likely to experiment with technology in the classroom. This support does not have to just be in the form of an administrator or a technology coordinator, but even fellow teachers or Professional Learning Communities in which they feel like they can ask for help and not be anxious in doing so.

The current study also revealed that many teachers in Mississippi still do not have the technological tools available to them that they need in order to meet the expectations of the ELA CCSS/MCCRS. No matter what size school they are in, whether they are located in a rural or urban community, they are all expected to uphold the same standards. Many of the teachers voiced their opinion and explained that they are frustrated because they like the standards, but they do not have what is needed in order to fully implement. The questions related to value reiterate this. All the teachers felt that technology is a very valuable tool for the classroom and in learning, but only a portion of the surveyed teachers have full access. This information could be used as a catalyst for securing more educational funding in the state of Mississippi. It is unclear why some schools have more than others, but the less fortunate schools are doing a disservice to their students who are not being allowed to take full advantage of the reason that the standards were created because they only have partial access rather than unlimited access to what is needed.

Lastly, this study exposed teacher beliefs in relation to professional development opportunities that they would like to receive in comparison to what they have received in the past. With this study focusing primarily on the technologically- heavy ELA CCSS/MCCRS, inferences can be made that are more specific to what these teachers may need rather than just recommend solutions for the broad topic of professional development. This study revealed that most of the teachers surveyed did not believe that they have been exposed to professional development opportunities related to the technological components of the ELA CCSS/MCRRS. Also, the findings revealed that teachers would prefer more professional development opportunities in which they are allowed to practice using the technology and plan incorporation techniques, but it does not seem that this is the reality in the experiences they are reporting. This information can be used to shape ideas for professional development plans that schools/districts can devise for their staff.

Limitations

There are limitations that existed in this study. First, the sample size was smaller than the researcher had initially envisioned. The survey was sent out to ELA teachers all over the state and only a portion responded. The original listserv provided to the researcher had over six hundred emails, but due to job and email address changes many were returned unopened. This affected the reach of the survey. This limited sample prevented the researcher's ability to investigate particular participants or groups in order to examine trends. When a survey is sent out to teachers there is typically not a high response rate since teachers do not have much free time in order to participate. Even though the response rate of 26% was within typical patterns in social science research.

Second, as with any study that involves survey research, the limitation exists that answers are self-reported and you must trust the participant to portray accuracy and truthfulness. There were points in the survey in which teachers were able to answer open ended questions such as reporting the minutes that technology is used throughout the week in their classroom, or the number of students that their school serves. At times it seemed as if the number that was provided could be unlikely, for example, as three participants did utilizing technology 2000 min per week which would translate into 400 minutes a day. Even if a teacher had six to seven classes that would mean that they were using technology for every single minute of class and that is unlikely. Those three participants were removed due to overestimation.

Although it was a smaller sample size than intended it does seem that the responses served to produce an idea of where Mississippi teachers rank regarding all of these areas related to the ELA CCSS/MCCRS. The hope is for this survey to be used in the future as a means to measure teacher's progress and create plans in order to help better prepare them for the requirements needed to implement the ELA CCSS/MCCRS in their classrooms in the way that they were written.

Summary

The information revealed in this study is relevant for teachers and administrators currently in the field of education. The results are helpful to serve as a guide for making future plans regarding teacher preparation, support, and technological purchases. Technology implementation in relation to the ELA CCSS/MCCRS is dependent upon many factors including the level of importance that teachers feel in relation to the ELA standards that require the use of technology, professional development opportunities as

well as technological tools that teachers have available to them, self-efficacy related to technology in the classroom and everyday tasks, value, support, and the number of students that a school is serving. The results from this study revealed the importance of each one of these factors and the role that they play in the implementation of the ELA CCSS/MCCRS and well as highlight the need for additional areas that should be researched to further understand the implementation process.

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APPENDIX A

STANDARDS

Reading: Literature

CCSS.ELA-LITERACY.RL.7.7 Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium.

Reading: Informational Text

CCSS.ELA-LITERACY.RI.6.7 Integrate information presented in different media formats as well as in words to develop a coherent understanding of a topic of issue.

CCSS.ELA-LITERACY.RI.7.7 Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject.

CCSS.ELA-LITERACY.RI.8.7 Evaluate the advantage of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

CCSS.ELA-LITERACY.RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media formats as well as in words to answer a question or a problem.

