Fall 10-2016

The Role of the Technology Coach in Middle School English Language Arts Classrooms

Brenda Christine Conyac
Lindenwood University

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by

Brenda Christine Conyac

October, 2016

A Dissertation submitted to the Education Faculty of Lindenwood University in partial fulfillment of the requirements for the degree of

Doctor of Education

School of Education

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This Dissertation has been approved as partial fulfillment

of the requirements for the degree of

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Lindenwood University, School of Education

Dr. Shelly Bransen, Dissertation Chair	Oct. 11, 2016 Date
Dr. Sherry DeVore, Committee Member	Oct. 11, 2016 Date
Dr. Grant Boyer, Committee Member	10-11-2016 Date

Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

Full Legal Name: Brenda Christine Conyac

Signature: Brenda Christine Conyac Date: Oct 11, 2016

Acknowledgements

I want to first thank my dissertation committee, Dr. Sherry DeVore, Dr. Shelly Fransen, and Dr. Grant Boyer. I am thankful for everything each of these professionals has done to help me with the completion of my dissertation. I would also like to thank all the participants who took part in this study. Their willingness to share their perceptions helped me to gather the needed data to produce a quality dissertation. I would also like to thank my husband, Chip. Finally, I would like to express gratitude to my other family members, friends, and Shell Knob School staff members for their motivating and positive words for me as I worked through the process of writing this paper.

Abstract

Technology should play an important role in K-12 education, according to most educators and policymakers (Hastings, 2009). However, despite numerous classroom technology initiatives, supplemental funding, increased availability, encouragement by stakeholders, and urgency to develop 21st-century skills needed for the technology age, students and teachers are not making use of technology effectively in classrooms (Hastings, 2009). In this qualitative study, the researcher detailed how perceptions of technology coaches and teachers in sixth- through eighth-grade southwest Missouri classrooms related to the best model for implementing a technology coach. The duties and qualifications perceived to be important for the position of technology coach were reviewed. Eight technology coaches and eight classroom teachers were interviewed to learn how the position of technology coach has impacted the participants and their schools. Common perceptions were found after data were reviewed. Teachers noted advantages to having a technology coach in the building included the following: troubleshooting support, professional development, research of new programs, support with incorporating technology into curriculum, and an accessible person when there is a technology need. Technology coaches reported the importance of teachers having support in classrooms as an advantage to the position. Teachers and coaches both supported the concept of a coach in the classroom modeling technology integration and working directly with teachers. Professional development was also noted as an important part of a coach's job duties. Conclusions from this study may help school leaders better address the job responsibilities of a technology coach.

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Chapter One: Introduction

People around the world have the potential to learn from any location at their convenience (Ally, Grimus, & Ebner, 2014). Technology has changed classroom instruction (Warnich & Gordon, 2015). It is now expected teachers will use technology as part of their daily lessons (Griffin, 2014). Teachers have been experimenting with the use of computers in the classroom for the past 50 years (Hanson, 2014); however, teachers are now trained as part of their pre-service training and through professional development to use technology in education (Ally et al., 2014).

What has changed is the lower cost and availability of technology in the classroom and at home for most students on a daily basis (Culatta & Stevens, 2015). In fact, the technology currently used has the capability to change classroom instruction and student learning like nothing else in the 21st century (Palmer, 2015). According to Hart (2016), technology has changed over the past 15 years; it was not very long ago teachers did not even have their own computers, and now they have access to multiple devices.

The recommendation for increase of technology in the classroom is supported by the federal government (Hanson, 2015). According to Jackson (2016), No Child Left Behind (NCLB) was the first legislation that mandated technology literacy growth and was an important step in making technology literacy a priority within the public education system. The American Recovery and Reinvestment Act and the 2012 Race to the Top initiative set a prerequisite requiring schools to spend money on technology for their classrooms in order to receive certain federal funds (U.S. Department of Education, 2009). Jackson (2016) stated, “NCLB set the stage for the increased number of

computers within classrooms seen today as well as future legislation related to the use of technology in teaching and instruction" (p. 10).

With this legislation and initiative, President Obama and the U.S. Department of Education, through the integration of technology, set the stage for the future transformation of elementary and secondary education (U.S. Department of Education, 2009). The *National Education Technology Plan* described technology as at the center of nearly every part of society's daily lives (U.S. Department of Education, 2010). As technology use in education has increased, teachers feel unprepared to use technology in the implementation of new instructional strategies necessary for the true integration of technology into the classroom (Murthy, Iver, & Warriem, 2015).

Chapter One includes a description of the background of the study. The theoretical framework is explained, in addition to the statement of the problem. The purpose of the study and the study questions are discussed. The chapter also includes the definition of terms identified as important to the study.

Background of the Study

Students in the classroom today have never known a time when technology was not an important part of every aspect of their lives, as today's society is absorbed with the use of technology (Kirkland, 2014). One-to-one computing has undergone significant change (Intel Education, 2014). As laptops, smart phones, and tablets become more accessible and inexpensive, one-to-one computing is a more practical option for most school districts (Intel Education, 2014). In nontraditional classrooms, books have been transferred to e-books, which are small, lightweight, and allow students to have multiple books on one device (Griffin, 2014).

Incorporating new resources, new approaches, and new technology devices into instructional practices is a challenge for most teachers (Griffin, 2014). Griffin (2014) stated it is difficult for teachers to design effective lessons and integrate technology with the current wide range of technology available without a technology-specific professional development plan. Teachers must establish an effective understanding, obtain appropriate confidence levels, and display a skillset that will allow for appropriate technology integration for proper student use (Griffin, 2014).

Research continues to show technology is not used effectively in K-12 public classrooms (Koehler, Mishra, Kereluik, Shin, & Graham, 2014). The main objective of education is to prepare students to be productive citizens (Griffin, 2014). Schools are challenged to incorporate the potential of technology into daily instructional practice; since most technologies utilized in classrooms were not developed to be educational tools, these remain expensive artifacts when teachers do not understand how the technologies solve problems faced in their work (Griffin, 2014).

Students of the 21st century are developing different learning styles than students from previous generations (Griffin, 2014). Griffin (2014) stated smart use of technology is not about replacing teachers and administrators with virtual schools; it is more about giving each person the resources he or she needs to be successful. Technology is not an add-on for current practice, although it can play a huge role in increasing academic productivity (Griffin, 2014). A fundamental rethinking of the structure and delivery of education in the United States will be required for this change (Griffin, 2014).

Technology should play an important role in K-12 education, according to most educators and policymakers (Hastings, 2009). However, despite numerous classroom technology initiatives, supplemental funding, increased availability, encouragement by stakeholders, and urgency to develop 21st-century skills needed for the technology age, students and teachers are not making use of technology effectively in classrooms (Hastings, 2009). In addition, technology is constantly changing and emerging, and it is critical to identify and define what technology knowledge is useful for educators as well as teachable to students (Griffin, 2014).

Research on the effectiveness of technology is still limited, especially in the area of quality technology use (Eristi, Kurt, & Dindar, 2012). Gray, Thomas, and Lewis (2010) indicated a survey of public schools was requested by the Office of Educational Technology in the U.S. Department of Education. The National Center for Education Statistics was asked to track schools and classrooms (Gray et al., 2010). Access to technology was tracked during the years 1994 through 2004 (Gray et al., 2010).

Prior to 2008, teacher professional development and measures to inhibit student access to unsuitable internet access were the focus of the surveys (Gray et al., 2010). Gray et al. (2010) also paid attention to computer and internet access and use. Availability of technology resources, such as school networks, computers, and other equipment that could improve the function of software and computers, was added to the 2008 surveys (Gray et al., 2010). Data on support

for educational technology at both the leadership and staff levels were also collected (Gray et al., 2010).

There have been many other studies of the use of technology in schools; however, most of these studies were generic in nature and looked at the amount of time technology is used in the classroom (Griffin, 2014). Hastings (2009) maintained, "Of the studies that have been conducted on effective technology use, many rely upon the frequency of technology use, rather than quality of technology use, to determine that technology has made a significant impact, focusing upon student achievement" (p. 7). However, it is important to consider frequency does not necessarily indicate quality technology use (Hastings, 2009).

According to Griffin (2014), there is an unquestionable relationship between the addition of computer resources in the classroom and a teacher's technology-related self-efficacy. Hernández-Ramos (2005) showed student familiarity with technology can often trump teacher understanding. The interchanged roles can sometimes be that of teacher (novice) and student (expert), which may cause some educators to be embarrassed by the situation (Hernández-Ramos, 2005). In most cases, educators want to be in charge in the classroom in regard to technology (Hernández-Ramos, 2005). Of teachers surveyed, 55% clearly agreed with the statement, "A teacher's proficiency with computers will affect his or her willingness to integrate technology into the curriculum" (Hernández-Ramos, 2005, p. 47).

The management of technology and the amount of integration that occurs in the classroom is ultimately in the control of the educator (Intel Education, 2014). Shifflet and Weilbacher (2015) stated, "Despite evidence of a correlation between beliefs

regarding the effectiveness of technology and its implementation, believing in technology does not guarantee its use in classrooms" (p. 369). Educators, therefore, must find the means to accept technology and must become knowledgeable technology users (Hanson, 2015).

Hernández-Ramos (2005) quoted an old Chinese saying, "Tell me and I will forget; show me, and I may remember; involve me and I will understand," as a statement on which constructivist instruction should be patterned by teachers (p. 47). The ability for students to use technology to increase understanding of information through active involvement in activities and project-based learning experiences is the goal of a constructivist teacher (Hernández-Ramos, 2005). Boethel and Dimock produced a literature review which explained when constructivist learning situations have technology blended in, a positive impact is noted in student achievement (as cited in Hernández-Ramos, 2005).

Griffin (2014) revealed teachers who are taught how to use computer resources prior to entering a classroom will demonstrate increased computer confidence. This will result in an increased use of computers and related technology in the classroom by educators (Griffin, 2014). Studies have shown a higher technology self-efficacy in pre-service teachers when they have attended courses that provide a curriculum which emphasizes technology use skills (Griffin, 2014).

Theoretical Framework

The lens through which this study was viewed was the social learning theory (Rotter, 1966). Rotter (1966) claimed if individuals have an internal locus of control, how they perceive the outcome of an event can be based upon their own behavior or

personal characteristics. Equally important, individuals with an external locus of control perceive events occur based on chance and not as a result of their behaviors (Rotter, 1966). The social learning theory indicates an individual's locus of control is shaped by other people's perceptions regarding the individual's ability to execute tasks (Rotter, 1966). According to Rotter (1966), reinforcement that follows certain behaviors, known as efficacy outcomes, are the basis of these expectancy expectations. Rotter's (1966) theory indicated once expectancy has been generated for a behavior, it must continue to be reinforced or the expectancy will diminish or go away completely.

The guarantee educators receive high-quality technology-related professional development and of students' ability to gain access to quality technological resources and tools were listed as fundamental components of the *Ten Elements of High-Quality Digital Learning* released by the Digital Learning Council in 2010 (Hanson, 2015). The U.S. Department of Education (2010) suggested through the *National Education Technology Plan* that in order for teachers to create collaborative learning strategies, technology will soon be essential and will ultimately increase student achievement. According to Eristi et al. (2012), educators are prepared to use technology in their classrooms; however, it is apparent they need continual support concerning technology use in their classes.

Eristi et al. (2012) related many factors to the problems teachers experience in using technology successfully in the classroom. One of the problems is the limited availability of staff members to provide technological assistance teachers need at school (Eristi et al., 2012). Eristi et al. (2012) also reported poor-quality teacher self-efficacy, a lack of instant support to educators during the time period when it is needed, lack of a strong technology sub-structure, and poor working conditions when related to technology

use. Eristi et al. (2012) believed the lack of adequate time to become capable to use technology proficiently amplifies the trouble teachers experience related to technology use. For this reason, teachers cannot effectively use technology in their classrooms (Eristi et al., 2012).

Teachers require high-quality and in-depth professional development to prepare for the implementation of one-to-one technology initiatives, as this will become a primary indicator of the success of the program in future years (Intel Education, 2014). School administrators need to consider professional development programs are a significant investment in time and money; therefore, the programs must be well-planned and ongoing (Griffin, 2014). Hanson (2015) reported increased use of technology impacts the quality of classroom instruction and student academic achievement. One of the most important factors in how technology is implemented is the teacher (Shifflet & Weilbacher, 2015). Shifflet and Weilbacher (2015) suggested the use of technology in the classroom will require significant changes to teaching practices. Teachers must become competent in technology use and also discover a way to embrace the use of technology in the classroom (Hanson, 2015).

The adoption of anything new and innovative requires looking at teacher self-efficacy (Griffin, 2014). Griffin (2014) believed it is a factor that can help predict and account for how teachers act on what they know and what they believe they can do. Teachers who have an understanding of technology, content, and pedagogy use technology resources more when teaching, because they understand technology's ability to increase student learning and provide access to content (German, 2014). German (2014) stated an increase in technology knowledge increases technology use in the

classroom, so it makes sense increasing teachers' knowledge is a key to increasing technology integration.

Statement of the Problem

The increase in information and communication technology has led to an increased use of technology in classrooms around the world during the past 20 years (Murthy et al., 2015). Public schools are required to teach to ever-increasing targets for student proficiency with severe sanctions if the goals are not met (Griffin, 2014). Many schools have been struggling to increase the amount of technology available for use in elementary classrooms (Griffin, 2014). Including technology in classroom instruction can motivate students and increase learning, curiosity, and creativity (Molins-Ruano et al., 2014).

One reason for pushing more technology into elementary classrooms is an effort to increase student academic achievement (Griffin, 2014). However, most educators with access to technology and who have adequate technology skills still fail to include technology in their teaching (Govender & Govender, 2014). Engaging digital natives and preparing them for the 21st-century workplace is a benefit of technology (Griffin, 2014).

Purpose of the Study

The purpose of this study was to review the perceptions of technology coaches and teachers in sixth- through eighth-grade Missouri classrooms related to the best model for implementing a technology coach. The duties and qualifications perceived to be important for the position of technology coach were also reviewed. According to Woo and Law (2015), there are limited procedures for schools or districts related to successful implementation of the position of technology coach. Little information is available

regarding the qualifications and needed skills of a technology coach to produce quality results in a classroom (Nelson & Webb, 2015).

Research questions. The following research questions guided the study:

1. What are the perceptions of middle school teachers toward having a technology coach available?
2. What are the perceptions of middle school teachers in regard to technology integration in the classroom and its effect on student achievement?
3. What are the perceptions of technology coaches toward duties and responsibilities assigned?
4. What are the perceptions of technology coaches toward their role in middle school technology integration?

Significance of Study

It is difficult to examine and compare one-to-one technology use in the classroom, according to Downes and Bishop (2015), because the focus is often the amount of technology students and teachers have access to, not necessarily how technology is integrated in the classroom to promote learning. This study included review of the perceptions of technology coaches and English language arts teachers in sixth- through eighth-grade classrooms who are members of the Regional Consortium for Education and Technology in Southwest Missouri related to the best model for implementing a technology coach. The duties and qualifications perceived to be important for the position of technology coach were also reviewed. According to George (2013), there are limited procedures in place for districts or schools in regard to successfully implementing the position of technology coach. Little information exists on the qualifications and

needed skills of a technology coach that would produce quality results in a classroom (George, 2013).

Definition of Key Terms

For the purposes of this study, the following terms are defined:

Middle school. For the purposes of this study, a middle school houses sixth- through eighth-grade students.

One-to-one classroom. A one-to-one classroom is defined as "one teacher to one student – which places the focus on using the technology to facilitate real-time, or close to real-time, interaction between teacher and student" (Vidal, 2014, para. 4).

Self-efficacy. Cash (2014) stated, "According to Bandura, self-efficacy is the belief people have concerning their ability to complete tasks" (p. 5).

Student technology use. Student technology use is defined as the "understanding of how students use technology, including frequency, independently, small groups, and purpose of the use, such as collaboration, communication, problem-solving, or publishing" (Hastings, 2009, p. 14).

