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An examination of the characteristics, duties, and training needs of district level technology coordinators in Mississippi school districts

Vicki Michelle Nash Webster

AN EXAMINATION OF THE CHARACTERISTICS, DUTIES, AND TRAINING NEEDS OF DISTRICT LEVEL TECHNOLOGY COORDINATORS IN MISSISSIPPI SCHOOL DISTRICTS

By

Vicki Michelle Nash Webster

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By

Vicki Michelle Nash Webster

Approved:

_____
Linda F. Cornelious
Professor and Interim Department Head of Instructional Systems and Workforce Development
(Major Professor and Director of Dissertation)
(Graduate Coordinator)

_____
Anna Dill
Director
The Learning Center
(Committee Member)

_____
Connie M. Forde
Professor of Instructional Systems and Workforce Development
(Committee Member)

_____
Dwight Hare
Professor of Leadership and Foundations
(Committee Member)

_____
Richard L. Blackbourn
Dean of the College of Education

Name: Vicki Michelle Nash Webster

Date of Degree: August 1, 2010

Institution: Mississippi State University

Major Field: Instructional Systems and Workforce Development

Major Professor: Dr. Linda F. Cornelious

Title of Study: AN EXAMINATION OF THE CHARACTERISTICS, DUTIES, AND TRAINING NEEDS OF DISTRICT LEVEL TECHNOLOGY COORDINATORS IN MISSISSIPPI SCHOOL DISTRICTS

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Candidate for Degree of Doctor of Philosophy

The primary purpose of this study was to examine the characteristics, duties, and training needs of district level technology coordinators in Mississippi school districts. Prior research was limited on the role of technology coordinators in the United States, and no research was found in the literature that focused specifically on technology coordinators at the district level in Mississippi. The research design for the study was descriptive. A survey instrument was used to collect demographic data. The survey was emailed to 138 technology coordinators. There were 4 technology coordinators that opted out of the survey, 8 emails were bounced back to the research and 55 responded for a response rate of 43.6%. Descriptive statistics were used to analyze data for the 4 research questions.

The results of this study indicated that district technology coordinators in Mississippi have a multitude of responsibilities that vary greatly. The majority of

participants in this study are responsible for duties that range from working one-on-one with teachers, installing and troubleshooting hardware and software, purchasing technology resources, planning technology related professional development activities for other staff members, as well as other duties. A majority of respondents indicated that they needed additional training to perform their duties effectively. Participants were given the opportunity to rank their most important training needs as administrative, technical, or educational research oriented. Administrative training was chosen as more important than any other training need.

DEDICATION

This research is dedicated to my husband, Ambrose G. Webster II, who has been extremely supportive during this academic process. I would also like to dedicate this study to my mother, Luci W. Nash, my nephew Tyan Deonis Nash, and my son, Daniel Nash Webster, who have all been a great inspiration to me.

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I want to express my sincere gratitude to my dissertation director, Dr. Linda Cornelious who has provided patience and a guiding hand when I needed it most. I also want to thank my doctoral committee members Dr. Anna Dill, Dr. Connie Forde, and Dr. Dwight Hare. My sincerest gratitude to Dr. Hare for being willing to reach out with a special nudge of encouragement when the process seemed unmanageable or when problems seemed insurmountable.

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CHAPTER I

INTRODUCTION

The technology coordinator provides a critical role in a school district's technology support system (McLeod, 2003). Many schools had only one or two computers per classroom prior to the 1990s. However, technology acquisition in the 1990s created new possibilities for learning (Staples, Pugach, & Himes, 2005). Therefore, the number of coordinator positions increased during the 1990s as technology became more prevalent in schools (Frazier, 2003). For example, in 1994, only 35% of public schools had access to the Internet. However, nearly 100% of public schools had access to the Internet by the fall of 2003 (Becker, 2007). Individuals who serve in the role of technology coordinator are responsible for providing technical support services, staff development, technology planning, and providing administrative support for teachers who integrate technology into their curriculum (Cox-Cruey, 1998; Lesisko, 2004). The benefits of competent technology coordinators are well known. Therefore, teacher access to knowledgeable and skilled technology coordinators positively influences their use of teaching strategies in the classroom (Silverstein, Frechtling, & Miyaoka, 2000).

In some cases, in order to improve technology integration into curriculum efforts, schools have been able to secure building level technology coordinators through the

acquisition of grant monies (Staples, et al., 2005). However, in many cases a district managing multiple schools is relying on a single technology coordinator as the technology specialist.