Writing

CCSS.ELA-LITERACY.W.6.6 Use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

CCSS.ELA-LITERACY.W.6.8 Gather relevant information from multiple print and digital sources; access credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

CCSS.ELA-LITERACY.W.7.6 Use technology, including the internet, to produce and publish writing and like to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

CCSS.ELA-LITERACY.W.7.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusion of others while avoiding plagiarism and following a standard format for citation.

CCSS.ELA-LITERACY.W.8.6 Use technology, including the internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

CCSS.ELA-LITERACY.W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each

source; and quote or paraphrase the data and conclusion of others while avoiding plagiarism and following a standard format for citation.

CCSS.ELA-LITERACY.W.9-10.6 Use technology, including the internet, to produce and publish individual or shared writing products, taking advantage of technology's capacity to link other information and to display information for flexibility and dynamically.

CCSS.ELA-LITERACY.W.9-10.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard form for citation.

CCSS.ELA-LITERACY.W.11-12.6 Use technology, including the internet, to produce publish, and update individual or shared individual or shared writing products in response to ongoing feedback, including new arguments or information.

CCSS.ELA-LITERACY.W.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard form for citation.

Speaking and Listening

CCSS.ELA-LITERACY.SL.6.5 Include multimedia components and visual displays in presentations to clarify information.

CCSS.ELA-LITERACY.SL.7.5 Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

CCSS.ELA-LITERACY.SL.8.5 Include multimedia components and visual displays in presentations to clarify information, strengthen claims and evidence, and add interest.

CCSS.ELA-LITERACY.SL.9-10.2 Integrate multiple sources of information presented in diverse media formats evaluating the credibility and accuracy of each source.

CCSS.ELA-LITERACY.SL.9-10.5 Make strategic use of digital media in presentations to enhance the understanding of findings, reasoning, and evidence to add interest.

CCSS.ELA-LITERACY.SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media in order to make informed decisions, solve problems, evaluating the credibility and accuracy of each source and noting discrepancies among the data.

CCSS.ELA-LITERACY.SL.11-12.5 Make strategic use of digital media in presentations to enhance the understanding of findings, reasoning, and evidence to add interest.

APPENDIX B

ONLINE SURVEY AS SEEN BY PARTICIPANTS

ELA CCSS technology Teacher Survey

Thank you for your participation in this survey. If you are an English Language Arts teacher in the state of Mississippi that has implemented Common Core/ College and Career Readiness Standards in your classroom please read the information below about the study before taking the survey.

Information and Consent

I invite you to participate in this survey that will be used for my dissertation research study. Participation in this survey is voluntary. You will be asked to answer approximately 51 questions related to ELA Standards and technology use in the classroom. The purpose of this study is to see how prepared 6th-12th grade English Language Arts teachers in Mississippi perceive themselves to be for implementing the ELA Common Core State Standards that require the use of technology. Because schools have now transitioned from the ELA CCSS to the ELA College and Career Readiness Standards, the questions in this survey will refer to the ELA Standards which covers both sets of standards.

Only myself, and my research committee will see answers of the questions. No names are used in the survey process. There are no risks involved. Many of the questions involve personal opinion. You may ask questions about this research by contacting me at bmt1@msstate.edu.

Last question:

The final question will allow you to enter for a chance to be selected to receive a $50 gift card to Wal-Mart. More details Will be revealed at the end of the survey.

Thank you for your participation!

- ◯ I consent to participate in this survey
- ◯ I DO NOT agree to participate in this survey

Select the grade level(s) you are currently teaching:

- ☐ 6th
- ☐ 7th
- ☐ 8th
- ☐ 9th
- ☐ 10th
- ☐ 11th
- ☐ 12th

>>

What is your gender?

- ◯ Male
- ◯ Female

Please select your race/ethnicity:

- ◯ Caucasian
- ◯ Hispanic
- ◯ African American
- ◯ Asian
- ◯ Multiracial
- ◯ Native American
- ◯ Prefer not to report

Years of total teaching experience:

Years of teaching experience in ELA:

Please enter your age:

Highest level of education:

- ◯ Bachelor's
- ◯ Master's
- ◯ Specialist
- ◯ Doctorate

How many students does your school currently serve?

What grades does your school serve?

- ☐ 6th
- ☐ 7th
- ☐ 8th
- ☐ 9th
- ☐ 10th
- ☐ 11th
- ☐ 12th

Please indicate the types of technology that are available for teachers at your school for teaching/learning purposes. Choose if they are available in your classroom, a computer lab, or both.