Teacher technology proficiency. As defined by Hastings (2009), teacher technology proficiency is a "teacher's level of acquisition of technology skills, including basic operations, productivity, communication, Internet, and multimedia according to skill level" (p. 14).

Teaching professionalism. Hastings (2009) defined teaching professionalism as a "combination of two factors, including the number of hours typically worked beyond the contract in a teaching work week to prepare for instruction and the number of years of teaching experience" (p. 15).

Technology literacy. The Colorado Department of Education, as cited in Blake (2015), defined technology literacy:

> The ability to appropriately select and responsibly use technology. Students who have attained technological literacy are able to: Problem-solve, Communicate, Locate, use and synthesize information found using technology and Develop skills necessary to function in the 21st century. (para. 2)

Technology support. Technology support is defined as the assistance provided to teachers, any type of technology-related professional development, and preferences for professional development (Hastings, 2009).

Limitations and Assumptions

The following limitations were identified in this study:

Sample demographics. The sample was a limitation due to using only middle schools in southwest Missouri that have a technology coach. The study was conducted within a very limited time frame from January to September 2016.

Population and sample. The varying sizes of the classrooms and schools included in the sample could impact the access of the students and teachers to technology. This may also impact the teacher experience with using technology. If technology is not available for practice, then teachers will not likely be as comfortable with the use of technology in the classroom.

Instrument. Interview responses may not reflect all educators' views.

The following assumptions were made as part of the collection and study of the data:

1. Teachers are treated equally within school districts.

2. All Missouri schools have technology available for classroom use.
3. Respondents completed the interviews honestly and without bias.

Summary

Several significant variables thought to be important in regard to achieving successful technology integration have been discovered through research, such as characteristics of the teacher, technology access, and support (Griffin, 2014). However, these variables have been examined in isolation from the school setting or from other variables with which technology integration occurred (Griffin, 2014). In spite of the shared belief of teachers that technology use in the classroom could increase student engagement in learning, it does not supersede the factors teachers perceive as interfering with the ability to put those beliefs into action (Kennedy, 2015).

Chapter One included a discussion of the background of the study. The theoretical framework was explained, in addition to a review of the problem researched. The purpose of the study and the research questions were introduced. The chapter also included definitions of terms identified as important to the study.

In Chapter Two, the use of technology in K-12 classrooms is reviewed. The research reviewed focuses on teacher perceptions of technology and the use of technology in K-12 public school classrooms. A teacher's comfort level with technology, perceived benefits of technology, and teacher technology proficiency are also examined.

In Chapter Three, the methodology used in this qualitative study is described. An overview of the problem and purpose of the study are presented. Descriptions of the population and sample are provided, as well as the instrumentation and analysis process. The results of the study are presented in Chapter Four. Chapter Five includes the

findings, conclusions drawn based on examination of study results and review of the literature in the field, implications of the study for practice, and recommendations for further research.

Chapter Two: Review of Literature

Children need 21st-century skills, but students currently enrolled in kindergarten will be at least a third of the way through the 21st century when they graduate (Flanigan, 2016). Students must be prepared for what is coming in the future, not just right now (Flanigan, 2016). Public schools in the United States continue to struggle to improve (Curran, 2016). Downes and Bishop (2015) recognized, "The use of technology in schools has both strong support and considerable opposition" (p. 2). According to Downes and Bishop (2015), one-to-one technology instruction is, therefore, difficult to examine and compare, because its focus is often the amount of technology students and teachers have access to, not necessarily how technology is integrated in the classroom to promote learning. Downes and Bishop (2015) insisted, "Researchers and educators should design studies and interpret findings through the broader milieu of what is educationally effective with and responsive to young adolescents" (p. 13).

Chapter Two includes a more detailed discussion of the theoretical framework. A review of historical and recent research is included related to technology integration and coaching. The impact of technology on academic achievement is also presented.

Theoretical Framework

The social learning theory (Rotter, 1966) was an appropriate framework to guide this study because the theory focuses on how individuals perceive their locus of control, whether it is internal or external, and the extent to which individuals believe rewards are based on their actions. If individuals have an internal locus of control, Rotter (1966) claimed, they perceive the outcome of an event is contingent upon their own behavior or personal characteristics. Conversely, individuals with an external locus of control

perceive events occur based on chance and not as a result of their behaviors (Rotter, 1966). This theory indicates individual locus of control is shaped by expectancy expectations, which are people's perceptions regarding their abilities to execute tasks (Rotter, 1966). According to Rotter (1966), these expectancy expectations are based on reinforcement that follows certain behaviors, known as efficacy outcomes.

The self-efficacy theory has been studied in one way or another since 1966 (German, 2014). Most people attribute this idea to Bandura; however, it was Rotter (1966) who first investigated the concept of social learning theory, on which Bandura's self-efficacy theory is based. Rotter's and Bandura's conceptual strands are separate, but the variability of individuals' internal or external locus of control is of significance to understanding the learning process (German, 2014).

According to Cash (2014), an individual's intuition drives this process. Cash (2014) stated, "Social cognitive theory views human functioning as a mechanism that assigns a central role to cognitive, vicarious, self-regulatory, and self-reflective processes in human development, adaptation, and behavioral change" (p. 8). The practice of self-regulation helps individuals put their thoughts and actions in order and regulate their own behaviors by altering their environments (Cash, 2014).

There are two key assumptions made by the social cognitive theory (Cash, 2014). First, people act in their own self-interest by self-regulating their behavior in order to complete an activity or job by being proactive or self-reflective (Cash, 2014). Second, people have the ability to take an active part in influencing their environment rather than having the environment determine the way they act (Cash, 2014).

Self-efficacy beliefs are the internal factors that stem from cognitive and affective mental processes that lead to self-efficacy (Cash, 2014). According to Cash (2014), when people form self-advocacy principles, they create a mental course of action that allows them to confidently perform the ensuing behavior based on their self-efficacy beliefs. Those who have high efficacy expectations visualize a situation in which they will be successful, and as a result, set higher goals with the belief they possess the requisite mental tenacity to achieve their goals (German, 2014).

Behavior antecedents are often self-efficacy beliefs and can be a powerful construct useful in the prediction and improvement of behavior (Cash, 2014). People who possess lower efficacy expectations fixate on the potential problems with a given situation, which leaves them unable to achieve their goals (German, 2014). The performance of individuals with the same knowledge and skill may vary substantially depending on their self-efficacious feelings when they are completing a given task (German, 2014)

Technology and Technology Integration

Legislative mandates for school districts to use technology for education are based on the concept increased technology use will improve instruction and increase student learning (Davies & West, 2014). The ability for students to connect broadly and deeply with elements of technology is made possible as technology continues to expand (Pittman & Gaines, 2015). Technology is an important part of education systems, and it is an intimidating task to split the effects of technology from the effects of other factors that impact teaching and learning (Guy-Phillips, 2014). According to Pittman and Gaines (2015), “As students begin to develop technology habits, it is vital to teach them how to

effectively use the tools available to them" (p. 550). The integration of technology into the learning process means innovation is necessary; teachers becoming innovators in the classroom is an extensive process that should be expected to take years (Orhan, 2015).

Guy-Phillips (2014) considered technology to be "a body of knowledge and actions, used by people, to extend the human potential for controlling and modifying the natural and human made environment" (p. 17). The current information would be more applicable if a universal measuring tool was produced to gather and compare data across settings (Pittman & Gaines, 2015). Technology integration does not occur by accident; it occurs with an educational plan created with a purpose which requires knowledgeable and skilled leadership (Kennedy, 2015). Basically, technology integration should be simple and an accepted part of modern classroom instruction (Kennedy, 2015). Kennedy (2015) stated, "Technology should not only be seen as a writing tool, similar to a pen, pencil, or paper-lined notebook" (p. 15). Technology should also be seen as an academic tool necessary to collect and integrate information to support learning (Kennedy, 2015). Technology resources include equipment and other infrastructure, specific software, network-based communication systems, and computers (Hur, Shannon, & Wolf, 2016).

Twenty-first century learners are very relational and require quick access to new information; they are also able to engage in education and learning at a much higher level (Kuhlthau, Maniotes, & Caspari, 2015). It is no longer adequate for teachers to have more access to technology resources than students (Kuhlthau et al., 2015). The implementation of International Society for Technology in Education (ISTE) standards has allowed educators to find the creation of digital artwork can be done independently by even the youngest 21st-century learners (Kuhlthau et al., 2015). Young learners are

also capable of digitally presenting information through software by writing and editing their own storybooks and movies (Kuhlthau et al., 2015).

When teachers recognize students in their classrooms are talented, independent technology users who can design inspiring digital work, the next response of educators is often a concern of how to fit all of the work expected into a school day (Bryan, 2015). The prior expectation of teaching with technology was for the teacher to be the focal point of the classroom through interactive multimedia presentations used in order to gain the attention of the 21st-century student (Kuhlthau et al., 2015). According to Pittman and Gaines (2015):

> Considering the findings as a whole, one solution to increase technology integration could perhaps be the creation of more appropriate professional development opportunities designed to meet three goals: a) to lessen the time required for teachers to learn to use technologies and implement them, b) to provide specific strategies for instructing students in the use of the technology, and c) to focus on the importance of technology to students future success. (p. 549)

Teachers have a love-and-hate relationship with technology; nine out of 10 believe it has a positive impact on education, but teachers also fight the idea of students having cell phones at school (Schaffhauser & Nagel, 2016).

A new way of instructing through technology must materialize, which depends on a fundamental shift in student and teacher roles as educators spend less time designing presentations and increase the amount of time creating powerful learning activities (Kuhlthau et al., 2015). Students are already interested in technology and are usually

engaged and able to focus more easily; teachers need to harness this attention (Capella University, 2014). Educators will find information presented through technology is covered with more retention and depth the first time, saving time and energy (Kuhlthau et al., 2015).

Efforts for school reform have emphasized educator professional development as an important part of educational change and as a significant link between student achievement and standards (Kennedy, 2015). President Obama and congressional leaders recognized how important technology is and included $650 million in the federal stimulus package for enhancing instructional technology (U.S. Department of Education, 2009). This package included a technology grant program for states which would require 25% of the funds be used for professional development focused on the best use of technology in the classroom (U.S. Department of Education, 2009). The United States has been unsuccessful in ensuring every student benefits from professional learning due to a failure to make high-quality professional development a priority and a requirement for all teachers (Griffin, 2014).

History and Trends of Technology Integration

The professionals involved in the field of education need to understand technology is a tool to reinforce student learning and not a tool to replace instruction (Kennedy, 2015). The repeatability and flexibility of computer programs for instruction began to be noticed by researchers in the 1970s, which started the era of computer-assisted instruction (Sun, Finger, & Liu, 2014). Researchers have witnessed transformational development in technology (Sun et al., 2014). Educators continue to be uncertain of the role technology plays in the classroom, unsure how to control it

effectively, and unsure of the fundamental skills and knowledge necessary for teachers and school leaders to integrate it effectively to support learning outcomes (Kennedy, 2015). Sun et al. (2014) stated even a decade ago, few people could have imagined the technology currently available.

According to Davies and West (2014), over the past decade, one of the most prevalent initiatives intended to increase access to technology in schools is one-to-one computing programs. Davies and West (2014) asserted, "These initiatives are designed to increase the availability of primarily digital technologies and related software for teachers and students" (p. 25). The cost of obtaining and maintaining technology has been one of the largest obstacles faced by school districts (Sun et al., 2014). Technology-rich schools have been created in random areas due to uneven levels of access created by the way federal programs fund technology initiatives (Davies & West, 2014). Davies and West (2014) believed, "Having greater access to and improved use of technology (i.e., computer and internet availability) has not always led to substantial increases in learning" (p. 25).

In general, studies depend on factors besides having access to technology and often refer to the potential scholastic benefit for technology to increase learning (Davies & West, 2014). Once school districts are able to gain access to educational technologies, the focal point of technology integration often turns to increasing the amount of time technology is used (Kennedy, 2015). Researchers have reported educators do not always use technology for the purpose of instruction, even when teachers and students have sufficient access (Sun et al., 2014). Teachers often do not have students complete technology assignments at home due to the issues that hamper technology use in schools,

which include social and moral ethics, like the question of inequitable access to technology for all students (Davies & West, 2014).

Once the World Wide Web was in place, the idea of e-learning as it is known today took hold (Sun et al., 2014). People began using computers with the help of the internet to create instructional materials (Sun et al., 2014). Currently, the field of e-learning is growing very rapidly with hundreds of thousands of people involved using e-learning for K-12 schooling, corporate training, and more (Sun et al., 2014).

Jean Piaget, a developmental psychologist in the 20th century, presented schools with a framework for cognitive development (Saettler, 2004). To integrate the framework into educational technology, Piaget forecasted the need for the training of new educators to change drastically, and in 1950 hinted at the fact schools will be thoroughly changed from what they are today (Saettler, 2004). From the time of Comenius to Piaget, Saettler (2004) concluded through his examination of American educational technology that almost every noteworthy system of instruction has left differing concepts in the areas of theories of instruction and techniques in current educational technology systems. It is also clear there is a general lack of agreement upon concepts of educational technology (Saettler, 2004).

Cuban (1986) recalled early technology when school boards purchased computers, were backed by school administrators who placed the computers in the classrooms, and then the technology was used by teachers who did the best they could with it. Outside of the schools it appeared new technologies were being blended into classroom instruction (Cuban, 1986). The fact was technology was seldom used, and when it was used it was relegated to a sporadic appearance as an afterthought to

instruction (Cuban, 1986). By 2008, 98% of school districts had a connection to the internet, with an internet connection and one instructional computer for every 3.1 students (National Center for Education Statistics, 2013). The National Center for Education Statistics (2013) went on to describe the use of technology not as a ground-breaking change to teaching, but as another avenue for drill and practice, delivering lectures, showing videos or movies, and using as an overhead.

A 21st-century teacher needs to foster a student-centered classroom where individual goals are set for students and where students are allowed to make choices in their learning to increase intrinsic motivation (Palmer, 2015). Palmer (2015) described students as producers who, when given the opportunity, can produce beautiful and creative blogs, movies, or digital stories to share with others through the use of technology. This focus will allow students to learn new technology, go global, connect with others through technology, and learn how to create a positive technology footprint (Palmer, 2015).

Benefits of Technology Integration

Researchers have persistently argued a number of benefits can be attained through the successful integration of technology in education (Bryan, 2015; Schoenbart, 2015). Bryan (2015) stated collaboration through social networks will give students the potential to create knowledge, share content, and establish new Online Communities of Practice in the cloud. According to Schoenbart (2015), the potential for learning is endless when students have devices in their hands. Education is changing how students learn through the integration of technology; teachers now need to help students develop technology skills that can be integrated with other subject areas to make a significant impact on

student growth and learning (Snyder, 2014). Students are able to work at their own pace, and they are just a click away from something new to achieve (Schoenbart, 2015). Killion (2016) stated quality professional development focused on technology improves the quality of instruction and produces a significant increase in student test scores, with the greatest gain after three years.

School districts with students with disabilities now have more accessible assistive technology; this can help students with a wide variety of challenges (Meyer, 2016). As schools add more technology to classrooms, it has increased the ability to access, create, and save information (Johnson, 2014). Educators have been teaching technology skills sporadically without relevance to the students or as add-ons to the classroom (Johnson, 2014). In the past, teachers told students what must be learned; teachers defined knowledge, but now students are able to create their own learning (Gallogray, 2015). School administrators should encourage the use of current technology education tools as a way to concentrate on and support student learning (Barbarán, 2014). According to Barbarán (2014), administrators should assure teachers any technology changes will have a longevity of at least two years if proven to meet student needs and enhance student learning.