Although the importance of the technology coordinator's role has been well documented, there is little information known about the individuals who serve in these positions (McLeod, 2003). Research is limited on the role of technology coordinators in the United States, and no research was found in the literature that focused specifically on technology coordinators at the district level in Mississippi. However, it is clear that the characteristics, duties, and even job titles of technology coordinators can vary greatly between states, as well as between districts within a state (Cox-Cruey, 1998; Lesisko, 2004; Wagner, 2004). In fact, Lesisko's (2004) study on technology coordinators revealed 45 different position titles among 87 technology leaders.

Historically, technology coordinators have been hired from a variety of backgrounds and often lacked either the technical training or theoretical educational foundation the position required (Frazier, 2003; Hawkes & Brockmueller, 2003; Tomasso, 2003). The working environment of the technology coordinator can also differ greatly (Cox-Cruey, 1998; Lesisko, 2004; Tomasso, 2003; Wagner, 2004). For example, Cox-Cruey (1998) indicated that one-third of school districts surveyed in Kentucky relied solely on the district technology coordinator for support. Half of those surveyed by Cox-Cruey held the position of district technology coordinator exclusively while other participants were responsible for a variety of other jobs within the district such as Title I Coordinator, Food Service Coordinator and Director of Pupil Personnel. The duties of the

technology coordinator can be varied and complex. As such, Collins and Dewees (2001) revealed that technology decision makers often have little or no technology training or resources to make knowledgeable decisions.

Statement of Purpose

Research in several states has suggested that technology coordinators can be responsible for many tasks including offering technical, administrative, and instructional support (Lewis, 2005; Wagner, 2004). These individuals are hired from a variety of backgrounds that may or may not include technical training, or they may lack educational theoretical knowledge (Frazier, 2003; Tomasso, 2003). However, positions of administrative leadership like technology coordinators are considered pivotal in ensuring successful technology integration into curriculum.

If technology coordinators are to provide support to educational staff, they will need training and staff development opportunities to make knowledgeable decisions. (Collins & Dewees, 1998; Cox-Cruey, 2001; Lesisko, 2004). Although some research has been conducted in a few other states that identify the issues facing technology coordinators, no research was identified specifically addressing the state of Mississippi.

The purpose of this study was to examine whether Mississippi Technology Coordinators were responsible for a variety of tasks as shown in other states, possessed the technical or educational backgrounds for their roles, and had acquired additional training and if so, what additional training was considered most important by them.

Technology coordinators from Mississippi were surveyed in order to better understand their current working environment, responsibilities or duties, and to determine whether or not the technology coordinators perceived additional training was necessary.

Research Questions

The following research questions were addressed in this study:

1. What are the characteristics and duties of technology coordinators in the state of Mississippi?
2. What are the training needs of technology coordinators in the state of Mississippi?
3. Is there a relationship between the types of training technology coordinators find most necessary and whether or not coordinators have technical, administrative, or education experience?
4. Is there a relationship between job responsibilities and training needs of Mississippi technology coordinators?

Justification of the Study

Although many studies have focused on the barriers to successful technology implementation (Hokanson, Hooper, & Association for Educational Technology, 2004), many schools have not realized the level of technology integration that could be possible (Becker, 2007; Doughty, 2007). McLeod (2003) concluded that effective support from technology coordinators is a predicator of the success of technology implementation. Research conducted in a number of states indicated that technology coordinators can be

responsible for a number of different tasks (Collins & Dewees, 2001; Cox-Cruey, 1998; Lesisko, 2004; McLeod, 2003; Wagner 2004). In a study conducted by Wagner, participants developed and implemented professional development courses, grant writing, and created technology plans. However, studies by Cox-Cruey and Lesisko suggested that technical skills such as troubleshooting and maintaining hardware, software, and networks are an important part of the technology coordinator's job.

According to Lewis (2005), superintendents struggle to identify and retain competent technology coordinators to handle technical, instructional, and administrative challenges. Therefore, the results of this study could be used to identify the necessary qualifications for hiring future technology coordinators in the state of Mississippi.

Wagner (2004) suggested that some technology coordinators begin in positions without job descriptions further complicating the actual expectations of the role. Other studies indicated that the position differs greatly from district to district within a state (Lesisko, 2004). According to Lewis (2005) technology coordinator positions lack identity within the organizational structure of school districts. This often allows technology coordinators to define the role for themselves and adds the risk of not living up to expectations of decision makers in positions of authority. This study could provide information that would better define the role of technology coordinator for Mississippi school districts. Redefining and reevaluating the role of technology support should be an ongoing process (Beattie, 2000). Knowledge of the duties and responsibilities of technology coordinators can be critical for the development of appropriate training.