	Classroom	Computer Lab
Computers	☐	☐
iPads (and other tablets)	☐	☐
Interactive White Boards	☐	☐
Internet Access	☐	☐
Digital Cameras	☐	☐
Other	☐	☐

If you selected other, please list what other types of technology are available for teachers at your school for teaching/learning purposes:

Please indicate the minutes technology is used with <u>computers</u> per week in class with students:

Please indicate the minutes technology is used with <u>iPads and/or other tablets</u> per week in class with students:

Please indicate the minutes technology is used with <u>Interactive White Boards</u> per week in class with students:

Please indicate the minutes technology is used with <u>Internet access</u> per week in class with students:

Please indicate the minutes technology is used with digital cameras per week in class with students:

Please indicate the minutes technology is used with student devices (cell phones) per week in class with students:

Please indicate the minutes technology is used with other technology per week in class with students:

Please rate the level of importance for your students to learn the following skills:

	not at all	mildly important	neutral	important	very important
Compare and contrast texts using different media formats.	○	○	○	○	○
Integrating information into multiple media types of formats.	○	○	○	○	○
Using technology to produce and publish writing.	○	○	○	○	○
Using technology to collaborate with others.	○	○	○	○	○
Gathering relevant information from multiple credible print sources.	○	○	○	○	○
Gathering relevant information from multiple credible digital sources.	○	○	○	○	○
Integrating and evaluating information presented in diverse types of media formats.	○	○	○	○	○
Integrating multimedia and visual displays and presentations.	○	○	○	○	○

When did your school begin implementation of the ELA Standards?

How many hours of professional development have you received on technology? (In the past 3 years)

How many hours of professional development have you received related to the technological components of the ELA standards?

Did you receive professional development at your school or attend professional development at an outside location? (Choose all that apply)

- ☐ School Level
- ☐ District Level
- ☐ Consultant
- ☐ Outside Opportunity
- ☐ None of the above

How many hours have you spent studying or reading on your own to prepare for the ELA Standards?

Did you receive professional development at your school or attend professional development at an outside location? (Choose all that apply)

- ☐ School Level
- ☐ District Level
- ☐ Consultant
- ☐ Outside Opportunity
- ☐ None of the above

I feel that I have been prepared to meet the expectations of using technology to help students master the ELA Standards because of the *type of professional development* I have received.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I feel that I have been prepared to meet the expectations of using technology to help students master the ELA Standards because of the *amount of professional development* I have received.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

When receiving professional development, I prefer when I am allowed to practice using the technology being discussed.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

When I received professional development related to the ELA Standards, I was given the opportunity to practice the technology being discussed.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

When receiving professional development, I prefer if I can see how the technology will incorporate into my classroom curriculum.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

When I received professional development on the ELA Standards, I was given the opportunity to practice incorporating the technology into the classroom curriculum.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel that I have been prepared by my district or school to appropriately use the technology I have available for me.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel that my district or school provides assistance to help me with technological questions or needs.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel that I have been given opportunities by my district or school to attend professional development classes that are related to ELA Standards.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel that I have the technological tools (ex. hardware & software) available to me at my school in order to do the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Allow students to compare and contrast texts using different media formats.	○	○	○	○	○
Allow students to integrate information in multiple media types or formats.	○	○	○	○	○
Allow students to use technology to produce and publish writing.	○	○	○	○	○
Allow students to use technology to collaborate with others.	○	○	○	○	○
Allow students to gather relevant information from multiple credible print sources.	○	○	○	○	○
Allow students to gather relevant information from multiple credible digital sources.	○	○	○	○	○
Allow students to integrate and evaluate information presented in diverse types of media formats.	○	○	○	○	○
Allow students to integrate multimedia and visual displays into presentations.	○	○	○	○	○

Please list programs that you use with students for the tasks mentioned in the previous question: (Examples may be programs like Google Docs, Web design software, Apps that you are incorporating into your class, anything that is a program or software that allows you to work towards students showing mastery on these standards.)

I feel that merging the ELA Standards and technology is important for student learning:

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I feel that students will benefit from using technology in the classroom.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I feel that using technology helps me with teaching.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel confident in my ability to use technology in everyday tasks.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I feel confident in my ability to use technology in my classroom.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I believe that using technology in the classroom increases academic achievement.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I believe that technology in the classroom is a valuable instructional tool.