Ozer Kendig (2010), as a result of the Pennsylvania's Classrooms for the Future initiative, reviewed the impact of the integration of technology on student engagement and teacher practice. The researchers also used a student engagement survey in which 63% of students reported being more engaged when the teacher used technology, and 70% reported being more engaged when allowed to use technology themselves (Ozer Kendig, 2010). When asked if they were more engaged when a teacher used technology

or when they themselves were allowed to use technology, 71% of students responded they were more engaged when they themselves were allowed to use technology (Ozer Kendig, 2010). The highest levels of student engagement with technology occur when students are able to use their own devices (Ozer Kendig, 2010).

Students today are born digital natives, but this does not mean they will embrace technology in the academic setting (Belcher, 2014). Pre-service teachers should be taught instructional strategies that include reflection and increased activation of prior knowledge if teachers are to support creative and critical thinking in the classroom (Hattie, 2015). The implementation of an iPad one-to-one program allowed students to have access to technology during the school day, and daily school processes were moved from teacher-led to increased student engagement (Belcher, 2014).

Challenges of Technology Integration

Students today have never known a time when technology was not an important part of their life; society is currently immersed in technology (Kirkland, 2014). Research reviewed by Gallogray (2015) indicated technology has a definite influence on learning. The increase in technology in the classroom has added additional challenges for teachers; they are now having to become designers of enhanced learning through technology (Kali, Mckenney, & Sagy, 2015). Schools with integrated technology still have several barriers to overcome (Preston et al., 2015). Davies and West (2014) established the effort to implement research-based technology lessons is a challenge when given the complexity of the task and the extraneous factors that impact the effort required to teach specific learning goals with the addition of technology. Learning increases in all content areas

when technology is implemented consistently and correctly in the classroom (Gallogray, 2015).

According to "The Realities of BYOD" (2014), the use of technology in classrooms meant to improve student learning through access to the internet is increasing barriers for low-income families. To overcome these barriers and successfully integrate technology into the teaching and learning process, more data must be gathered and analyzed to determine best practices for schools (Pittman & Gaines, 2015). When teachers identify technology they wish to implement in their classrooms, access to professional development and training is a major concern (Griffin, 2014). Administrators who are interviewing potential staff members for their school districts must be careful not to assume young teacher candidates who are digital natives can effectively use technology as an instructional tool (Shifflet & Weilbacher, 2015).

It was found the greatest way to overcome hurdles to technology integration is through the support of school administration (Gallogray, 2015). The lack of implementation of policies needed to support technology use in the classroom has been a roadblock to the use of technology to enrich student learning (Preston et al., 2015). In recent studies on technology integration, evidence suggested teachers are not as prepared to integrate technology as one might suspect (Gallogray, 2015).

Technology has always had a place in education, but the quick changes in current technologies makes it difficult for it to stay relevant for any period of time (Sullivan, 2015). According to Davies and West (2014), one of the largest obstacles to accessing technology is the cost of obtaining and maintaining technology resources. The financial burden of providing and maintaining technology, along with the way the federal

government funds technology initiatives, have caused uneven levels of access to needed resources (Davies & West, 2014). The concern districts and teachers report when students are allowed to bring their own devices to school is that adults perceive it will be easier for students to get around restrictions that are in place (Bruder, 2014). However, it would lessen the cost to schools to allow students to use more current technology (Bruder, 2014).

What is considered current may be considered an antiquity in a year (Sullivan, 2015). Davies and West (2014) reported while the availability of technology has increased significantly over the past decade, the reports of access to technology give an impression of progress in effective technology integration and use. The NCLB Act caused a decline in the amount of instructional time allotted for social studies and science content areas; therefore, it is now even more critical to use technology tools in middle school classroom (Harris, 2016).

Coaching

Coaching programs are introduced into school systems, because it is assumed student achievement will increase as professional learning improves teaching practices (Cornett & Knight, 2009). Killion (2016) discovered a factor in predicting higher student achievement is professional development (Cornett & Knight, 2009). There are four main approaches to coaching related to the school setting: Peer Coaching, Cognitive Coaching, Literacy Coaching, and Instructional Coaching (Cornett & Knight, 2009).

Coaching can involve a long list of behaviors and practices to include book studies, modeling, examination of test data, informal conversations, and orders for classroom materials and resources (Cornett & Knight, 2009). One of the major

distinctions between literacy coaching and other coaching models is that non-literacy coaching is not defined by a set of precise duties, a theory, or a way in which coaches perform their jobs (Cornett & Knight, 2009). Cornett and Knight (2009) described the term literacy coach loosely as anyone who has the goal of increasing literacy through the support of teachers. This explanation means literacy coaching may look very different from district to district (Cornett & Knight, 2009).

Knight (2008) developed the Instructional Coaching Model at the University of Kansas Center for Research on Learning. This model resulted from multiple activities that included the creation and study of a theoretical framework for this method of instructional coaching (Cornett & Knight, 2009). Cornett and Knight (2009) also created a survey on modeling for teachers and held multiple teacher interviews. Over a 70-year period, there was an analysis of teacher implementation and the development of the instructional coaching model (Cornett & Knight, 2009).

The theoretical framework for instructional coaching model is the partnership approach grounded in the work of authors from many disciplines (Cornett & Knight, 2009). Knight (2008) stated teachers who are supported by an instructional coach use new teaching routines more than teachers who just attend a professional development workshop. The high-quality implementation of teaching practices is more frequently demonstrated with the support of an instructional coach than from teachers who are not supported by an instructional coach (Knight, 2008).

Responsibilities of a Technology Coach

Technology is now a part of daily lives through entertainment, work, business, and education (Harris, 2016). According to Flanigan (2016), classroom use of

technology coaches is increasing. Technology coaches are responsible for everything from observing to co-teaching (Flanigan, 2016). Students enrolled in elementary education training courses at most universities are required to complete a course in educational technology use (Nelson & Webb, 2015). Beyond the initial course, there are no additional courses required on how to use technology in the classroom (Nelson & Webb, 2015).

A key part of integrating technology into K-12 schools is the development of professional learning communities that can assist teachers to continue to use technology integration strategies (Sugar & van Tryon, 2014). Davies and West (2014) noted the vital elements in helping to integrate technology into student learning and teaching are as follows: collaboration, ability to find resources, provider of professional development, teacher of digital citizenship and information fluency, and strong communicator. Many school districts now employ technology coaches, although the roles they play are varied and wide-ranging (Bruford, 2015). It is vital school leaders carefully consider the roles of their technology coaches (Bruford, 2015).

There are several titles given to the person who provides technology professional development to teachers. The ISTE (2015) issued standards for technology coaches. The need for these standards and the additional titles for the position are described in a narrative (International Society for Technology in Education [ISTE], 2015). These include technology lead teachers, technology integration specialists, technology facilitators, Information and Communication Technology (ICT) integrators, instructional designers, and technology coaches (ISTE, 2015). These standards are a key component to schoolwide technology integration; it is necessary for technology coaches to meet

these standards in order to promote the classroom integration of technology (Sugar & van Tryon, 2014). McCrea (2014) asserted a technology coach should have a strong background in the technical component of computer use, but also emphasized instructional experience is necessary to guide teachers into the 21st century.

According to Cooper (2015), technology is impacting every aspect of daily life at an increasing pace. It is vital, then, to describe what a technology coach is, regardless of the assigned job title (Nelson & Webb, 2015). A technology coach is a school-based resource whose main concern is to help teachers integrate technology for student learning (Nelson & Webb, 2015). Cavanagh (2015) suggested the position of technology coach requires the coach to help all educators in a building, including administrators, become comfortable and competent working with digital tools. However, the position is not that simple, as technology coaches are expected to fix devices, introduce new technology, and work with all teachers, some of whom are resistant (Cavanagh, 2015).

Nelson and Webb (2015) described the main focus of the technology coach as a support to enrich teaching and learning while improving the technology skills of all school members. The technology coach should provide professional development that is technology-rich and delivered through a coaching model, while enhancing the power of community and social learning (Cooper, 2015). Technology coaches should be supporting teachers, supporting parents, and supporting students (Bruford, 2015).

The ISTE (2015) National Educational Technology Standards for Coaches (NETS•Coaches) brought the classification of the technology coach together by signifying technology coaches are generally defined as “those professionals who help educators advance technology in schools” and who “work closely with teachers and

building-level administrators to explore how technologies can support digital-age, global learning" (p. 1). The association indicated coaches "work primarily in the schools and devote most of their time and expertise helping teachers achieve the goals established by the National Educational Technology Standards for Teachers [NETS•T]" (ISTE, 2015, p. 1).

Lankau (2015) believed a technology coach should be willing to show rather than tell how to integrate technology. It is important to use content-specific examples and to remember new teachers to technology are not always new to the field of education; they have often taught for years and are now expected to integrate technology into their lessons (Lankau, 2015). The main objective of a technology coach should be to promote collaboration and to be a professional development leader; this does not mean the coach has to provide all of the training, just set the stage for quality professional development (Gordon, 2016).

Professional Development

The expectation surgeons have had years of experience prior to treating patients on their own and lawyers have to continue studying and training to stay current on federal regulations is part of daily living (Wessling, 2016). Educators are entrusted with the children of the nation, but are often isolated without training or support (Wessling, 2016). According to Wessling (2016), "In an increasingly connected world, educators need access to on demand online resources with tools and platforms that facilitate collaboration and knowledge sharing" (para. 5). The time for change is now; with the Every Student Succeeds Act, there is now a clear definition of what high-quality professional development truly is (Wessling, 2016).

The wealth of information and communication technologies has led to an increased use of technology in the classroom over the past two decades (Murthy et al., 2015). Technology is supposed to transform education, and in the process, promote 21st-century skills (Tondeur, Forkosh-Baruch, Prestridge, Albion, & Edirisinghe, 2016). Teachers reported there are four areas affected by professional development: changes in how technology is used, changes in instructional practices, an impact to teacher attitudes related to technology use in the classroom, and the ability to give feedback specific to their program (Zelenak, 2015). According to Tondeur et al. (2016), the need for effective professional development is crucial, but educators must determine what professional development is most beneficial and how to deliver it. Professional development through the blended mode with the inclusion of online training and face-to-face training sessions allows staff adequate time to practice new skills and to reflect on them (Murthy et al., 2015).

Technology allows educators to collaborate; to distribute and benefit from technology products; to create; to collect, store, and use information; and to connect with people and resources around the world (Tondeur et al., 2016). According to Murthy et al. (2015), if teachers "are not familiar with a topic used in the example for a strategy, they find it harder to think about the teaching-learning aspect and may stop being engaged" (p. 25). When an instructional strategy is introduced, it is necessary to first perform that activity before being given a detailed explanation of the strategy (Murthy et al., 2015).

Teachers not only have to learn new instructional methods, they must also be able to integrate strategies into their classrooms (Murthy et al., 2015). According to Zelenak (2015), the use of technology improves teacher and student presentations, assists with the

process of differentiated learning, and shifts instructional practices from teacher-centered to student-centered. It is important to not only provide the skills to use technology, but also the pedagogical concepts for technology (Murthy et al., 2015). Teachers who receive professional development in how to use technology in the classroom become more comfortable, skillful, and knowledgeable about the benefits associated with technology (Zelenak, 2015).

Teachers need to complete activities in the role of the student; only then can they create an instruction-based technology integration strategy in the role of the teacher (Murthy et al., 2015). Technology is changing, and it is important for teachers to engage in an ongoing process of learning to look at the uses for technology and ways to develop creative responses to local needs (Tondeur et al., 2016). Technology has become an essential part of education; there is evidence participation in a professional development program can influence the use of technology in schools (Zelenak, 2015).

Teacher Self-Efficacy

Self-efficacy is an important construct related directly to multiple outcomes for teachers and students (Scherer, Jansen, Nilsen, Areepattamannil, & Marsh, 2016). According to Overbaugh, Lu, and Diacopoulos (2015), "Teachers' self-efficacy can be conceptualized as the belief in their own ability to plan, organize, and carry out activities required to attain educational goals" (p. 257). Computer self-efficacy and frequency of computer use for instructional purposes are positively associated with high technology use in the classroom (Turel, 2014). According to Lee and Lee (2014), teachers' attitudes toward computers and skills at lesson planning directly influence their self-efficacy beliefs for technology integration. Teachers who complete a technology training program

believe they can successfully plan technology-based instructional strategies and think their teaching practices have changed (Overbaugh et al., 2015). Teacher training courses for technology skills are usually related to the technical skills of using software and neglect to link teaching methodologies and curriculum (Lee & Lee, 2014).

Teachers with the highest reported self-efficacy are teachers who have used technology for the longest period of time; this implies technology should be encouraged for teaching and learning beginning in the early years of education, and all teachers should be provided technology integration courses from the beginning of their professional careers (Turel, 2014). Pre-service teacher coursework is not adequate to teach technology integration; subject-specific training in the integration of technology increases the confidence of teachers who are responsible for technology instruction (Hartell, Gumaelius, & Svärdh, 2015). Computer self-efficacy and the amount of time a computer is used is positively associated to how often teachers use technology and how easy technology is to access (Turel, 2014). A teacher training degree that focuses on curriculum alignment does not make a difference in teacher self-efficacy; instead, the training focus must be on how technology is used in the classroom to meet individual student needs (Hartell et al., 2015).

Keys to Success

Schools make large investments in technology, and it is expected the investment will result in better school ratings or increases in student test scores (West, 2016). Due to technology being nothing more than a glorified pencil, the majority of one-to-one schools are not fulfilling their potential (Gray et al., 2010). According to West (2016), “Simply having students using laptops for learning is not enough” (para. 7). As education leaders

advocate for 21st-century skills to be taught in the classroom, the need for professional development has increased (Matherson, Wilson, & Wright, 2014). Professional development based on what teachers report they need is important to the increase in technology integration (Morelock, 2015). Introducing technology without changing how lessons are taught and how students are expected to learn can produce negative academic outcomes (West, 2016).

As information technology professionals and teachers propose a technology teaching paradigm, they have observed the problem with teaching with technology does not usually reside with the software to be used, but with the perceptions of staff members (Aguirre, 2014). Additional quality professional development will assist with changes in teacher perceptions (Aguirre, 2014). According to Maninger, Shulsky, Rudolph, and Martinez (2014), it is important to continue to explore the nature of preparing new and experienced teachers to integrate technology into classroom instruction, while school districts and campuses must seek out ways to increase access for teachers and students alike. Maninger et al. (2014) emphasized, "It is vital for teacher educators to prepare future teachers to use technology to facilitate 21st Century learning for their students" (p. 80). Educators have to be willing to embrace a new learning culture (Gray et al., 2010).

Information surrounding one-to-one laptop initiatives indicates technology can impact learning in positive ways (Maschmann, 2015). Howard, Chan, Mozejko, and Caputi (2015) stated, "Results from one-to-one computing programs should not be viewed as a definitive assessment of educational technology, but as an example of potential in teaching and learning" (p. 33). According to Johnson (2016), "Students with district provided 1:1 laptop experience show a statistically higher level of improvement

from fifth to eighth grade on MST2 scale scores" (p. 70). Teachers continue to struggle with blending independent technology-based learning with the traditional method of direct instruction (Johnson, 2014).

Howard, Chan, and Caputi (2015) revealed, "English teachers showed the strongest positive beliefs about the importance of ICTs and that ICTs supported learning, which suggests a strengthening 'match' between the subject area and technology integration" (p. 368). Niess pointed out technology training should provide teachers the opportunity to develop and integrate their knowledge of subject matter with technology (as cited in Lee & Kim, 2014). Districts are moving toward a more technological mode of providing instruction; it is necessary to prepare teachers to make this change effectively through a professional development plan that gives them the direction and confidence to make this paradigm shift (Jackson, 2016). The more time teachers have with students in a classroom setting, the more frequently technology is used (Fincher, 2016).

The question schools hear way too often from stakeholders is whether or not the expensive laptops schools purchase actually improve student performance (West, 2016). There are six main areas of change that need to be recognized for long-term success with technology to occur (West, 2016). According to West (2016), these include the following: "infrastructure, organizational leadership, mindset, staffing, professional development and flexible learning spaces" (para. 13). It is time educators begin to look deeper and have more highly developed conversations about the use of technology in education (West, 2016). The addition of technology into the school setting is the biggest change in education in more than 100 years (West, 2016).