Limitations

In this study, surveys were emailed to technology coordinators listed on the Mississippi Department of Education's website. However, the list of technology coordinators may not have included all the current technology coordinators working in the state of Mississippi at the time of the study. Therefore, findings in this study cannot be generalized to other groups beyond the population identified. An online survey tool known as Survey Monkey was used for this research. Survey Monkey allows participants to permanently opt out of all surveys provided by the system. The effect of this policy provided a limitation for this research. Participants who had previously opted out of surveys were not given the opportunity to participate in this research. Their emails would be bounced back to the sender without a notification to the potential participant.

Definition of Terms

The following definitions were used in this study:

Administrative Experience – includes experience in a position other than classroom teaching; for instance, curriculum coordinator, superintendents, principals, or managerial experience outside of education.

Administrative Training – Training to help technology coordinators prepare technology grants, create technology plans and complete other administrative paperwork.

Characteristics – includes background information such as degrees, years of experience, gender, age, and certifications.

Duties – actual daily or routine tasks performed by the technology coordinator.

Educational experience – is defined as classroom teaching experience.

Educational research training – Training to help technology coordinators research best practices and current theories in integrating technology into curriculum and other education related research.

Job Responsibility – defined as current duties or tasks required by technology coordinators.

Technical experience – includes experience installing hardware or software, troubleshooting hardware or software issues, and working with networks.

Technical Training – Training to enhance technical skills such troubleshooting hardware and software related problems, installation of software, and other technical knowledge.

Technology Coordinator – educator at the district level that facilitates the effective use of computer related information technology in instruction (Moursund, 1992)

Training – learning that is provided in order to improve performance on the job (Nadler, 1984).

Training needs – as defined by BNET Business Directory is a shortage of skills or abilities which could be reduced or eliminated by means of training and development (CBS Interactive).

Type of Training – For the purposes of this study, type of training, training was categorized into three groups; administrative, technical and educational research.

CHAPTER II

REVIEW OF RELATED LITERATURE

The technology coordinator position was once considered a new role in K-12 schools and districts (Frazier, 2003). However, this role has been in a state of flux for a number of years (Lewis, 2005). There have been attempts to define the role through descriptive accounts and studies that evaluated job qualifications. Researchers have evaluated the characteristics, duties, and skill levels of district level technology coordinators in their states (Cox-Cruey, 1998; Lesisko, 2004; Platte, 1997; Tomasso, 2003; Wagner, 2004). Individual states have also attempted to standardize the role of the technology coordinator. This chapter examines the literature on the role that technology coordinators can play in integrating technology into the curriculum, the relevant theory on assessing training needs, and the characteristics and duties of technology coordinators.

Integrating Technology into the Curriculum

The goal of integrating technology into the curriculum is to improve student achievement (Becker, 2007). This goal requires a certain level of expertise from administrators and educators. After technology became more prevalent in the 1990s, companies began offering games, educational software, and other technology related items providing a multitude of offerings for educators to consider (Staples, et al., 2005).

The use of technology in classrooms did increase. According to Silverstein et al. (2000), the majority of principals in their survey did not feel that teachers were using technology in schools to develop alternative assessments, create electronic portfolios, or to correspond with parents. High poverty schools were less likely to engage in the use of technology. Case study findings suggest a number of effective strategies for influencing the use of learning technologies in the classroom. One suggestion was consistent access to a knowledgeable and skilled technology coordinator. Inadequate support of teachers and other technology users can contribute to the failure of school technology initiatives (McLeod, 2003). Many administrators now understand that realizing better technology use in K-12 schools requires adequate funding of technology coordinators (Hawkes & Brockmueller, 2003). According to Hawkes and Brockmueller, the technology coordinator identifies the training needs for school staff and can be responsible for the programs developed and expertise required if a more systematic approach for technology professional development is needed.

According to Lesisko (2004), integrating technology into the classroom can be a long process if not properly implemented. The problem of coordinating services and equipment has become more prominent as school districts continue to integrate technology into instructional and administrative functions. Initially, administrators placed an emphasis on introducing technology into schools (Hofer, Chamberlin, & Scot, 2004). For some administrators, the advantages of technology integration were clear. Technology could become a key component in solving problems of unemployment in the

local community by improving students' skills before they graduated (McGrath & Sands, 2004).