- ◯ Strongly Disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly Agree

I believe that technology in the classroom motivates students to get more involved in learning activities.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I believe that the use of technology in the classroom improves student learning of critical concepts and ideas.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I believe I can implement technology in my classroom effectively.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I consider the computer a helpful instructional tool.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

I am very competent in using a wide variety of technologies for teaching.

- ○ Strongly Disagree
- ○ Disagree
- ○ Neutral
- ○ Agree
- ○ Strongly Agree

If you have any other comments or information that you would like to share about the ELA Standards that require the use of technology, please share that information here.

If you would be willing to be contacted for a follow-up interview (you can always change your mind later), please include your name and contact info below.

Thank you for your participation! If you would like a chance to be entered in a drawing to receive a $50.00 Wal-Mart gift card, please enter your email address below. Once the survey is closed, three participants will be randomly selected as winners of a gift card and will be contacted via email.

We thank you for your time spent taking this survey.
Your response has been recorded.

APPENDIX C

SURVEY ORGANIZED BY RESEARCH TOPICS

Background Information

Grade Level (s) Currently Teaching 6th 7th 8th 9th 10th 11th 12th

Gender Male Female

Race/Ethnicity **Caucasian** **Hispanic** **African American** **Asian** **Multiracial** **Native American** **Prefer Not to Report**

Years of Total Teaching Experience _____

Years of Teaching Experience in ELA _____

Age _____

Highest Level of Education **Bachelor's** **Master's** **Specialist** **Doctorate**

How many students does your school currently serve:

_____

What grades does your school serve? 6th 7th 8th 9th 10th 11th 12th

When did your school begin implementation of the ELA Standards?

_____

Available Technology

Types of technology available for teachers at your school for teaching/learning purposes:

Technology	*Location (circle one or both)*	*Minutes technology is Used per Week in class*
1. Computers	**Classroom Computer Lab**	
2. iPads (and other tablets)	**Classroom Computer Lab**	
3. Interactive White Boards	**Classroom Computer Lab**	
4. Internet Access	**Classroom Computer Lab**	
5. Digital Cameras	**Classroom Computer Lab**	
6. Student Devices(cell phones)	**Classroom Computer Lab**	
7. Other: (please list)	**Classroom Computer Lab**	

I feel that I have the technological tools (ex. Hardware & software) available to me at my school in order to do the following:

1 = strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

8. Allow students to compare and contrast texts using different media formats.

1 2 3 4 5

9. Allow students to integrate information in multiple media types or formats.

1 2 3 4 5

10. Allow students to use technology to produce and publish writing.

1 2 3 4 5

11. Allow students to use technology to collaborate with others.

1 2 3 4 5

12. Allow students to gather relevant information from multiple credible print sources.

1 2 3 4 5

13. Allow students to gather relevant information from multiple credible digital sources.

1 2 3 4 5

14. Allow students to integrate and evaluate information presented in diverse types of media formats.

1 2 3 4 5

15. Allow students to integrate multimedia and visual displays into presentations.

1 2 3 4 5

16. Please list the software or programs that you use eith the ELA CCSS/MCCRS(Ex. PPT, Google Docs, etc.)

_____

Importance of ELA Standards with technology

Please rate on the level of importance for your students to learn the following skills:

1 = not at all 2= mildly important 3= neutral 4= important 5= very important

17. Comparing and contrasting texts using different media formats.

1 2 3 4 5

18. Integrating information in multiple media types or formats.

1 2 3 4 5

19. Using technology to produce and publish writing.

1 2 3 4 5

20. Using technology to collaborate with others.

1 2 3 4 5

21. Gathering relevant information from multiple credible print sources.

1 2 3 4 5

22. Gathering relevant information from multiple credible digital sources.

1 2 3 4 5

23. Integrating and evaluating information presented in diverse types of media formats.

1 2 3 4 5

24. Integrating multimedia and visual displays into presentations.

1 2 3 4 5

25. I feel that merging the ELA Standards and technology tools is important for student learning.

1 2 3 4 5

Professional Development

26. How many hours of professional development have you received on technology? (In the past 3 years)

---

27. How many hours of professional development have you received related to the technological components of the ELA Standards?