The concept of Technological Pedagogical Content Knowledge (TPACK) was created to strengthen student learning through the increase of teachers' understanding of how to use technology (Lee & Kim, 2014). According to Koehler and Mishra (2005), the learning-by-design method was recommended to develop teachers' TPACK. The design and collaboration approach for small groups was suggested for TPACK learning, according to Koehler and Mishra (2005):

> The Learning by Design approach requires teachers to navigate the necessarily complex interplay between tools, artifacts, individuals and context. This allows teachers to explore the ill-structured domain of educational technology and develop flexible ways of thinking about technology, design and learning and, thus, develop Technological Pedagogical Content Knowledge. (p. 25)

It is important teachers who are trained to use the TPACK should first clearly understand the domains in isolation prior to being expected to see the interplay among the domains (Lee & Kim, 2014). It is also necessary teachers have a strong knowledge of their specific subject standards prior to attempting to use the TPACK model for instruction or evaluation (Lee & Kim, 2014). According to Lee and Kim (2014), pre-service teachers often evaluate possible technology tools for their external characteristics rather than the ones that are relevant to the content where technology is being integrated.

Summary

A new generation of learners is pushing the boundaries of traditional classrooms with new environments educators cannot clearly describe (Maschmann, 2015). Technology enables students to become creators and generators of knowledge (Maschmann, 2015). The successful integration of technology in the classroom has been

the center of vigorous debates in the field of education (Lee & Lee, 2014). Quality professional development is necessary for teachers to have the ability to demonstrate and model 21st-century skills for students (Matherson et al., 2014).

Within Chapter Two, the theoretical framework was further detailed and a review of research related to technology integration, coaching, and the impact of technology on academic achievement was presented. In Chapter Three, the methodology for this qualitative study is described. An overview of the study and the purpose of the study are presented, and the research questions are reviewed. Descriptions of the population and sample are provided, as well as the instrumentation and analysis process. Chapter Four includes a discussion of the results obtained through interviews of technology coaches and middle school English language arts teachers. Chapter Five includes the findings, conclusions drawn based on examination of study results and review of literature in the field, implications of the study for practice, and recommendations for further research.

Chapter Three: Methodology

This qualitative study allowed for the review of perceptions of technology coaches and middle school English language arts teachers related to the position of technology coach. It is important to remember as a qualitative study is completed, the data do not exist in a vacuum and there is a strong link between data collection and data analysis (Male, 2016). According to Male (2016), one of the consequences of qualitative research is that the researcher can quickly accumulate a vast amount of data that must be made manageable.

Chapter Three includes a description of the methodology used in conducting the study. The research questions are revisited. The instrumentation, along with the population and sample, are described. A thorough description of the data collection and data analysis procedures is discussed, and the ethical safeguards are provided.

Problem and Purpose Overview

The purpose of this study was to review the perceptions of technology coaches and teachers in middle school Missouri classrooms related to the best model for implementing a technology coach. The duties and qualifications perceived to be important for the position of technology coach were also reviewed.

Research questions. The following research questions guided the study:

1. What are the perceptions of middle school teachers toward having a technology coach available?

2. What are the perceptions of middle school teachers in regard to technology integration in the classroom and its effect on student achievement?

3. What are the perceptions of technology coaches toward duties and responsibilities assigned?

4. What are the perceptions of technology coaches toward their role in middle school technology integration?

Research Design

A qualitative approach was selected for this study. In general, qualitative exploratory methods are particularly useful in finding the importance people give to events they encounter (Yin, 2015). The purpose of this study was to determine how teachers and technology coaches perceive the use of technology in the classroom. Qualitative research inquiries often begin with "how" or "what" so a comprehensive understanding of what is going on related to the subject can be gained (Creswell, 2013). For the purpose of this study, the experiences and perceptions of teachers and technology coaches were explored in relation to the four research questions.

A qualitative study allows the exploration of experiences such as feelings or thought processes that are often complicated and difficult to learn about or extract through conventional research methods (Yin, 2015). For the present study, an exploration of participants' perceptions and life experiences of integrating technology into the classroom was undertaken. Qualitative research methods are the best techniques to use when studying experiences in their natural settings (Yin, 2015). The current study focused on the perceptions of teachers and technology coaches in relationship to the integration of technology in their classrooms and their technology-related self-efficacy.

The participants in this study were middle school teachers and technology coaches from school districts in southwest Missouri during the spring of 2016. The first

group consisted of certified teachers who work in the general education classroom. The second identified group was technology coaches. It can be assumed each respondent has at least a bachelor's degree, as this would be necessary in order to qualify for a Missouri teaching certificate.

A sample was collected from middle schools in southwest Missouri. The list of districts was gathered from the Southwest Regional Consortium for Education and Technology. Once the sample was selected, interview participants were recruited through contact with the technology coaches of the buildings that include middle school students. An introductory phone call (see Appendix A) was made to the selected technology coaches and teachers prior to an email that contained an informational letter (see Appendix B) and an informed consent form (see Appendix C). The informed consent form was returned by fax or email by the participants in the study. Once the consent form was received, the interviews were scheduled and completed with participants from at least eight districts. If a personal interview could not be scheduled, the interview was completed over the phone.

Ethical Considerations

To assure confidentiality, all data and documents were secured in a locked file cabinet. Electronic files were secured on a personal computer on a secure site and were password-protected. Audio recordings were stored electronically on a personal computer which was on a secure site and password-protected. All documents and files will be destroyed three years from the completion of the research project.

To assure anonymity, the schools were each given a number for identification. The teachers and technology coaches were given number codes for their individual

identification. The code correlations were kept as an electronic document on a personal computer on a secure site and were password-protected. Each participant received an informed consent form, which described in detail the purpose of the research, any possible risks, and the opportunity to opt out of the study without any negative effects.

Population and Sample

The population for this study included 41 member districts of the Southwest Regional Consortium for Education and Technology. A random sample of eight districts with technology coaches was surveyed. Creswell (2014) indicated typically qualitative research involves a limited number of individuals, because a small sample size allows the researcher to collect the maximum amount of details from each individual. Each district was contacted to determine if staff members were willing to participate in the study. Districts not willing to participate were replaced with alternate districts. The sample included technology coaches and classroom teachers from school districts in southwest Missouri. Eight districts were selected from the school districts that currently have a technology coach.

Once the sample was identified, survey participants were recruited from schools that contained middle school students. Initial phone contact was made with the district technology coaches to be sure they were willing to participate; if they were not, replacement districts were selected. An email was sent to the participants with information about the interview process. A minimum of one technology coach and one middle school teacher were interviewed from eight districts.

Instrumentation

Rotter's (1966) social learning theory was used in the development of interview questions for both technology coaches and teachers (see Appendices D and E). Interview questions were developed specifically to answer the research questions. Technology coaches were contacted by phone to determine if they were willing to participate in the survey process. At that time, the coaches were asked to select at least one teacher from their middle school buildings. The interview information was emailed to technology coaches and teachers who were willing to participate. Interviews were completed in person if possible. If participants were unable to meet face-to-face, an online interview or a phone interview was conducted.

Data Collection

Yin (2015) stated having multiple sources of evidence is necessary to carefully conduct a case study and ensure the study is as robust as possible. The appropriate use of techniques of data collection and analysis is referred to in general as the concept of methods (Creswell, 2013). Based on the scope of this research, interviews were the primary data collection vehicle.

Once approval by the Lindenwood Institutional Review Board was granted (see Appendix F), contact was made with administrators from the randomly selected school districts. When permission was obtained to contact staff members within the school districts, phone calls were made to the teacher and technology coach within each selected district. Sixteen participants were interviewed for this research. Interviews were audio-recorded to ensure precise transcription, with participant approval (Merriam & Tisdell, 2015). Written notes were also taken during each interview, which allowed key points to

be tracked and returned to later in the discussion or to draw attention to ideas of particular importance or interest.

Data Analysis

Creswell's (2013) six steps were followed during the data analysis process, and although this process is described in linear order, Creswell established an interactive process of analysis. That is, there is a recursive element to following these steps; the process of analysis does not follow simply a fixed, linear order (Yin, 2015). According to Creswell (2013), the first step to be taken is to "organize and prepare the data for analysis" (p. 185). This step involved the transcription of interviews, organizing and arranging data, and scanning in material if needed (Creswell, 2013).

The second step is to "read through the data" (Creswell, 2013, p. 185). Creswell (2013) stated it is necessary to obtain a good general sense of the information available and to reflect on the overall meaning of statements. This is also a good time to start recording general thoughts about the data (Creswell, 2013).

Creswell (2013) stated the third step is to "begin detailed analysis with the coding process" (p. 186). Following Creswell's (2013) procedure, the materials were systematically sorted into segments by taking the transcribed data and segmenting sentences or paragraphs into similar groups. The fourth step is to "use the coding process to generate a description of the setting or people as well as categories for these for analysis" (Creswell, 2013, p. 189). Codes were generated during this process for the descriptions, and these codes were used to identify a small number of categories or themes (Creswell, 2013). These themes are then used as major headings in the findings portion of the research (Creswell, 2013).

Creswell (2013) stated the fifth step is to "advance how the description of the themes was represented in the qualitative narrative" (p. 189). The emergent themes were turned into narrative passages, so the findings emerged rationally from the participants' answers (Creswell, 2013). The final step was to "interpret the meaning of the data" (Creswell, 2013, p. 189). Creswell (2013) recognized an important part of the meaning-making process is the background of the researcher as well as fidelity to a theoretical lens.

Summary

Chapter Three included an outline of the methodology for the study and the ways in which decisions anchored the research design and process of analysis. The rationale for qualitative research methodologies was also discussed. This chapter also included a description of how schools were included in the research and how the survey questions were generated.

Chapter Four presents the results of the study. Chapter Five includes discussion of the findings, conclusions based on examination of study results and review of the literature in the field, the implications of the study for practice, and recommendations for further research.

Chapter Four: Analysis of Data

The purpose of this study was to review the perceptions of technology coaches and teachers in middle school Missouri classrooms related to the best model for implementing a technology coach. According to Cavanagh (2015), technology coaches are expected to fix any device or loss of connectivity, while at the same time introducing new technology to teachers who may or may not want to learn or use the resources provided for them. In some districts, technology coaches are also expected to teach classes at the same time (Cavanagh, 2015). In this study, duties and qualifications perceived to be important for the position of technology coach were reviewed. The research was completed to answer the following research questions:

1. What are the perceptions of middle school English language arts teachers toward having a technology coach available?
2. What are the perceptions of middle school English language arts teachers in regard to technology integration in the classroom and its effect on student achievement?
3. What are the perceptions of technology coaches toward duties and responsibilities assigned?
4. What are the perceptions of technology coaches toward their role in middle school technology integration?

Interviews

Personal interviews were the primary data source for this study. All interviews were completed in person or over the phone and were digitally recorded. Participants included middle school technology coaches and middle school English language arts

teachers from schools in southwest Missouri. Participants were placed into two groups: technology coaches and middle school communication arts teachers.

Technology coaches. To ensure anonymity, each technology coach was assigned a code. The first technology coach to complete the interview was referred to as Coach 1, the second as Coach 2, and so on through Coach 8.

Interview question one. How many years have you been in education? How many years have you been working in your current district as a technology coach?

All of the technology coaches interviewed had more than 10 years teaching experience. Two out of eight technology coaches had more than five years of experience as technology coaches in their current districts. Six out of eight technology coaches had five years or fewer in the position of technology coach in their current districts (see Table 1).

Table 1

Technology Coaches' Years of Experience

Participant	Overall years of experience in education	Years of experience as technology coach in current district
Coach 1	17	4
Coach 2	22	9
Coach 3	17	11
Coach 4	29	3
Coach 5	15	2
Coach 6	18	5
Coach 7	14	4
Coach 8	16	4

Interview question two. What are your current duties and obligations as a technology coach?

The technology coaches interviewed each had different duties and obligations assigned to them as part of their current job assignments. Coach 1 stated, "I kind of do a little bit of everything." Coach 1 outlined the technology coach's responsibilities as teaching elementary technology classes, working with teachers in the classroom, and providing hardware support for everyone in the building.

Coach 2 reported spending more time overseeing the district professional learning for the integration of educational technology, because the position requires more

coordination of training with peer coaches and instructional coaches, depending on the building. Coach 3 stated, "If it plugs into the wall, I am responsible for it." Coach 3 is also responsible for professional development when new technology is added to the school buildings.

Likewise, Coach 4 has a wide range of duties and ideally focuses most on providing professional development for teachers, which includes training on how to use devices such as iPads or laptops, as well as training on applications and instructional models. Coach 4 stated she works closely with the other three instructional coaches to provide ideas and help for integrating technology during regular coaching cycles. It is Coach 4's belief "technology should not be seen as a separate entity from other instructional strategies," and it is just another strategy to be used when instructing students. Coach 4 listed her responsibilities as working closely with the technology department and assisting with different tasks that deal with managing iPads and applications. She expressed it is important to be a friendly face for teachers to ask quick questions regarding equipment. Coach 4 stated, "The responsibility for the student information system consumes way more of my time than I would like." She listed her time-consuming responsibilities as the management of the Google Apps for Education domain and coordination of the Tyler Technologies SISK12 student information system.

Coach 5's position requires her to research current technology resources and share findings with instructional coaches and technology staff. This includes making recommendations for new software and hardware to be used in the classroom. This coach noted technology-related professional development needed for staff members in her building is an important part of the position. Coach 5 stated, "I believe the more time

I can spend in the classroom with the teachers, the more effectively they can use technology." Coach 5 is also responsible for providing coaching for teachers to support the implementation of one-to-one technology; this allows her to model lessons and to demonstrate current technological resources.

Coach 6 has multiple duties assigned, including installation and upgrade of all software in the building. Coach 6 reported she manages the district software accounts that include email, Scholastic, and all other online software required for teachers. Coach 6 also stated she is the person responsible for contacting outside technology support for the district when necessary. She felt a large part of the position is the training and support of teachers in the classroom and supporting the use of technology for instruction.

Coach 7's job duties include working with the school support company for addressing hardware and software issues and maintaining hardware, software, and network systems. Coach 7 stated she conducts staff development in the area of technology integration and models the integration of technology in the classroom. This job also requires providing teachers with assistance in the development of curriculum and lesson plans that integrate technology.

Coach 8 reported her position requires close work with teachers and administrators to ensure technology is being implemented in all instructional areas. This includes writing the technology plan and conducting training that supports the use of technology in the middle school classroom while supporting the school's curricular goals. Coach 8 also researches and shares resources and best practices to support student learning. Planning and implementing professional development in small groups or with individual staff members is required throughout the year.

Interview question three. How has technology integration changed since the technology coach position has been implemented in your district?

The technology coaches have noticed changes in the integration of technology over the years. The changes range from technology shared by the class and led by the teacher to one-to-one classrooms where technology is a blended part of the lesson. The schools that have had technology coaches for more than five years have moved into a model that allows for more instructional support for teachers.

Coach 1 reported the position of technology coach is new in the district. When Coach 1 first started, the job duties required her to work specifically with teachers in their classrooms. Coach 1 related she would go in and show the teachers new things to try in their classrooms and do a lot of professional development overall. Coach 1 taught teachers the basics of "Google drive, email, and how to use student monitoring products." The next year, Coach 1 stated she added new technology resources and started helping staff members with hardware issues. The past year was spent working more with hardware, and the position evolved as the teachers' needs changed.

Coach 2 stated after the first few years, the school started to transition to a one-to-one learning environment. The initiative started at the high school where all high school students received a device after nine months of professional development with the high school teachers. A year later, the district followed this protocol with the middle school. Currently, the district is integrated one-to-one in all buildings and at all grade levels. Coach 3 stated, "There have been huge changes in the district, because when the position was originally added, teachers did not use technology for anything except to check

email." Those same teachers are now using technology for their grade books, classroom instruction, and assessment.