Many teachers are ready to learn about technology integration. However, technology coordinators must have a plan and an understanding of district expectations in order to facilitate curriculum integration. Ertmer (2005) noted that 53% of teachers surveyed reported feeling somewhat prepared to use technology in the classroom, while 80% expressed an interest in learning how to integrate computer technology into the curricula. Hinson, Laprairie, and Cundiff (2005) indicated traditional classroom practices are quickly becoming obsolete with the ever changing technological age. The authors proposed many educators are still uncomfortable and unequipped to integrate technology into the curriculum. Shifting from traditional teaching toward approaches that encourage technology integration is a complex new task for many teachers who need to develop new knowledge (ChanLin, 2005; Fuller, 2000). School leaders may lack an understanding of innovative technologies (Dikkers, Hughes, & McLeod, 2005). However, according to ChanLin (2005), technical and administrative support is a critical consideration in integrating technology into curriculum.

As part of the planning for long-term development to encourage change, schools are encouraged to consult faculty members, professional organizations, and their district technology coordinators for input. Hinson, et al. (2005) concluded that teachers must have opportunities to acquire skills and apply them as part of a cohesive improvement plan, instead of disconnected workshops. MacDonald and Caverly (2006) also recognized that although many developmental educators were using word processing to produce

documents, few had advanced to the ability to use word processing for innovative processes. The authors used a continuum of technology integration that included the incremental phases of adoptions, adaptation, appropriation, and innovation to frame their assessment of teachers and their technology use. The adoption phase suggested that teachers are using the technology to support traditional instruction. In the adaptation phase, teachers use technology to enhance education. During the appropriation phase, technology changes practice. Finally, during the innovation phase, educators begin using technology to create new practice.

Educators can use technology in a number of ways to increase the efficiency of the learning process. According to King-Sears and Evmenova (2007), the significance of technology use comes not from simply having access to computers and software, but also from using that technology appropriately to support and stimulate learning. Integration should stimulate student interest as well as enhance critical thinking skills. Teachers who attempt to incorporate the use of a new teaching tool as well as a new teaching philosophy can experience uncertainty when they lack the skills to apply new technology appropriately (ChanLin, 2007). Although there are a number of factors that affect the level of technology integration among teachers, one factor described as indispensable for technology integration was administrative support.

Younger teachers entering the workforce are often expected to display a greater level of technological savvy because of their perceived comfort level with modern technology. Becker (2007) examined whether the experiential differences between novice and veteran teachers, with respect to technology, influenced how they integrated

technology into the curriculum. Novice teachers were more likely to have computers at home and school. This group was also more likely to have both formal and informal technology instruction during their earlier learning experiences. Becker discovered that while novice teachers rated themselves more proficient in technical skills than more experienced teachers, both groups suggested a comparable amount of pedagogical skills. Both the novice group and the veteran group of teachers in the study indicated infrequent use of technology with their students. After interviewing subjects, the researcher concluded teachers may lack an understanding of how to use their technical skills appropriately to integrate technology into the curriculum. Time and training were mentioned as barriers to technology integration.

Doughty (2007) conducted a qualitative study to attempt to understand technology integration at an urban school. The researcher spent three years volunteering in an after school computer club assisting teachers and students. According to Doughty, technology integration includes three prerequisites: the instructional design process necessary to produce an innovation; a technology adoption process to help teachers implement that innovation; and the removal of barriers that hinder technology integration. The study found that teachers often lacked sufficient computers, software, planning time, and technical support.

Assessing Training Needs and Discovering Characteristics

Industry has long recognized the need to shift views about training from a separate, stand-alone occurrence to a more integrated, strategic approach. Conducting a training needs analysis is one of the most important steps in developing effective training

programs (Salas & Cannon-Bowers, 2001). According to the authors, there are three primary components: (a) organizational analysis, (b) job/task analysis, and (c) person analysis. This process of needs analysis is necessary to determine what knowledge and/or skills should receive focus.

According to Salas and Cannon-Bowers (2001), organizational analysis identifies the system wide components of the organization. Analyzing the organization can highlight areas of agreement between training objectives and organizational goals, available resources, constraints and support. Previous studies identified by Salas and Cannon-Bowers indicated that organizational climate and culture were powerful predictors of whether trainees transferred the learned skills and post training behavior. Therefore, conducting an organizational analysis is crucial for ensuring the success of an effective training program.