_____

28. Did you receive the professional development at your school or attend professional development at an outside location? (*Choose all that apply)*

□ School Level □ District Level □ Consultant □ Outside Opportunity □ None

29. How many hours have you spent studying or reading on your own to prepare for the ELA Standards?

_____

Answer questions by choosing the number that most closely reflects the way you feel :

1 = strongly disagree 2= disagree 3= neutral 4= agree 5= strongly agree

30. I feel that I have been prepared to meet the expectations of using technology to help students master the ELA standards by the ***type of professional development*** I have received.

1 2 3 4 5 N/A

31. I feel that I have been prepared to meet the expectations of using technology to help students master ELA Standards by the ***amount of professional development*** I have received.

1 2 3 4 5 N/A

32. When receiving professional development, I prefer when I am allowed to practice using the technology being discussed.

1 2 3 4 5 N/A

33. When I received professional development related to the ELA Standards, I was given the opportunity to practice using the technology being discussed.

1 2 3 4 5 N/A

34. When receiving professional development, I prefer if I can see how the technology will incorporate into my classroom curriculum.

1 2 3 4 5 N/A

35. When I received professional development on the ELA Standards, I was given the opportunity to practice incorporating the technology into my classroom curriculum.

1 2 3 4 5 N/A

Support

36. I feel that I have been prepared by my district to appropriately use the technology I have available to me.

1 2 3 4 5

37. I feel that my district provides assistance to help me with technological questions or needs.

1 2 3 4 5

38. I feel that I have been given opportunities by my district to attend professional development classes that are related to the ELA Standards.

1 2 3 4 5

Value of Technology

39. I feel that students will benefit from using technology in the classroom.

1 2 3 4 5

40. I feel that using technology helps me with teaching.

1 2 3 4 5

41. I feel that using technology in the classroom increases academic achievement.

1 2 3 4 5

42. I feel that technology in the classroom is a valuable instructional tool.

1 2 3 4 5

43. I feel that technology in the classroom motivated students to get more involved in learning activities.

1 2 3 4 5

44. I feel that the use of technology in the classroom improves student learning of critical concepts and ideas.

1 2 3 4 5

45. I consider the computer a helpful instructional tool.

1 2 3 4 5

Self-efficacy in Everyday Technology Use

46. I feel confident in my ability to use technology in everyday tasks.

1 2 3 4 5

Self-efficacy Related to Classroom Technology Use

47. I feel confident in my ability to use technology in my classroom.

1 2 3 4 5

48. I believe I can implement technology in the classroom effectively.

1 2 3 4 5

49. I am very competent in using a wide variety of technologies relevant for teaching.

1 2 3 4 5

APPENDIX D

BRANDI BURTON CURRICULUM VITAE

Brandi Burton
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Education:

In Progress: **Mississippi State University**

- Doctor of Philosophy in Curriculum and Instruction

Completed: **Mississippi State University** Class of 2007

- M.S. in Technology Education

Mississippi State University Class of 2000

- B.A. in General Business Administration

Eupora High School Class of 1997

Administrative/ Supervisory Experience:

Project Director of Communications 2014-Present
The Early Years Network/Mississippi State University
Mississippi State, MS

Writing Experience:

Publications Specialist 2012-2014
Mississippi State University
Mississippi Child Care Resource and Referral Network
Mississippi State, MS

Teaching Experience:

Technology Discovery/STEM East Webster High School Mathiston, MS	2011-2012
Gifted teacher, 7th and 8th grade East Webster High School Mathiston, MS	2008-2011
Business and FCS teacher Eupora High School Eupora, MS	2005-2008
Computer/Technology Discovery teacher Houston High School Houston, MS	2003-2005

Conference Presentations:

Written and Presented:

Davis, L. E., Bethay, L., Taylor, J., Burton, B., Elmore-Staton, L., Parker, J., & Dickson, L. *Nurturing parents: An evidence based approach to improving parenting behaviors in Mississippi.* Session presented at the 2016 Young Child Expo & Conference in New York City, NY.

Mays, J., Burton, B., King, A., Pegues, B., & Atkins, L. *Professional presentations: Creating and implementing effective training tools.* Session presented at the 2016 Southeastern Early Childhood Association in Tulsa, OK.

Davis, L. E., Dickson, L., Parker, J., Elmore-Staton, L., Allgood, C., & Burton, B. *Nurturing parents: An evidence based approach to improving parenting behaviors in Mississippi.* Session presented at the 2015 Mid-South Educational Research Association. November 2015, Lafayette, LA.