Coach 4 noted in the beginning the position just required training teachers on equipment and software such as iPads, Windows 8, Google Apps for Ed, etc. Then focus shifted more to the Substitution Augmentation Modification Redefinition Model (SAMR) and instructional strategies which incorporate technology. The job is now more about Web 2.0 tools, apps, and strategies that go beyond substitution and "drill and kill" games. Coach 4 reported she now assists the other instructional coaches with ideas for use during professional development.

Coach 5 has been a technology coach in the district for a short time, but during the time of employment technology use has increased in the classroom. She stated, "The district has a fully integrated one-to-one technology plan in place, and all students in the middle school have access to Chromebooks." The classroom teachers use the technology for assessments, daily assignments, and classroom research, which is a big change from prior years when technology was part of daily teacher use, but not daily student use.

Coach 6 has seen an increase in the number of devices in classrooms, including tablets and laptops. She reported the school still uses portable classroom units and does not have a device for every student, but it is part of the long-term plan. Teachers are now beginning to use technology for more than research; they are beginning to use online assessments and digital student responses.

Coach 7 stated the amount of productive technology use has increased over the past four years. She expressed, "The teachers have moved from using technology in the classroom as a research tool for the students and a grade management resource for the

teachers to an integrated tool." According to Coach 7, the teachers now use technology for assessments, checking for understanding, and as an alternate method of studying for assessments.

Coach 8 reported the amount of training has increased over the past few years, and teachers now appear to be more comfortable using technology as part of their lessons. She has found the focus has moved from how to use equipment and basic software packages to how to more fully integrate technology into lessons. Coach 8 noted technology is now a part of the lesson and not the "show" the teacher puts on to gain student attention.

Interview question four. What do you believe is the most important part of the technology coach's job?

All of the coaches had different ideas about the most important part of the technology coach's job. However, there was a common belief reported by most of the coaches to meet the teachers where they are. If teachers are beginners with technology, they are treated with the same respect as teachers who have more experience.

Coach 1 shared it is important for administrators to understand technology coach is not a one-size-fits-all position. She articulated there are teachers within the district who can use technology independently and without assistance, yet within that same district there are teachers who need more assistance because they can barely use technology. Coach 1 stated, "Expecting the same results from all teachers is not fair; teachers differentiate with students, and coaches need to differentiate with teachers." Coach 1 and Coach 8 both expressed teachers need to progress at their own pace; if staff members are comfortable asking questions, they are willing to ask for help when they are

ready to learn something new. Coach 1 and Coach 8 reflected everyone is willing to learn new things as long as they are able learn at their own pace.

Coach 2 believed in making sure instruction is first and technology is used in the classroom to support good instructional practices that align with district goals. Coach 3 listed listening as one of the most important parts of a technology coach's position. Coach 3 asserted, "It does not matter how much coaches know or how well they do the job if they fail to listen to teachers. It is important to listen to what individual concerns are and to get teacher buy-in." Coaches must first show teachers how technology can help them improve their teaching or save time. Technology is necessary, because the students need to be motivated and more engaged in the classroom. Coaches need to listen to the concerns of teachers prior to teaching new or additional skills.

Coach 4 stated, "The most important part of the job is working with the teachers." Coach 4 gets a lot of personal satisfaction when teachers "get it." Being a people person helps to develop relationships that are safe, trustworthy, and positive. If teachers know the technology coach can be counted on to respond to them or to help in any way, they are more apt to listen when being coached on an app or web tool.

Coach 5 believed the most important part of the job of the technology coach is the time spent in the classroom supporting the teachers' instruction. It is important to be available to support teachers at the time they need assistance, instead of possibly days later. Coach 6 stated providing training for teachers is the most important part of the position. However, Coach 5 spends more time on software management and instruction for teachers in how to use software instead of training on technology use in the classroom.

Coach 7 declared the most important part of a technology coach's job is the collaboration with teachers and other staff members to help them with developing curriculum materials and lesson plans that include quality use of technology. It is also important to include modeling of best practices for using technology in the classroom. The necessary part of the position is the maintenance of hardware and software.

Interview question five. How do you believe your district could improve technology integration through the technology coach?

All coaches had different ideas on how districts could improve technology through the technology coach, but there were some similarities. Coaches 1, 3, and 6 agreed teachers need to be given information and new things to try in pieces the teachers can implement slowly. Coaches 2 and 8 believed the support of additional technology coaches would benefit classrooms.

Coach 1 noted the school district in which she is employed is so technology-rich it can be overwhelming. As a team, there is discussion about training needed and the fact there is so much technology in the classroom it can be overpowering. She believed, "There is a need to focus on learning one thing at a time, instead of trying to do everything at once." According to Coach 1, she goes to training and comes back with ideas that could benefit only a small number of the staff, but through professional development everyone is shown the resource. Coach 1 expressed it would benefit the teachers if training could be more specific to the individual needs of the staff members.

Coach 2 stated one of the things she has done to improve technology use in classrooms is to add more people to the coaching staff, which she expressed has helped. Coach 2's district also added peer coaches who are core-level teachers with an extra plan

time so they have time to work with their peers. She reported this could be improved by expanding the number of peer coaches in the district.

Coach 3 believed having a true technology coach in each building in the district would improve instruction, because coaches would be able to research technology for use in the classroom. Coach 3 stated, "This would allow coaches to survey the teachers to see what teachers think is important." The coaches could then work with the teachers to supply what teachers believe they need to improve classroom instruction supported by technology use. She also noted this would also make it easier to model instruction in the classroom. Coach 8 stated it would not be possible for coaches to try to solve everything all at once, but they could give the teachers a piece at a time and work with them to implement strategies really well.

Coach 4 detailed the one thing that would improve technology use would be to eliminate other responsibilities such as online account management and software installation. However, in Coach 4's district, because they have three other instructional coaches, the most important thing would be to increase the time that allows for collaboration on what each building or subject matter needs.

Coach 5 expressed increasing the amount of time spent in the classroom with teachers would improve technology integration the most. She stated it is also important quality professional development be identified through observation and surveys then implemented as needed through the school year. Coach 6 supported Coach 5, with the concept increased time spent in the classroom with teachers modeling and supporting quality instruction increases the amount of technology used to support instruction.

Coach 7 confirmed the best way for the district to improve technology integration would be to increase the amount of technology professional development the teachers are able to attend. She stated, "If a teacher has an interest in a specific area of technology and trainings outside of school are available, those teachers could attend the training and then bring it back and share with their peers." The sharing of training with peers is a good way for multiple teachers to receive benefit from one person attending training.

Coach 8 felt the district would be able to improve technology integration through the addition of technology coaches in the district. She voiced, "It is difficult for one staff member to serve multiple classrooms and teachers and to be effective." Coach 8 considered the addition of staff would allow the technology coach to provide more technology and instructional support in the classroom.

Interview question six. What is a barrier to implementing technology in your district, and how do you believe the barrier could be overcome?

Six out of eight technology coaches expressed money is a barrier to the continuation of technology integration. There were other areas of concern including the need for professional development, a solid technology plan, and time to plan for the implementation of technology. Coach 8 also identified the difficulty in getting teachers who have been teaching for a long time to accept the need for technology in their classrooms. Coach 8 stated a common teacher response would be, "If I have taught without it for the last 15 years, why do I need it now?"

Coach 1 reported, in relation to technology, it sometimes feels like educators "fly by the seat of our pants." She noted organization is important, and it is best to know ahead of time what the plan is for the year. With teachers at different levels of

technology understanding and use, it is difficult to plan accurately, according to Coach 8. She expressed coaches could say everyone is going to learn a new skill this year and allow teachers to select from a list of options as a better way to focus professional development. Coach 2 stated the district has worked really hard on their one-to-one initiative, and they do not have a barrier but do need to continue professional development.

Coach 3 reported the two barriers in the district are time and money. Coach 3 stated, "There is never enough time to do everything that needs to be done; however, it is important to show teachers the benefit of changes and that it is okay to get out of the comfort zone." When teachers have been doing the same thing for 20 years, change can be difficult, according to Coach 3. She articulated it is important to show teachers technology can make their lives easier and can benefit instruction. As a school that is one-to-one, the teachers are doing all kinds of assessments to allow them to immediately obtain results; the elementary staff seems to move with it much easier than teachers of older students.

Coach 4 stated the only barrier in the district is the constant need for funding to continue technology integration support. She said, "The administrative team is completely on board and pushes technology integration with all staff, even custodians." Coach 4 reported basically, if a staff member is not trying to grow and integrate technology, then they either retire or find someplace else to work that does not emphasize technology integration. Money is going to be an issue as the budget gets reallocated to maintain the technology being put into play, according to Coach 4. She reported the

district's growth is slow to none, so reallocating and making wise money decisions will be very important to the sustainability of technology progress.

Coach 5 found the largest barrier is the money needed to continue to support one-to-one technology integration. It is important to continue to fund the district technology plan which includes hardware, software, and internet access. The increase of students using technology in the classroom has increased the amount of internet access required.

Coach 6 discovered the barriers to technology in the middle school building are the amount of time available for the technology coach to work with teachers in the classroom and the money needed to continue to support technology needs in the classrooms. One technology coach spread over multiple classrooms makes it difficult to meet the needs of all staff members, according to Coach 6. She noted in all training, some teachers need more support than others and tend to demand more time; therefore, teachers who are more independent are given less time and support in the classrooms.

Coach 7 shared the continued funding for additional technology is a barrier in the district. Currently, students have access to technology in the classrooms, but it takes continued funding to maintain and update technology. Coach 8 believed the barriers are having adequate money to hire needed staff and having a long-term plan to continue technology growth. It is also difficult to get teachers who have been in education for a long time to make the change to using technology willingly.

Interview question seven. What types of services would you like to provide that are currently unavailable? How would it benefit instruction?

The technology coaches interviewed believed having a person available to go into classrooms on a daily basis would benefit classroom instruction. They also noted more

individualized support for teachers through professional development would benefit the use of technology in the classroom. Coach 1 would like to return to co-teaching in the classrooms. She expressed it is easier for the technology coach because coaches use technology more often, and they have to figure out how to use the software before sharing information with teachers. If a classroom teacher wants to use a Voki for class, more than likely it would not be something used all the time. Coach 1 reported, "The teacher might just use it a couple times per year, so the technology coach could come in and explain it more quickly and easily." Coach 1 noted it would also give two different perspectives to the lesson, and co-teaching benefits children in the classroom.

Coach 2 thought teachers who would like to go above and beyond in their professional learning should be able to receive college credit. Coach 3 stated, "A technology coach having the ability to go into the classrooms on a daily basis would benefit classroom instruction." She reported it would be difficult for someone to coach for pre-kindergarten to 12th grade; therefore, it would be important to have coaches available by age group. The person going into the classroom would need to be someone the teachers can build a relationship with who is in their building; however, adding three people to a district can be a "budget killer," according to Coach 2.

Coach 4 stated currently, a full day of professional development for teachers is not available for technology during the school year, unlike the other instructional coaching areas. Originally this was something seen as a problem, but it would be one more day out of the classroom for teachers, and they are out at least three days (elementary) for professional development in math, English language arts, and science. Coach 4 noted middle school and high school teachers are out two days. To counter the

lack of technology professional development, what Coach 4 would like is to work closely with each building's "techbrarian" (Librarian + Technology) and bring professional development once a month during early-out time on what is most needed in each building.

Coach 5 would like to provide more time in the classroom for all teachers; currently most of the support is in the core classrooms. She conveyed this leaves the other staff members who would like to use technology in their classrooms with less support. Coach 5 also reported the addition of smaller interest-group professional development would also benefit classroom instruction.

Coach 6 would like to provide more support to classroom teachers, because the use of technology that supports curriculum would increase student learning. She has found the one thing currently unavailable is instruction on specific skills teachers would like to have emphasized. A survey is completed annually to ask teachers what they would like to focus on in the area of technology, but with one technology coach in the building, it is difficult to meet each teacher's request. Coach 6 reported the most-requested skills are the only ones focused on, which may leave out some staff members.

Coach 7 and Coach 8 associated the support of teachers' use of technology in the classroom most directly to increased student learning. They believed the more support classroom teachers have with the integration of technology, the more likely they are to use it with fidelity in the classroom. Technology can be used in ways that do not benefit student learning, but without support and quality professional development, the teachers may not understand the difference.

Interview question eight. What do you believe are the most important qualifications for technology coach?

Coach 1 stated, "You need to be personable and able to get along with people." She reported every district has multiple personalities, but there is always a teacher who is overbearing, always right and never wrong. Districts may have a coach who is not confident, and then the coach may feel intimidated by that type of person. She reflected if the tech coach is someone friendly, outgoing, personable, and a good listener, then teachers will not be worried about asking questions. Coach 1 expressed it is very important for the technology coach to be a good listener.

Coach 2 believed it is important for a technology coach to have an understanding of the grade level served. She has found the coach also has to be a person who can build relationships and be interested in meeting the needs of the people with whom they work. Coach 3 also expressed, "It is important to be approachable and able to communicate with staff members." She noted it is necessary for the coach to come across as someone who is also learning and not as a know-it-all. It is important not to just tell teachers, "This is easy," because it is not easy doing something a teacher has never done before or is still just practicing. One of the most important things is that a coach must be willing to put in the time to patiently solve problems when teachers ask for help more than once with the same problem.

Coach 4 articulated the most important qualifications for a tech coach are knowledge of instructional strategies, a love of working with technology, and a commitment to grow and stay updated in the area of educational technology. She has found it is also important the coach is a people person who demonstrates friendliness.

The job is made easier for everyone if the coach is able to maintain a positive attitude and can make learning new things fun and motivating, according to Coach 4.

Coach 5 noted the most important qualification for a technology coach is time spent teaching in a classroom prior to taking on the position of technology coach. She stated, "It is also important for a coach to have a good understanding of what quality use of technology in instruction looks like." According to Coach 5, most importantly, it is necessary for the coach to be able to work with many different types of people; the coach should be someone all teachers and staff members are comfortable asking questions of when in need.

Coach 6 felt having strong interpersonal skills to allow the coach to work with a wide range of staff members and students is important. She found it is also necessary for a coach to have the ability and willingness to learn new software programs or applications and to be able to share the information easily with others. Coach 7 stated the most important qualification for a technology coach is to "effectively support staff members on technology integration and instructional practices." She detailed this would include working with teachers in the classroom and through professional development. The coach should have a strong understanding of the grade-level curriculum teachers are implementing as well as current technology resources teachers can use in their classrooms, according to Coach 7. Coach 8 believed experience in the general education classroom at the grade level to which the coach is providing support is important. Coach 8 noted it is also important to have the ability to make teachers and other staff members comfortable enough with the coach that teachers are willing to ask for assistance when needed.

Interview question nine. What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?

Technology coaches agreed it is necessary to have experience working in the classroom. They also supported the concept coaches should have worked with technology in the classroom setting. It was also noted coaches should be willing to learn new information and be ready to train on it.

Coach 1 stated as a classroom teacher and a non-technology trained person, extra time has been spent to learn from technology support contacts. After working with technology support, Coach 1 reported she now knows ways to troubleshoot problems that were previously too difficult. A technology coach should not also be the person fixing the computers and responsible for hardware issues, according to Coach 1. She believed the technology coach should be the person who can help teachers with software issues and to better implement the technology. Coach 1 stated, "This allows the teachers to present better lessons so the students can learn more." In addition, Coach 1 stated, "The technology coach should be the one helping the teachers to use the best and most up-to-date technology we have, efficiently."

Coach 2 explained the precept that whatever is aligned with the school's system is what is important. She voiced it is important to look at the school's current model and make sure the coach being hired has an understanding of the model. Coach 3 believed as a Google Aps for Education school, it would be important to be comfortable with Google and to work on Google training. It would be important for coaches to be willing to become a Google Trainer, according to Coach 3. She did not think it is important to have a degree in technology, but if a person is interested in the position, they will seek out the

training they need to do the job well. Coach 3 stated it is not important if coaches do not have a master's degree in technology integration, but if they are really interested in the job, it might be an advantage to have in the position.