Job/task analysis is another important aspect of a training needs analysis. A job/task analysis can be used to discover learning objectives (Salas & Cannon-Bowers, 2001). This analysis delivers a detailed description of work functions, information about the work environment, and the knowledge, skills, and attitudes necessary for performing the tasks.

Understanding individual and personal characteristics are also critical for creating professional development opportunities. Salas and Cannon-Bowers (2001) concluded from their research that general intelligence is good as it promotes performance and self-efficacy. Intelligence also helps with skill acquisition. According to the authors, although

cognitive ability is a reasonable predictor of training performance, it is not a guaranteed indicator of performance on the job.

Districts place many demands on their technology coordinators. Therefore, well-designed training opportunities are very important for technology coordinators. McLeod (2003) noted that urban technology coordinators received more hours of professional support than either rural or suburban coordinators. In his study, participants surveyed reported an average of less than a week's worth of professional development and training in the past year. One in six participants reported less than a day of professional development. Of the technology coordinators surveyed, 40% indicated professional development opportunities in their school district were inadequate. One-fifth of the respondents in the McLeod study believed that their training and background were inappropriate for their job responsibilities. Individuals in the coordinator position are often former teachers with a number of self-taught skills who have had very limited exposure to training opportunities (Hawkes & Brockmueller, 2003).

Organizational Analysis

Role ambiguity surrounding the position of technology coordinators has been a problem historically. Several researchers suggested that technology coordinators are employed in positions on a full time or part time basis (Brown, 1998; Cox-Cruey, 1998; Kohler, 1995; McLeod, 2003). A study completed by Kohler (1995) found conflicting perceptions between administrators and technology coordinators about the position expectations. The requirements and responsibilities for technology coordinators often differ between states. Cox-Cruey (1998) indicated that one-third of school districts

surveyed in Kentucky relied solely on the district technology coordinator for support. Half of those surveyed by Cox-Cruey held the position of district technology coordinator exclusively while other participants were responsible for a variety of other jobs within the district such as Title I Coordinator, Food Service Coordinator and Director of Pupil Personnel. Of the participants involved in the study by Cox-Cruey, 85% indicated that their positions were administrative. Levinson and Surratt (1999) suggested that well organized districts were possible with technology coordinators assuming an authoritative position within the district equivalent to an Assistant Superintendent.

Contractual periods for technology coordinators can vary according to Tomasso (2003). Participant contracts included 9-month, 10-month, 11-month, and 12-month contracts. Some technology coordinators have been responsible for coordinating the activities of support staff, while others provide both administrative and sole technical support for a district (McLeod, 2003; Wagner, 2004). The variety of contract lengths, according to McLeod (2003) indicated a mismatch between technology coordinator duties and the type of contract they had. Three-fourths of the McLeod respondents were on an 11 or 12-month contract and almost all were district level as opposed to school level employees. McLeod noted that technology contracts did not always accurately reflect the level of responsibility. Nearly a third of the McLeod participants were the only person providing technology support in their districts. These participants were more likely to be in rural districts. Smaller districts were more likely to have one person providing technology support. One-fourth (27.1%) of the McLeod survey participants

indicted they had a different primary job title such as teacher, principal, or superintendent.

In Pennsylvania, the department of education requires technology coordinators to be certified (Lesisko, 2004). The position of the Director of Instructional Technology in Pennsylvania requires the Instructional Technology Specialist Certificate in addition to training, experience, education, or other skills required by the district. Wagner (2004) in an Ohio study indicated that the needs of schools and the individual technology coordinator often shape the position at a district. Five of the nine participants in the Wagner study were on administrative contracts while the remainders were on teacher contracts. When given an opportunity to state whether their position was primarily administrative, technical, or instructional, five respondents indicated technical, while the others suggested administrative. Although no participant responded that their position was primarily instructional, all participants included comments that suggested that all three components were among their responsibilities.

Other states have also attempted to standardize the role of technology coordinator (Lewis, 2005). For example, the Illinois Board of Education created the *Technology Specialist Content-Area Standards* document in an effort to standardize the role in Illinois school districts and make the expectations of technology coordinators and administrators more uniform. The state identified 12 performance and knowledge standards necessary in the role of a successful technology coordinator.