Burton, B., Davis, L., Allgood, C., Bethay, L. (2015, August) *Early Years Network: Growing Mississippi's Children.* Session presented at the Postsecondary Career Pathway Summer Conference. Biloxi, MS.

Burton, B., Pegues, B., Mercer, A. (2015, May) *Relationships Matter! Fostering Relationships and Strong Connections.* Session presented at the McCormick Leadership Conference. Wheeling, IL.

Burton, B. (2014, March) *How 6-8 grade Language Arts Teachers Use Technology to meet Common Core State Standards*. Led roundtable discussion at the Society of Information Technology and Teacher Education International Conference. Jacksonville, FL.

Burton, B. (2009, October) *Music Through the Years*. Break out session presented at the Mississippi Associational Gifted Conference. Philadelphia, MS.

Poster Sessions:

Written and Presented:

Davis, L. E., Dickson, L., Allgood, C., Bethay, L., Elmore-Staton, L., Parker, J., & Burton, B. (2015). *Nurturing parents: An evidence based approach to improving parenting behaviors in Mississippi.* Refereed poster session at the 30th National Training Institute Conference. December 2015, Seattle, WA.

Davis, L. E., Dickson, L., Pegues, B., Mercer, A., & Burton, B. (2015). *When the unthinkable happens: Protecting relationships while negotiating adverse events on early childhood programs*. Refereed poster session at the 30th National Training Institute Conference. December 2015, Seattle, WA.

Davis, L. E., Dickson, L., Pegues, B., Mercer, A., Burton, B., & Bethay, L. (2015). *When stickers don't work: Promoting self-regulation, behavior, and guidance beyond the tyranny of the treasure box.* Refereed poster session at the 2015 National Association for the Education of Young Children Annual Conference. November 2015, Orlando, FL.

Presented:

Davis, L., Newman, M., Dickson, L., Warren, S., Gregory, T., Carmody, K. (2015). *Improving the Learning Environment of In-Home Family Childcare*. Presented at the Society for Research in Child Development Conference. Philadelphia, PA.

Publications:

Burton, B. (2012) Designed and produced the *Quality Rating and Improvement System Manual for the Out-of-School Program*

Peer Review: *Students using technological devices (or not): Pedagogical strategies, effects on reading comprehension.* The Journal of Educational Research.

Grants Awarded: ***Early Years Network*** **$35,886,388** for 27 months

Professional Organizations:

- Mississippi Early Childhood Association
- American Educational Research Association
- Society for Information Technology and Teacher Education

APPENDIX E

IRB APPROVAL EMAIL

Protocol Title: Perceptions of ELA Teachers and Their Preparedness for Implementing Technology

Protocol Number: 15-276

Principal Investigator: Ms. Brandi Burton

Date of Determination: 8/24/2015

Qualifying Exempt Category: 45 CFR 46.101(b)(2)

Dear Ms. Burton:

The Human Research Protection Program has determined the above referenced project exempt from IRB review.

Please note the following:

- Retain a copy of this correspondence for your records.

- An approval stamp is required on all informed consents. You must use the stamped consent form for obtaining consent from participants.

- Only the MSU staff and students named on the application are approved as MSU investigators and/or key personnel for this study.

- The approved study will expire on 5/15/2020, which was the completion date indicated on your application. If additional time is needed, submit a co! ntinuation request. (SOP 01-07 Continuing Review of Approved Applications)

- Any modifications to the project must be reviewed and approved by the HRPP prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project.

- Per university requirement, all research-related records (e.g. application materials, letters of support, signed consent forms, etc.) must be retained and available for audit for a period of at least 3 years after the research has ended.

- It is the responsibility of the investigator to promptly report events that may represent unanticipated problems involving risks to subjects or others.

This determination is issued under the Mississippi State University's OHRP Federalwide Assurance #FWA00000203. All forms and procedures can be found on the HRPP website: www.orc.msstate.edu.

Thank you for your cooperation and good luck to y! ou in conducting this research project. If you have questions or concerns, please contact me at jroberts@orc.msstate.edu or call 662-325-2238.

Finally, we would greatly appreciate your feedback on the HRPP approval process. Please take a few minutes to complete our survey at https://www.surveymonkey.com/s/PPM2FBP.

Sincerely,

Jodi Roberts, Ph.D.
HRPP Officer

cc: Nicole Miller, Advisor