Coach 4 believed a coach should have prior classroom experience and experience using a variety of technology in his or her own classroom practice. She expressed, "Coaches should have a desire to help others achieve success in classrooms." If as a teacher the coach was always the "go to" person for technology issues in the building, the person will be able to transition easily into the position of technology coach, according to Coach 4.

Coach 5 expressed a technology coach should have prior classroom experience and should have used technology successfully in the classroom. She noted it is also important for the coach to be able to work with adults who are at different levels of technology integration. Coach 5 related a teacher who can differentiate in his or her classroom successfully with students should be able to work successfully with adults, also.

Coach 6 stated a technology coach should have at least five years of classroom teaching experience at the grade level he or she is going to be the technology coach. She pronounced, "This will allow the coach to have an understanding of the curriculum standards as well as the students who are in the classroom." Coach 6 maintained it will also benefit the school if the coach already has a strong understanding of different types of technology as well as applications available for classroom use. She also found the ability to work with and assist users with all levels of technology skills is also very important.

Coach 7 noted it is important for a technology coach to have successful teaching experience in the classroom at the level he or she will be supporting teachers. She believed the coach should have experience with integrating technology into the classroom curriculum. It is also important for the coach to have knowledge of or experience as a coach, stated Coach 7.

Coach 8 listed the ability to work on collaborative teams, to demonstrate positive relationships with adults and students, and to handle multiple tasks as important. Coach 8 also believed it is necessary to have worked in a classroom for at least five years using technology as an educational tool. She maintained the exposure to Google Apps for Education and blended learning would also be a plus.

Interview question 10. What are the advantages/disadvantages of having a technology coach in a school district?

All technology coaches were able to come up with advantages to having a technology coach. Their beliefs were varied, but the most common advantage was support for classroom teachers. However, the support was also deemed a disadvantage if staff members become too dependent upon the technology coach.

Coach 1 reported one of the major benefits for having a tech coach is that all staff have their own private technology coach working for them. She said it could be considered almost like "their own Siri." Coach 1 did not see a disadvantage, because everything is related to technology now.

Coach 2 believed a disadvantage at the lower grade levels is that there has been an instructional coach model in place for many years. She stated the district has now added an education technology coach, and at times those two positions overlap. At this time, it

is almost like two people could be integrated into one instructional coach position, according to Coach 2. She has found an advantage is that coaches have the expectation of teachers using technology in the classroom. It is necessary the district have technology coach support for the teachers, according to Coach 2.

Coach 3 stated one advantage to having a technology coach is that teachers have a "go to" person to talk to about instruction or software. She reported it is also important to have someone to do the footwork to see if software is useful to the district. Coach 3 recognized one disadvantage would be that the coach can be leaned on too much. She states, "It is important teachers be willing to try to take care of simple problems for themselves." Coach 3 has found in her district, when given a new process to follow, some of the teachers do not follow-through with basic responsibilities even when given simple steps to follow. She maintained it is easier to call the technology coach and ask him or her for assistance.

Coach 4 did not express any disadvantages, unless technology coach is a position the district cannot afford to have. She expressed building technology coaches, where a teacher is given time during the day to assist other teachers, is one way to help transition from a part-time to a full-time technology coach or instructional coach. One of the main advantages is having another person who can troubleshoot easy technology issues and keep them off the plate of the information technology (IT) department, according to Coach 4. Her district currently has a technology director and two technicians. She stated the technology department employees are kept extremely busy, and it is nice to have someone who can take care of the easy, little tasks that sometimes become time-consuming because of the technology levels of the teachers.

According to Coach 4, the best advantage for teachers is having an advocate who helps them research, implement, reflect on, and improve the good instruction they already present in their classrooms. She articulated, "It is invaluable for teachers to believe that it is acceptable to fail, and understand that have a safety net in their technology coach." Coaches 4 expressed the majority of teachers in the district feel safe with instructional coaches and willingly collaborate with coaches to improve or integrate instruction with the use of technology. She has found another positive advantage for the teachers is having someone to bridge the communication gap between the IT department and teachers. If the technology coach can help the IT department understand why a particular issue is important to teachers, then it can alleviate some of the red tape teachers might have to go through on their own, according to Coach 4.

Coach 5 believed one of the main advantages to having a technology coach in the district is that teachers are more willing to try something new if they know they have someone to support them in the process or even to model it for them in their classrooms prior to trying it. She found, "A disadvantage is that the teachers may not be as willing to try something new on their own without the support of the technology coach." According to Coach 5, there are often many things teachers can do to solve a technology issue; if they depend on the coach for everything, they may not try before asking for help.

Coach 6 stated the main advantage of having a technology coach in a building is the ability for teachers to ask questions of someone who has been in the classroom and understands the background of the question. She stated, "It is important to have someone from within the building to provide necessary training and help with the use of technology in the classroom." According to Coach 6, the major disadvantage is that

many times the expectations for the technology coach are more than one person can do. Therefore, some part of the job is not completed, and usually it is the support of teachers in the classroom. Coach 6 has found without spending time to keep the technology working, the teachers would not need support from the coach.

According to Coach 7, the advantage to having a technology coach in the building is that there is a support person available at all times. She said the staff members do not have to make a phone call for assistance and waste instructional time waiting for support. Coach 7 maintained the only disadvantage to a technology coach would be the cost to the district; having to make a choice between a support for teachers and a support for students is always a difficult choice to make.

Coach 8 did not see a disadvantage to having a technology coach in each building. She stated, "The benefit to having a technology coach in the building is having someone with the training and ability to assist teachers with integrating technology into their instruction." She supported that too many times technology is used as an extra task for students to do or for drill and review instead of as an integral part of classroom curriculum.

Interview question 11. Is there any other information you would like to share?

Coach 2 believed it is important to advocate for an educational technology coach, because this is truly an educational shift, especially at the middle and secondary levels. She has found secondary teachers do not come out of college trained the same way as elementary teachers. Coach 2 stated when technology is used in the classroom, especially in a one-to-one setting, it looks much different at the elementary level. She

has found the transition for middle school teachers requires a different type of support than the other grade levels.

Middle school English language arts teachers. To ensure anonymity, each middle school communication arts teacher was assigned a code. The first teacher to complete the interview was referred to as Teacher 1, the second as Teacher 2, and so forth through Teacher 8 (see Table 2).

Interview question one. How many years have you been in education? How many years have you been working in your current district?

Table two provides an accounting of each teacher participants' years of experience. Teachers 3, 5, and 7 had less than 10 years of experience in education with Teacher 5 only having 3 years. Teachers 1, 4 and 7 had between 10 and 20 years of experience. Teacher 2 had over 24 years of educational experience.

Table 2

Middle School English Language Arts Teachers' Years of Experience

Participant	Overall years of experience in education	Years of experience in current district
Teacher 1	14	8
Teacher 2	24	20
Teacher 3	5	5
Teacher 4	19	19
Teacher 5	3	3
Teacher 6	7	5
Teacher 7	11	11
Teacher 8	13	8

Note. Four of the teachers have only taught in one district.

Interview question two. How comfortable are you with using technology in the classroom for instruction?

Teacher 1 reported being very comfortable with technology and using it every day in a variety of ways. Teacher 2 believed "there is still a lot to learn about using technology, but is still fairly comfortable using some technology in the classroom". Technology is something Teacher 3 was enthusiastic about and receptive to as long as it improves instruction.

Teacher 4 expressed being comfortable with computers is important, because they have been used in the classroom for the past three years. She noted "there is an expectation for using computers daily for instruction". Teacher 4 reported she continues

to make progress and uses technology more every year, but sometimes it can be a struggle to find resources for activities appropriate for the middle school classroom.

Teacher 5 articulated she is very comfortable using technology in the classroom. She said every day there is some form of technology used in the classroom. Teacher 6 reported being "very comfortable using technology for lesson planning and instructional software". She noted she continues to learn daily about the best way to integrate technology into lessons.

Teacher 7 described being comfortable using software in the classroom for instruction. She began using technology originally with a Smartboard and has progressed to the students using technology independently as part of daily instruction. Teacher 8 reported she is now "moderately comfortable using technology". She noted being glad there is support for technology use in the classroom, because it probably would not be used otherwise.

Interview question three. Has this changed since the addition of a technology coach to your school district? Why/why not?

Teacher 1 said technology use has changed since the addition of a technology coach. She reported "the coach has taught the staff new ways to use technology and keeps teachers up-to-date". Teacher 1 felt confident if there is a problem, with the technology coach's help, it can be solved. According to Teacher 2, there has not been a change in the amount of technology used in the classroom.

Teacher 3 became more receptive to new technologies since the addition of a technology director two years ago. She has found the new technology director seems to be more skilled and more enthusiastic about working with teachers. The addition of a

part-time technology person in the building also increased the amount of support available, according to Teacher 3.

Teacher 4 noted the technology coach does a fantastic job of teaching skills to teachers. She reported "as a district, they started with a laptop, and the technology coach taught the staff members the basic ways to use it". Coach 4 related "the coach and teachers moved on to creating lessons". The additional support of having the technology coach come into the classroom is a great help, according to Coach 4.

Teacher 5 has not seen any changes in the past three years, because there has always been a technology coach at the school while she has been there. She has found "the assistance provided by the technology coach is beneficial". The technology coach helps with any questions and provides training for all staff members in the building, reported Coach 5.

Teacher 6 noted there has been change in the building with the use of the technology coach. She said, "The coach started working with the staff members where they were the least confident, and the staff members who were interested have grown in their technology use in many ways." Coach 6 has found the students use technology more effectively in all core classes and are beginning to use technology in special courses, also.

The use of technology has changed moderately since the addition of a technology coach, according to Teacher 7. She said the teachers used technology for several years prior to the addition of the technology coach. Coach 7 noted a major change has been in the way students use technology in the classroom.

Teacher 8 has seen major changes in the use of technology in the classroom. She reported, “Prior to the technology coach, the students used technology in the classroom to type papers or to surf the internet for information about a topic.” Coach 8 noticed with increased training for teachers provided by the technology coach, the students now use technology for a purpose and understand how to search effectively.

Interview question four. How much time have you worked with the technology coach in your district in the past school year?

As shown in Table 3, Technology coaches provided direct classroom services either on a weekly or monthly basis. Teachers 1, 4, 6, and 7 were provided direct classroom services by the technology coach weekly. Teachers 2, 3, 5, and 8 received direct classroom services on a monthly basis.

Table 3

Services Provided by Technology Coaches

Participant	Direct Classroom Service	Additional Services
Teacher 1	Weekly	Research Professional Development Hardware Issues Software Issues
Teacher 2	Monthly	Professional Development Hardware Issues
Teacher 3	Monthly	Professional Development Software Issues
Teacher 4	Weekly	Professional Development
Teacher 5	Monthly	Professional Development Software Issues
Teacher 6	Weekly	Professional Development Hardware Issues
Teacher 7	Weekly	Professional Development Software Issues
Teacher 8	Monthly	Professional Development Software Issues

Interview question five. How has the technology coach supported you during the past school year?

Table 3 also provides a concise view of responses to Teacher interview question five. Teacher 1 has received help with Google classroom, testing online, and Google drive, and the technology coach has trained teachers on several new ways to streamline technology use in the classroom. The technology coach has supported Teacher 2 through

professional development provided at least monthly and through assistance with hardware when it does not respond as expected. Teacher 3 said "the technology coach quickly responds to requests for help and has always been able to solve the problem". She has found even with multiple responsibilities, the coaches help in the classroom as often as they can.

Teacher 4 believed teachers are more willing to try new things on their own because of the support they have received from their technology coach in prior years. She stated, "Teachers in the classroom have less fear of failure and more willingness to take risks with technology." Teacher 5 receives emails about technology seminars provided after school. She noted the technology coach visits classrooms to support teachers in the use of new software and resources.

Teacher 6 reported the technology coach has supported teachers in the classroom by making sure the staff has a solid understanding of software programs required during the school year. She expressed "the technology coach also serves as a technology support when the hardware does not work correctly". The introduction of new resources available for classroom use is the most important service Teacher 7 receives. She noted the modeling of how new applications can be used for instruction makes them much easier to implement in the classroom. Teacher 8 received support through professional development and the occasional classroom visit.

Interview question six. How has technology integration changed since the technology coach position was implemented in your district?

Teacher 1 and Teacher 2 saw an increase in the daily use of technology in the classroom after the technology coach was added. Both Teacher 1 and 2 noted a change in

how technology is being used by students as part of instruction that is planned, rather than review or game-like activities. Teacher 3 reported "receiving more technology-related professional development opportunities during Friday early-out time." Her district is in the process of becoming a "Google school," which means they are transferring all communications, teacher websites, and student technology to Google Drive. According to Teacher 3, these changes are led by the technology coach.

Teacher 4 experienced the implementation of one-to-one classrooms in the middle school through the technology coach model. She reported "the original model of teachers having access to the technology, but not the students, has moved to every student within the building having his or her own device". According to Teacher 4, this change allows for a much more focused use of technology in the classroom.

Teacher 5 did not see a significant change in technology use in the middle school building. Her district was actively involved in one-to-one technology for several years, and Teacher 5 was fairly new to the district. Teacher 6 noticed a move toward more student-centered learning using technology. She reported the students have more options for how they choose to complete assignments, because the teacher, through technology, is able to give students more open learning opportunities using current online applications.

According to Teacher 7 and Teacher 8, the move toward technology integration increased since the addition of a technology coach. Teacher 8 reported the "ability for one person to attend multiple technology trainings and to bring the information back to the staff increased the types of technology being used." Teacher 7 believed teachers want to use technology and learn through attending training; however, it is difficult to miss a

day of school in order to attend training. She found following the training, what teachers learn is not often shared with others in their building.

Interview question seven. What do you believe is the most important part of a technology coach's job?

Working with teachers to find new technologies to create an engaging classroom learning environment is what Teacher 1 expressed is the most important part of a technology coach's job. Teacher 2 stated the technology coach should work with and train both teachers and students in various ways to learn potential uses of technology for education. According to Teacher 3 and Teacher 8, it is important for coaches to help implement new technology and to help with troubleshooting all current technology applications.

Teacher 4 believed the most important part of the technology coach's job is to help staff stay calm and to be willing to answer any questions staff members might have. The "ability to be available to help teachers and staff implement new technology into the classroom" was reported as important to Teacher 5. Teacher 5 also believed if the technology coach is not available, there should be others trained to help with some basic technology needs. Teacher 6 and Teacher 7 noted the most important part of a technology coach's position is working with teachers to effectively integrate technology into lessons. Teacher 7 reported to do this effectively, coaches need to include professional development for staff members and must model quality instruction in the classroom.

Interview question eight. How do you believe your district could improve technology integration through your technology coach?

Teacher 1 asserted the addition of a technology coach to the district has improved technology integration. She listed additional ways to improve technology integration include the continuation of professional development training, continued research of new programs and technology methods, increased progress on student engagement and learning, and the increase of teachers using and learning new technology methods. Teacher 2 believed teachers are all at different skill levels of technology knowledge, so a technology coach should provide differentiated instruction accordingly for educational purposes.

Changes implemented by the technology coach need to be communicated to all teachers, according to Teacher 3. Teacher 3 expressed it is important for all staff to understand the long-range plan the administration has for the use of a technology coach. Teacher 4 and Teacher 8 noted the way to continue to improve technology coordination is to provide more training; they reported teachers can never have enough training. Teacher 4 continued by saying increasing the number of teachers who are allowed to learn a skill and then share it with other teachers in the building can also be a benefit.

Teacher 5 noted his or her district is "top-notch" with technology integration. Teacher 5 could not think of anything else the coaches could do. Coach 5 listed the coaches have frequent seminars, provide lots of help, and even provide a full day in the summer dedicated to technology workshops.

Teacher 6 and Teacher 7 believed in order to improve technology integration in the classroom, the technology coach's position needs to be clarified. Teachers 6 and 7 noted their coaches are being pulled in too many directions with their current job requirements. They believe if the coaches' main responsibility is to increase technology

integration, then that should be their focus. Teacher 7 felt technology coaches should not be responsible for maintaining technology hardware or non-student software as part of their job, because it takes a lot of time.