Job/Task Analysis

Hawkes and Brockmueller (2003) recognized that many technology coordinators were teachers who also possessed a number of self taught computer skills. Technology coordinators need a solid base of skills including technical, leadership, and communication related skills to perform their duties. McLeod (2003) suggested that role confusion and overlap was probably a contributing factor to the ineffective implementation of technology in school districts. The technical aspect of the technology coordinators role is often varied. Many of the study's participants spent an average of 64% of their time providing technology support. Some of the coordinators involved in McLeod's survey indicated that they spent 100% of the time on technology support, administration, and training. The technology coordinator position also has certain administrative elements. Of McLeod participants, 70% spent their time with duties unrelated to technology support. Wagner (2004) indicated a number of responsibilities according to respondents. In addition to simply installing and maintaining computers, Wagner participants developed and provided development opportunities, wrote grants, secured funds, worked with E-rate, and managed the technology budget. Wagner participants were also responsible for developing and implementing the technology plan, as well as working with vendors. Participants mentioned the potential to work long hours and weekends as well as weekdays.

According to Wagner (2004), some technology coordinators begin in positions without job descriptions complicating the actual expectations of the role. Technology coordinator responsibilities can include providing instructional support and technical

support. Lesisko (2004) suggested that the larger the student population, the more likely that the Technology Coordinator would devote their time to managing the technology for their district and these individuals would be less likely to spend time working with curriculum, federal programs, grant writing, professional development or other tasks. When asked to rank responsibilities. Participants in the Lesisko study indicated that their responsibilities included in order of importance: (a) hardware installation and troubleshooting, (b) administrative paperwork, (c) managing the district network, and (d) software installation and troubleshooting.

The variety of positions is also evident in the job titles of these professionals in the literature (Cox-Cruey; 1998; Hofer, et al., 2004; Lesisko, 2004; McLeod, 2003; Platte, 1997; Wagner, 2004). Wagner (2004) indicated that of the nine participants in the study, only three used Technology Coordinator as their title. The other titles included Systems Administrator, District Technology Coordinator, Information Technology Teacher, Director of District Technology, Director of Instructional Technology, and Director of Technology. Lesisko's (2004) participants provided 45 different job titles out of 87 survey returns. Job titles included Computer Engineer, Director of Federal Programs and Technology, and Direction of Instructional and Administrative Technology.

There is some agreement by researchers about the lackluster acceptance of technology coordinators to appreciate research and theory (Lewis, 2005; Platte, 1997). In Lewis' (2005) study, superintendents and technology coordinators agreed that research and theory was one of the least important indicators for technology coordinators.

McLeod (2003) indicated an average annual salary of $56,251 among survey respondents. Salaries of respondents ranged from $8,000 to $116,000 per year. Urban school district salaries were significantly higher than rural district salaries. The average salaries of district technology coordinators in the survey were significantly lower than business and industry leaders with similar duties.

Traits of Effective Technology Coordinators

Wagner (2004) indicated six identifiable traits that emerge from the literature that enable coordinators to succeed. These traits included (a) organization and time management, (b) leadership, (c) becoming a change agent, (d) being a facilitator of professional development, (e) maintaining personal professional development, and (f) developing both interpersonal and technical skills. In order to succeed at their responsibilities, technology coordinators must have a combination of talents and skills in technology and education (Lesisko, 2004). Lesisko envisioned an individual with the ability to inspire apprehensive technology users and find ways to assist comfortable technology users.

Individual/Person Analysis

Knowledge about the individuals in technology coordinator positions is minimal, although research indicates the importance of their role in effective technology implementation (McLeod, 2003). The characteristics and responsibilities of technology coordinator positions can vary greatly between states, as well as between districts within a state (Lesisko, 2004; Tomasso, 2003; Wagner, 2004). This is partly because districts

can vary according to size, needs, and resources. These differences make interpreting professional development needs problematic (Cox-Cruey, 1998). Hoffman (1996) suggested that a strong technology coordinator could lead to greater use of computers and the implementation of software that promote higher order thinking. Because of the importance of the technology coordinator's position, it is important to investigate the educational background and experience of technology coordinators (Platte, 1997).

Educational Background

The importance of securing highly trained professional educators who are able to provide technology leadership is evident in the literature (Hoffman, 1996; Platte, 1997; Ritchie, 1996). The level of education attained by technology coordinators in states vary greatly with some technology coordinators possessing high school diplomas while other coordinators hold master's degree or higher (McLeod, 2003). Platte (1997) indicated that out of 85 technology coordinators surveyed 45% held BA degrees, 40% held MA degrees, and 6% held doctoral degrees; 18% held a degree in a field relating to computers. Cox-Cruey (1998) reported a variance in the educational level of respondents. For instance, 31% held masters degrees, 17% had obtained specialist degrees, and 5% held doctorate degrees. However, 8% reported having a bachelor's degree and 2% reported they did not possess a degree. The Cox-Cruey study also contained an "Other" category that was reported as respondents that possessed a Master's degree plus additional college credits for a Rank I. Of the respondents, 33% selected this option and 3% chose not to answer the survey item. An analysis of the other degrees held by

Kentucky technology coordinators indicated that some participants held Master's degrees plus additional college credit.