Interview question nine. What is a barrier to implementing technology in your district, and how do you believe the barrier could be overcome?

A barrier to implementing technology is the lack of adequate wireless connection, according to Teacher 1, which causes technology not to work correctly at times. She stated her district has Smartboards, Elmos, and math and reading programs the teachers received on training day when the programs were deployed, but no one to ask questions or provide support for problems when they arise. Teacher 1 reported the barrier was overcome with the addition of a technology coach. She found when the coach researches problems and trains staff members on new technologies, it helps to remove barriers. Teacher 1 reported now having someone to help with troubleshooting when a problem arises. She stated the district has expanded the amount of internet access available and has added wi-fi connections throughout the building.

Teacher 2 stated the biggest barrier is that they are a small, rural school with limited resources. Currently, the district has only one computer lab for all junior high classes in her district. Teacher 2 reported an additional resource available to the district is one class set of iPads which are shared building-wide. Teacher 2 stated the school will have to look for grants as a possible way to bridge this gap, until such time as enrollment grows and more resources become available.

According to Teacher 3, “Time constraints are the greatest barrier to implementing technology.” Teacher 7 agreed teachers do not have time to learn and use

new technology once school starts in the fall. Teacher 7 reported a possible solution for this problem would be to allow for professional development to occur during the summer and to pay teachers for their time.

Teacher 4 reported the programs teachers are required to use on a daily basis (e.g., the grading program, curriculum programs) can be confusing. She has found the "struggle with technology is not just what programs to use with students for instruction, but also the other mandatory programs." Training would be beneficial for both student programs and also the mandatory programs teachers have to use, according to Teacher 4.

Teacher 5 stated the district does not have barriers with technology. Every student and teacher has a device. Teacher 5's district had been doing this for a long time, and they have "easy people to deal with and great support in their building." She reported the only thing they must do is to plan ahead and make sure the websites are open and available ahead of time for student use.

Teacher 6 believed the major barrier is the lack of bandwidth for the number of devices they currently have in the building. She stated, "Teachers cannot all use their devices in their classrooms at the same time, or the programs will be very slow and will not load well for the students." Teacher 8 supported the lack of bandwidth could be a barrier to implementing technology in the classroom effectively. The expansion of bandwidth and access points as technology is added is an important part of technology expansion planning, according to Teacher 8.

Interview question 10. What types of services would you like the technology coach to provide that are currently unavailable? How would it benefit instruction?

Teachers 1, 3, 5, and 6 all stated their technology coach provides everything they need. Teacher 5 stated, "If I need anything, the technology coach is a quick email away." Teacher 2 would like to see more explicit training for teachers that includes specific instruction for methods to incorporate technology in the classroom. Items Teacher 2 believed would be helpful are Smartboards, document cameras, and including students in their use in the middle school classroom.

Teachers 4, 7, and 8 would like to have more access to the technology coach in the classroom. They currently have access to the technology coach for introduction to new technology and applications, but would like to have coaches in the classroom modeling how the technology and applications could be used to increase technology integration. Teacher 8 asserted, "When technology is integrated fully, there appears to be more student interest in the subject matter and fewer discipline issues."

Interview question 11. What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?

Teacher 1 and Teacher 3 noted a coach should be trained in the most current classroom technologies, programs, and computer systems. They expressed coaches should be able to do basic troubleshooting of programs and software. Teacher 2 stated a "technology coach should be knowledgeable in methods of training teachers to incorporate technology in the classroom and for other job duties." She voiced coaches should also be capable of teaching students proper keyboarding and other technology skills. These skills will be necessary for coaches to support teachers in the classroom, according to Teacher 2.

Teacher 4 and Teacher 5 believed the technology person should have used technology in the classroom and also have technical knowledge about computers in case something goes wrong. These are the basic skills needed to be successful in the technology coach position. Teacher 6 and Teacher 8 reported prior to being a technology coach, the person should have experience using technology in a classroom. They believed the "technology coach should also have a proven record showing they were willing to learn and try new technology while they were teachers." If coaches were not able to do this while they were teaching, Teacher 8 wondered how they could demonstrate to other teachers how to do it.

Teacher 7 supported Teacher 2 in stating the technology coach should be knowledgeable about training teachers to support technology in the classroom. Teacher 7 also supported Teacher 8's statement in saying coaches need to have successfully taught in the middle school setting prior to becoming the technology coach in that setting. Teacher 8 added it is also important to have at least a basic understanding of middle school curriculum with the need to focus student learning to be successful on the current state assessment.

Interview question 12. What are the advantages/disadvantages of having a technology coach in a school district?

Teacher 1 and Teacher 8 stated a possible disadvantage is that teachers may rely on a coach instead of learning programs and troubleshooting for themselves. Both Teachers expressed, "If teachers do not learn new programs well enough or go to trainings and rely on someone else to guide their technology use and integration, they will not be able to use the programs in their classrooms." Teacher 1 believed an

advantage is having someone to troubleshoot and research new programs and to train teachers.

Teacher 2 related the primary advantage is that classroom teachers have support and instruction from a staff member with proper training. She stated the coach also has the time to perform needed duties. In general, classroom teachers do not have time to incorporate technology instruction on a regular, systematic schedule, along with all the other curricular demands of their jobs, according to Teacher 2. Teacher 2 and Teacher 8 believed the only disadvantage might be securing funding to support this position.

Teacher 3 noted an advantage is a coach makes teachers more receptive to learning new things if they know someone is nearby who is easily accessible to help if needed. Teacher 3 did not know of any disadvantage to having a technology coach in the building, which was also supported by Teacher 4 and Teacher 5. Teacher 4 stated the main advantage to having a technology coach is having someone who can be there to reassure teachers they are doing the right thing and to support teachers with technology use in the classroom.

Teacher 5 stated an advantage to having a technology coach is there is always someone there to help with any technology needs. Teacher 6 believed the advantage to having a technology coach in the building is the potential increase of student learning. Teacher 6 and Teacher 7 agreed students today are used to having technology and information at their fingertips. They found most students began using smart phones or tablets when they were toddlers, and if educators can use what students already to know to teach them something new, then it is a win-win situation. Teacher 5 noted a disadvantage could be the large amount of resources available, because teachers might try

to use too much technology at one time. Teacher 7 expressed a disadvantage to having technology is that teachers who are not comfortable require so much support just to begin using basic technology in the classroom, it can keep the teachers who already use technology from making growth in their classrooms.

Interview question 13. Is there any other information you would like to share?

Teacher 2 noted she personally struggles with trying to keep up with technology, because technology has changed over the years and there always feels like there is a lot more to learn. Teacher 2 believed many older teachers feel this way, also. She reported younger teachers grew up with technology and are therefore much more comfortable using it. As a teacher, it is important to do one's best to keep up, but there is always much more to learn, maintained Teacher 2.

Teacher 4 reported sometimes technology can cause extra behavior problems in the classroom. She related a "question to consider is whether or not the increase in technology in the classroom really benefits student learning." Teacher 5 stated it is important teachers use technology as a resource rather than something on which to be dependent.

Summary

This qualitative study was designed to elicit the perceptions of both technology coaches and middle schools English language arts teachers regarding the role of the technology coach in the classroom. Within Chapter Four, the interview responses were analyzed and presented in a summarized format providing data from each participant's interview.

Chapter Five will detail the findings from the analysis of data. Each of the research questions will be revisited, and conclusions will be presented. Implications for practice will be addressed, and recommendations for future research concerning the position of technology coach in middle school classrooms will be presented.

Chapter Five: Summary and Conclusions

The purpose of this qualitative study was to determine the perceptions of technology coaches and middle school English language arts teachers of the impact made on technology integration through the use of a technology coach. The participants' perceptions of the position of technology coach and what the position requires were also discussed. Most research on technology in the classroom has centered upon the amount of time technology is used in the classroom. There has been very little focus on the roles of the technology coach and the classroom teacher and how technology use is being supported in the middle school classroom. However, the results of implementing technology into the classroom were part of a study completed by Lam and Tong (2012). Lam and Tong (2012) found some teachers went beyond knowing how to use computers in the classroom to developing a perception of technology as an interactive, engaging experience that can affect others during the process. The teachers in the study moved from seeing technology as a tool and began viewing it as a way to enhance the learning environment (Lam & Tong, 2012).

Within this last chapter, the research questions which guided the study are answered. The findings are presented with data to support. In addition, conclusions, implications for practice, and recommendations for future research are provided concerning technology coach and teacher perceptions of the role of the technology coach in the middle school English language arts classroom.

Findings

This qualitative study involved the examination of participants' perceptions of the position of the technology coach and its impact on middle school English language arts

classrooms to answer four guiding research questions. Interviews were completed and then transcribed to obtain needed data. The data were analyzed to determine how middle school technology coaches and middle school English language arts teachers feel about the duties and responsibilities of the technology coach. These findings were summarized and then applied to the corresponding research questions.

Research question one. What are the perceptions of middle school English language arts teachers toward having a technology coach available?

Each teacher in the study was asked, "How comfortable are you with using technology in the classroom for instruction?" All of the teachers responded they were comfortable or very comfortable with using technology in the classroom. Teacher 7 began using technology originally with a Smartboard and has progressed to the students using technology independently as part of daily instruction. Teacher 8 is more comfortable using technology in the classroom now because of the support of the technology coach.

The teachers were also asked, "Has this changed since the addition of a technology coach to your school district? Why/why not?" Teachers 3 and 5 have not seen a change after the addition of a technology coach. All other teachers have seen a positive change in the school district since a technology coach was added to their buildings. According to Teacher 1, there has been an increase in teacher confidence when they need to solve a problem; teachers know if they try and fail, they have a support person to help them. Teacher 6 stated the coach started working with staff members where they were the least confident, and staff members who were interested have grown in their technology use in many ways.

Teachers were also questioned, “How much time have you worked with the technology coach in your district in the past school year?” Four of the teachers responded they worked directly with the technology coach weekly; the other four teachers responded they work directly with the technology coach monthly. However, the teachers also reported they receive support through professional development, hardware issues, software issues, and assistance with research.

The second question asked teachers, “How has the technology coach supported you in during the past school year?” The teachers reported multiple ways the technology coach supports them, but a trend emerged of leading professional development and supporting teachers with software technology assistance. Teacher 6 received support in the classroom to assure a solid understanding of required software programs. Teacher 7 received support through modeling of instructional resources in the classroom, which made implementation easier.

Teachers were also asked, “How has technology integration changed since the technology coach position was implemented in your district?” All teachers in the study believed there was an increase in technology integration. Teacher 1 and Teacher 2 saw a daily use of technology in the classroom, and the daily technology use is now a planned part of the instructional process. The implementation of one-to-one classrooms has increased technology use by Teacher 4 and Teacher 5. Teacher 7 and Teacher 8 believed the ability of one person to attend trainings and bring information back to the school district has helped with the increase in technology use.

The question, “What do you believe is the most important part of the technology coach’s job?” received a wide range of answers. Professional development was

important to two of the eight teachers. Teacher 3 and Teacher 8 thought it was important for coaches to be able to help implement new technology and to be involved in troubleshooting issues in the classroom. Teacher 4 believed the most important part of a technology coach's position is to help staff members stay calm and to be there to answer questions about technology as they arise.

Teachers were also asked, "What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?" There were no consistent answers to this question; teachers had different ideas as to what training is important for a technology coach. Teacher 1 and Teacher 3 believed a coach should be trained in the most current classroom technologies, programs, and computer systems. They also expressed the ability to do basic troubleshooting of programs and software is important for coaches to be successful. Teacher 2 stated a technology coach should be knowledgeable in methods of training teachers to incorporate technology in the classroom.

Teacher 4 and Teacher 5 noted the technology person should have used technology in the classroom and also have technical knowledge about computers in case something goes wrong. Teacher 6 and Teacher 8 believed prior to being a technology coach, the person should have experience using technology in a classroom. Teacher 7 expressed it would also be important to have at least a basic understanding of middle school curriculum with the need to focus student learning for success on the current state assessment.

The final question asked was, "What are the advantages/disadvantages of having a technology coach in a school district?" Advantages noticed included the following:

having someone to assist with troubleshooting, professional development, someone to research new programs, support with incorporating technology into curriculum, and an accessible person when there is a technology need. Teacher 6 believed the advantage to having a technology coach in the building is the potential increase of student learning. If teachers can meet students where they are to teach them something new, then it will be easier for everyone.

Disadvantages were more similar among teachers. Two of the teachers believed it would be possible to become too dependent on the technology coach; it would be easier to ask for help then attempt to solve the problem themselves. Three of the teachers did not know of any disadvantage to having a technology coach in the district. Teacher 2 recognized the financial pressure districts face to maintain the funding for the position as a disadvantage. An additional disadvantage is the amount of technology available for classroom use can be overwhelming, and teachers with less understanding of technology may demand excessive amounts of time from the technology coach. This could reduce the amount of technology integration in the classroom through a reduced amount of support for the teachers who have an understanding of technology.

Research question two. What are the perceptions of middle school English language arts teachers in regard to technology integration in the classroom and its effect on student achievement?

Teachers were asked, "How do you believe your district could improve technology integration through your technology coach?" The teachers believed the districts have improved technology integration using their technology coaches. The ways to continue to improve technology integration included the following: the continuation of

professional development training, continued research of new programs and technology methods, increased progress on student engagement and learning, the increase of teachers using and learning new technology methods, and the increase of communication between the staff members and the technology coach. Also expressed was the belief the technology coach is meeting teachers at their skill level; this differentiation is allowing all teachers to continue learning at their own pace.

Teachers 1, 3, 5, and 6 all stated their technology coach provides everything they need when asked, "What types of services would you like the technology coach to provide that are currently unavailable? How would it benefit instruction?" Teacher 5 stated, "If I need anything, the technology coach is a quick email away." Teacher 2 would like to see more specific training for teachers that includes explicit instruction for methods to incorporate technology in the classroom.

Teachers 4, 7, and 8 would like to have more access to the technology coach in the classroom. They currently have access to the technology coach for introduction to new technology and applications, but would like to have the coach in the classroom modeling how the technology and application can be used to increase technology integration. Teacher 8 noted, "When technology is integrated fully, there appears to be more student interest in the subject matter and fewer discipline issues."

The last question asked was, "What is a barrier to implementing technology in your district, and how do you believe the barrier could be overcome?" The general consensus was the most major barrier to implementing technology is limited resources. The limited resources could be bandwidth, smart technology, laptops, desktops, or

tablets. One of the other barriers noted was a lack of time. According the Teacher 3, "Time constraints are the greatest barrier to implementing technology."

Research question three. What are the perceptions of technology coaches toward duties and responsibilities assigned?

Technology coaches were asked, "What are your current duties and obligations as a technology coach?" The technology coaches interviewed each had different duties and obligations assigned to them as part of their current job assignments. The most common thread of their job description is their responsibility to provide professional development in their buildings. Coach 1 stated, "I kind of do a little bit of everything."

The technology coach's job requirements range from supporting teachers in how they use technology in the classroom to maintaining technology for the classroom. Coach 7's job duties include working with the school support company for addressing hardware and software issues and maintaining hardware, software, and network systems. The job also requires the technology coach to assist teachers with the development of curriculum and lesson plans that integrate technology. The coaches reported their job descriptions are often so broad, it is difficult to complete everything well. Coach 5 stated, "I believe the more time I can spend in the classroom with the teachers, the more effectively they can use technology."

The technology coaches were asked, "What do you believe is the most important part of the technology coach's job?" All of the coaches had different ideas about what is the most important part of the technology coach's job. However, there was a belief reported by most of the coaches as important that coaches need to be able to meet the

teachers where they are. If teachers are beginners with technology, they are treated with the same respect as a teacher who has extensive experience.

Coaches were then asked the question, "What types of services would you like to provide that are currently unavailable? How would it benefit instruction?" All coaches had different ideas on how the district could improve technology through the technology coach, but there were some similarities. Coaches 1, 3, and 6 believed teachers need to be given information and new things to try in pieces the teachers can implement slowly. Coach 2 and 8 noted the support of additional technology coaches would benefit the classrooms.

Technology coaches were asked, "What do you believe are the most important qualifications for technology coach?" Coach 1 stated, "You need to be personable and able to get along with people." This sentiment was repeated by all of the technology coaches. The other areas highlighted as being important were that the coach needs to have knowledge of instructional strategies, needs to have spent time teaching at the grade level they are supporting, and needs to have the willingness to be a lifelong learner.

The technology coaches answered the question, "What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?" Technology coaches believed it necessary to have experience working in the classroom. They also supported the concept they should have worked with technology in the classroom setting. It was noted coaches should be willing to learn new information and be ready to train on it.

Technology coaches were asked, "What are the advantages/disadvantages of having a technology coach in a school district?" All technology coaches were able to

come up with advantages of having a technology coach. Their beliefs were varied, but the most common one was support for classroom teachers. However, support was also deemed a disadvantage if the staff members become too dependent upon the technology coach. Two of the coaches did not find a disadvantage to having a technology coach in their districts.

Research question four. What are the perceptions of technology coaches toward their role in middle school technology integration?

The technology coaches were asked, "How has technology integration changed since the technology coach position has been implemented in your district?" The technology coaches all responded they have noticed changes in the integration of technology over the years. The changes range from technology being shared by the class and led by the teacher to one-to-one classrooms where technology is a blended part of lessons. The schools that have had technology coaches for more than five years have moved into a model that allows for more instructional support for teachers.

All coaches were asked, "How do you believe your district could improve technology integration through the technology coach?" The coaches had different ideas on how the district could improve technology through the technology coach, but there were some similarities. Coaches 1, 3, and 6 believed teachers need to be given information and new things to try in pieces the teachers can implement slowly. Coaches 2 and 8 expressed the support of additional technology coaches would benefit the classrooms.

Six out of eight technology coaches believed money is a barrier to the continuation of technology integration when asked, "What is a barrier to implementing

technology in your district, and how do you believe the barrier could be overcome?" There were other areas of concern including the need for professional development, a solid technology plan, and time to plan for the implementation of technology. Coach 8 also identified the difficulty in getting teachers who have been teaching for a long time to accept the need for technology in their classrooms. Coach 8 stated a common teacher response would be, "If I have taught without it for the last 15 years, why do I need it now?"

Conclusions

Conclusions were based on participants' answers to the research questions which guided the study. This section highlights common perceptions of technology coaches and teachers related to the position of technology coach in middle school classrooms. The following themes emerged after analysis of the participants' transcribed interviews.

Professional development is an important job requirement. All participants agreed professional development is an important part of the technology coach's position. The professional development needs to cover a wide range of topics. The need for professional development is supported by *Ten Elements of High-Quality Digital Learning* released by the Digital Learning Council in 2010, which stated the guarantees educators will receive high-quality professional development and students will gain access to quality technological resources and tools are fundamental components of teacher training (as cited in Hanson, 2015).

Technology coaches increase technology integration. Technology coaches and teachers supported the concept technology integration in the classroom has increased with the addition of technology coaches into the buildings. The teachers identified the

staff members being more receptive to new technology with the support of the technology coach. The transition of many districts to one-to-one technology schools has required the continued growth of the teachers' technology integration skills. Technology in the classroom is now a planned component of daily instruction instead of an activity to fill academic time. The move toward student-centered learning with technology allows the teacher to offer more open learning opportunities for the students.

Technology coaches have varied roles. According to George (2013), it is important to define what a technology coach's role is. Teachers and technology coaches defined the role of the technology coach in many varied ways. The technology coach's position is not a one-size-fits-all position. The position requires the technology coach to differentiate as technology support is provided to all teachers in the school building. The coaches reported working in classrooms with teachers, being a good listener, building strong relationships, and supporting teachers with quality training are the important components of their position. Teachers reported the most important parts of the technology coach's job are working with teachers to implement technology, assistance with technology support and troubleshooting, modeling of quality instruction, and providing quality professional development.

There are barriers to technology integration. The belief money is a barrier to technology integration was a theme noted by both teachers and technology coaches. Other areas of noted concern included the need for professional development and the time to participate in quality professional development. Time constraints were also identified as a barrier; it was noted once the school year starts, there is not enough time during the school day to stay current with new technology resources available and to plan

for appropriate integration of these resources into the curriculum. According to Preston et al. (2015), schools with integrated technology still have barriers to overcome. The following barriers were found: vision, access to research, leadership, teacher proficiency in integrating technology into learning, professional development, and available resources (Preston et al., 2015).

Implications for Practice

Technology coaches and teachers expressed the need for technology support in the classroom. In order to provide quality support in the classroom, coaches and teachers believed the technology coaches should have experience working in the classroom. The review of job duties for technology coaches revealed there is not a consistent job description among schools. There was a discrepancy between what the teachers believed a coach's job responsibilities were and what the technology coaches were expected to complete. Teachers and coaches both supported the concept of a coach in the classroom modeling technology integration and working directly with teachers. Professional development was also noted as an important part of a coach's job duties. The technology coaches were found to spend time dealing with hardware and software troubleshooting as a significant part of their positions. This was noted by both groups as an area that took away from time that could be used for support in the classroom.

Recommendations for Future Research

This qualitative study focused on the perceptions of technology coaches and middle school English language arts teachers and what they believed was important for their school buildings in southwest Missouri. The need to access the perceptions of similar stakeholders in the rest of Missouri is needed to see if these data are generalizable

or specific to the studied region. The expansion of the population to other core teachers in the middle school would also be beneficial.

Technology coaches and teachers reported lack of time was a technology integration barrier; further study could be designed to examine how school districts structure their daily schedules to manage the duties of a classroom teacher to allow for additional support and professional development. Limited demographic information was collected from participants. Another area to study could be to analyze how experience and professional development impact perceptions of technology integration. An additional area for further research would be studying how the integration of technology impacts student perception of the importance of learning new material. Additional data on student achievement, school discipline, and student attendance could all be included in future studies.

Summary

This qualitative study was designed to determine the perceptions of middle school technology coaches and middle school English language arts teachers in southwest Missouri. Interview questions were created to collect the perceptions of technology coaches and teachers related to the position of the technology coach and support provided by coaches. Additional information was gathered to determine if teachers believed additional technology integration had an effect on student achievement. The technology coaches' job duties and responsibilities were also analyzed.

The findings from this study supported related research reviewed in Chapter Two. There are major barriers to integrating technology into the classroom. Researchers have found schools with integrated technology still have several barriers to overcome (Preston

et al., 2015). The rapidly changing technology is difficult to keep up with, and in order to keep devices and infrastructure working properly, there should be a technology coach stationed in each school building. Students have the technology literacy skills required to use today's digital resources, but students need to be able to effectively work, communicate fluidly, and participate fully in an increasingly knowledge-based society (Preston et al., 2015).

Participants expressed the perceptions of middle school teachers toward having a technology coach available. It was reported all middle school English language arts teachers supported having a technology coach available to them. The duties the interviewees felt the technology coach should perform were varied. The expectations ranged from professional development, hardware support, software support, and in-class support to support with lesson planning to integrate technology.

The relationship between technology integration and student achievement was also evaluated. Technology usage in school districts showed a negative impact on students' academic scores; in other words, more recurrent use of technology in school was linked with lower achievement (Skryabin, Zhang, Liu, & Zhang, 2015). However, for students who frequently use technology at home for working on school-related tasks, their academic scores were more likely to be increased (Skryabin et al., 2015). The support of the technology coach could lead to increased technology use and more student attention to task. The teachers believed this would lead to higher student achievement. The ability to use technology to take quick assessments allows the teacher to know if the students understand the assignment and then allows for re-teaching of missing skills.

The perceptions of technology coaches toward duties and responsibilities assigned to them were reviewed. According to the ISTE, coaches' responsibilities are to "work primarily in the schools and devote most of their time and expertise helping teachers achieve the goals established by the National Educational Technology Standards for Teachers [NETS•T]" (ISTE, 2015, p. 1). The coaches determined their major responsibility within the school building is to implement quality professional development. According to Preston et al. (2015), the promotion of digital literacy with teachers requires the teachers to be empowered with professional development focusing on "e-learning, pedagogy, e-teaching, and critical pedagogy" (p. 182). The coaches all noted they complete whole-group training, but find less time for small group or individualized support. The determination was made there is a need for individualized or small-group support in all buildings. Coaches also perceived other duties such as dealing with hardware issues, software issues, maintenance of online software programs, and teaching classes. Cavanagh (2015) reported:

> Tech coaches are often expected to fix any breakdown with any device or any loss of connectivity right away. They're expected to introduce new technologies and devices, and work with teachers eager to learn, and those who are resistant. In some school districts, they juggle those duties with teaching too. (para. 3)

These duties often take over the position of technology coach and do not allow coaches to spend as much time in the classrooms as they believe is needed.

Appendix A

Phone Script

Hello, May I please speak with Teacher/Technology Coach (_____)?

Teacher/Technology Coach (_____), my name is Chris Conyac, and I am a doctoral student at Lindenwood University. Your school's name was given to me by the Southwest Regional Consortium for Education and Technology as a district that participates in RCET trainings and possibly has a technology coach.

Does your school have a person with the label of technology coach or similar title?

(If answer is No)…Thank you for your time, but your school does not meet the requirements of this study.

(If answer is Yes)…Your school meets the requirements of the study.
Would you be interested in participating in an interview regarding your school's use of a technology coach?

(If answer is No)…Thank you for your time.

(If answer is Yes)…I appreciate your willingness to participate in the interview. I will email you a Letter of Informed Consent that I will need you to sign and fax back to me as soon as possible. As soon as I have the signed form I will be in touch to set up a time and a location for the interview.

Do you have any questions?
Thank you so much for your time and have a great day!

Appendix B

Introductory Letter to Participants

Dear Participant:

My name is Brenda (Chris) Conyac. I am a doctoral student at Lindenwood University. I am researching the perceptions of technology coaches in southwest Missouri in regard to the training necessary or background experience needed to support educators in the middle school English Language Arts classroom. You are selected because you are a Technology Coach or Middle School English Language Arts Teacher; I am inviting you to participate in interview for this research study. The interview will require approximately 15 minutes and can be completed face-to-face or by phone or other electronic method.

If you are willing to participate in the interview, please reply to this email. I will forward a Letter of Informed Consent that I will need you to sign and email/fax back to me as soon as possible. Please include dates and times that you will be available for an interview. I will then contact you about a specific date and time that is convenient for you.

There is no compensation for completing the interview, nor is there any known risk. Participation is strictly voluntary, and you may refuse to participate at any time.

Thank you for taking the time to assist me in my research.

If you require additional information or have questions, please contact me at the number listed below.

Sincerely,
Brenda Conyac


Appendix C

LINDENWOOD

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

The Role of the Technology Coach in Middle School English Language Arts Classrooms

Principal Investigator Brenda Christine Conyac
Telephone: [redacted] E-mail: [redacted]

Participant _____Contact info _____

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1. You are invited to participate in a research study conducted by Brenda (Chris) Conyac under the guidance of Dr. Shelly Fransen. The purpose of this research is to review the perceptions of technology coaches and teachers in sixth- through eighth-grade English Language Arts classrooms in the southwest portion of the state of Missouri related to the best model for implementing a technology coach. The duties and qualifications perceived to be important for the position of technology coach will also be reviewed.
2. a) Your participation will involve participating in an interview of your perceptions regarding best practices for the use a technology coach in sixth- through eighth-grade English Language Arts classrooms.

   b) The amount of time involved in your participation will be approximately 30 minutes.
3. Approximately 30 technology coaches and English Language Arts teachers will be involved in this research. There are no anticipated risks associated with this research.
4. There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about technology coaches and may help school districts.
5. Your participation is voluntary, and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any

questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw

6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study and the information collected will remain in the possession of the investigator in a safe location.
7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Brenda Conyac, [redacted] or the Supervising Faculty, Dr. Shelly Fransen, [redacted]. You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Marilyn Abbott, Provost, at mabbott@lindenwood.edu or 636-949-4912.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____	_____
Participant's Signature Date	Participant's Printed Name
_____	_____
Signature of Principal Investigator Date	Investigator Printed Name

Appendix D

Teacher Interview

1. How many years have you been in education? How many years have you been working in your current district?
2. How comfortable are you with using technology in the classroom for instruction?
3. Has this changed since the addition of a technology coach to your school district? Why/why not?
4. How much time have you worked with the technology coach in your district in the past school year?
5. How has the technology coach supported you during the past school year?
6. How has technology integration changed since the technology coach position was implemented in your district?
7. What do you believe is the most important part of a technology coach's job?
8. How do you believe your district could improve technology integration through your technology coach?
9. What is a barrier to implementing technology in your district, and how do you believe the barrier could be overcome?
10. What types of services would you like the technology coach to provide that are currently unavailable? How would it benefit instruction?
11. What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?

12. What are the advantages/disadvantages of having a technology coach in a school district?
13. Is there any other information that you would like to share?

Appendix E

Coach Interview

1. How many years have you been in education? How many years have you been working in your current district as a technology coach?
2. What are your current duties and obligations as a technology coach?
3. How has technology integration changed since the technology coach position has been implemented in your district?
4. What do you believe is the most important part of a technology coach's job?
5. How do you believe your district could improve technology integration through the technology coach?
6. What is a barrier to implementing technology in your district, and how do you believe the barrier could be overcome?
7. What types of services would you like to provide that are currently unavailable? How would it benefit instruction?
8. What do you believe are the most important qualifications for technology coach?
9. What type of training/experience do you believe a technology coach should have prior to being placed in the position? Why?
10. What are the advantages/disadvantages of having a technology coach in a school district?
11. Is there any other information that you would like to share?

Appendix F

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE: March 1, 2016

TO: Brenda Conyac

FROM: Lindenwood University Institutional Review Board

STUDY TITLE: [800724-1] Role of the Technology Coach in Middle School English Language Arts Classrooms

IRB REFERENCE #:

SUBMISSION TYPE: New Project

ACTION: APPROVED

APPROVAL DATE: March 1, 2016

EXPIRATION DATE: March 1, 2017

REVIEW TYPE: Expedited Review

Thank you for your submission of New Project materials for this research project. Lindenwood University Institutional Review Board has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB.

This project has been determined to be a project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the completion/amendment form for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of March 1, 2017.

Please note that all research records must be retained for a minimum of three years.

If you have any questions, please contact Megan Woods at (636) 485-9005 or mwoods1@lindenwood.edu. Please include your study title and reference number in all correspondence with this office.

If you have any questions, please send them to mwoods1@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

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Vita

Brenda C. Conyac attended Northwest Missouri State University for her undergraduate and master's degrees. She obtained a bachelor's of science in elementary and middle school education in 1989. She also served as a graduate student for Northwest Missouri State's Horace Mann Elementary School from August of 1989 through May 1990.

Brenda started her career in education with Iowa Western Community College as the coordinator for the Academic Support Center and as an at-risk high school teacher. After four years with Iowa Western Community College, Brenda was hired as a special education teacher for The Clarinda Academy. She spent five years at The Academy, where she was promoted to Director of Education the final two years of her employment. In August 1999, she was then hired by South Page Community School as an elementary special education teacher. Subsequently, she was hired by Girls and Boys Town of Nebraska as Director of Special Education, where she established a special education department and supervised special education services for students. Brenda then returned to South Page Community School District as the K-12 Dean of Students, At-Risk Coordinator, Athletic Director, and Level II Special Education Teacher. She was hired by Shell Knob Elementary School where she began as a fourth grade eMints teacher. In 2006, she transferred to the position of middle school special education teacher and process coordinator. In August of 2014, she became the elementary assistant principal and preschool director for Shell Knob Elementary School. Brenda is currently a member of the Missouri Association of Elementary School Principals.