Lesisko (1998) found that participants he surveyed had an average of 17.26 years of education. Of the Lesisko respondents, 49% indicated they held a master's degree, while 28.7% had a bachelor's degree. Of the master's degree holders, 74.4% had technical degrees in a management or a technology related field. At the bachelor's degree level, 60% had a computer science or technology related degree. Of Platte's (1997) participants, 69% attributed most of their skills to education and experience and none to formal education.

Experience and Certification Levels

Tomasso (2003) suggested that coordinators often worked in technology related jobs before becoming technology coordinators. Nearly three-fourths of McLeod (2003) participants indicated that their background was in education. Wagner (2004) found that two of the nine participants in his study had previously taught at the elementary level and four others had taught at the secondary level. The remaining participants had taught a variety of junior high and high school courses including some computer related courses. Participants in Wagner's study were Ohio SchoolNet 2004 Technology Coordinator of the Year Finalists. Participants in the study had worked as technology coordinators from 1 to 10 years with an average of 5.2 years experience as a technology coordinator. Participants in the Lesisko (2004) study had an average of 5.71 years of experience as technology coordinator and over 14 years education work experience. The McLeod

(2003) study participants also indicated approximately five years experience (5.3) as technology coordinators.

Although all of the Wagner (2004) participants were former educators, their paths to becoming technology coordinator were varied. One participant was an elementary principal, but as the only administrator within the district with computer knowledge, he became the technology coordinator. Another of the Wagner participants was an information technology teacher and this later provided the entryway to the position of technology coordinator. The study also included an individual with a Master's degree in Public Administration who had also worked as an administrator for a nonprofit organization. Many participants (21%) in the McLeod (2003) study had never been classroom teachers.

Lesisko (2004) noted that a number of technology coordinators hold professional certifications from technology related vendors. Half (50%) of Lesisko study participants had Microsoft certification, 30% held a Novell credential, and 17.2% had a certification from CompTIA in either networking or hardware/software. Finally, 3% held Cisco certification and many held multiple certifications. Over 80% of Lesisko respondents held a Pennsylvania Professional Teaching Certificate. Out of the remaining participants who did not hold a teaching certificate, 57.1% held a nationally recognized vendor credential.

Summary

Inadequate support of teachers and other technology users can contribute to the failure of school technology initiatives (McLeod, 2003). Many administrators now understand that realizing better technology use in K-12 schools requires adequate funding of technology coordinators (Hawkes & Brockmueller, 2003). Many teachers are ready to learn about technology integration. However, school leaders may lack an understanding of how to use innovative technologies (Dikkers et. al., 2005).

Districts place many demands on their technology coordinators. Role ambiguity has plagued the position of technology coordinators historically. The requirements and responsibilities for technology coordinators often differ between states. Technology coordinators need a solid base of skills including technical, leadership, and communication related skills to perform their duties. These individuals must have a balance of education in technology and education (Lesisko, 2004).

Knowledge about the individuals in technology coordinator positions is minimal, although research indicates the importance of their role in effective technology implementation (McLeod, 2003). Because of the importance of the technology coordinator's position, it is important to investigate the educational background and experience of technology coordinators (Platte, 1997).

CHAPTER III

METHODOLOGY

This study examined the characteristics, duties, and training needs of technology coordinators in the state of Mississippi. This chapter describes the methodology and procedures that will be used to conduct this study. The chapter includes the following sections: research design, instrumentation, variables of the study, population, procedures, data collection and data analysis.

Research Design

This study used a cross-sectional, survey research design. The study was cross-sectional because the researcher collected data at only one point in time. Song (2004) indicated that a cross-sectional survey design was well suited to obtain a description of existing characteristics in participants. It was also low cost and quick while enabling the researcher to gain data during a short course of time. For the Song research, data were collected at one point in time from a predetermined population with the intent of describing characteristics that existed at the time of the survey.

The researcher used a survey instrument to collect demographic data such as age, gender, years of experience, and educational level as well as the type of duties and

responsibilities expected of technology coordinators. Surveys were considered a good choice for gathering data because of their efficiency, their ability to provide standardized data that can be used for statistical analysis (Babbie, 1990; Nardi, 2003).

Survey research can be used for a number of purposes: description, explanation, and exploration (Babbie, 1990). Researchers use surveys to make descriptive assertions about a population or to discover the characteristics of a population. In that case, the researcher is not attempting to explain why a certain distribution exists, but rather what the distribution is. In addition to describing the population, researchers may also want to make explanatory assertions about the population. To make explanatory assertions, the researcher often needs to examine two or more variables or perform analysis. Survey methods also offer the researcher a mechanism for exploration or inquiry.

This research also had a correlational component. According to Wright (2007), correlational methods can be used to consider existing characteristics as well as explore correlations between two or more phenomena. For this research, data gathered from the survey were used to assess whether relationships exist between the characteristics of technology coordinators such as years of experience, educational levels, and types of duties, and the coordinators' perceived need for additional training.

A number of threats to internal validity were inherent in this study. The participant pool involved in the study was rather small. Participants who failed to complete the survey may have limited the generalizability of the study. The reduced number of participants could introduce bias (Fraenkel & Wallen, 2003). The problem with bias occurs if participants who did not turn in their survey differ in some way from

people that did return surveys. Respondents may also have changed their behavior based on their participation in the survey or either intentionally or unintentionally misrepresented their behavior (Voogt & Van Kempen, 2002).

The original instrument that was modified for use in this study was used by Lesisko (2004) (see Appendix A). The researcher did contact Lesisko (see Appendix B) for permission to modify the survey document and permission was granted (see Appendix C). At the time of the Lesisko study, the instrument was piloted to gauge its content validity. However, the instrument was modified for use in this study and piloted again to confirm validity.

Instrumentation

The instrument used in this study was initially used by Lesisko (2004) and was modified for the purposes of this research. It includes both open-ended and closed-ended questions, as well as a Likert scale. The use of open-ended questions requires that data collected must be interpreted consistently and coded prior to data entry (Babbie 1990; Nardi, 2003). Open-ended questions are a good way to discover what respondents think, but the responses require content analysis. Closed-ended questions are popular in survey research, but not without some shortcomings (Babbie, 1990). Closed-ended questions may overlook important data because of the way the questions are structured.

The questionnaire should emerge based on the purpose of the research or whether the researcher wants to describe, explain, explore, or predict (Babbie, 1990). One of the goals of this research was to seek to describe, explain, and explore the characteristics

involved. The research was used to understand the respondent's feelings (attitudes) about training needs, what technology coordinators actually do (behaviors), and who they are (demographics).

The instrument used in this study was divided into three sections: Part I contained demographic or background questions such as age or gender. Part II included district and job-related information such as questions dealing with job responsibility, and Part III contained questions related to training needs. Permission to use and modify the District Level Technology Coordinator Survey instrument was requested (see Appendix B) and obtained (see Appendix C) from Lesisko.

Validity and Reliability

An instrument is valid if researchers can use it to measure the construct it was designed to measure (Fraenkel & Wallen, 2003). To evaluate whether or not the instrument had face and content validity, the researcher asked a jury of experts to examine the questionnaire. This allowed the researcher to obtain feedback on whether the instrument was capturing the complexity of the concepts or variables.

Lesisko (2004) piloted the original instrument to a small group of people in a controlled environment to determine if the items in the survey were clear and easy to understand. Content experts were asked to complete and evaluate the survey for content and readability as well as consistency. This process would have established content validity. Lesisko did not indicate any other steps that may have been taken to establish reliability or validity.

Pilot Study

After approval had been obtained from the Institutional Review Board for the Protection of Human Subjects in Research (IRB) at Mississippi State University (see Appendix D), a pilot study was conducted using the District Technology Coordinator Survey instrument. Participants for the pilot study included seven current technology coordinators. The purpose of the pilot study was to assess validity, test the delivery method for the instrument, and to assess the proposed data analysis technique. Questions deemed ambiguous were refined based on pilot participants' recommendations. In addition, participants were asked for feedback on the layout and content of the survey instrument. The only change made to the survey based on feedback was the addition of the term "more" in the education section. This change permitted participants to display additional credit hours earned beyond a degree.

Variables of the Study

The variables of interest in this study included the following: (a) demographic data, (b) education related, (c) amount of related job experience, (d) training information, (e) type of job experiences, and (f) job responsibilities.

Population

The population of this study was technology coordinators in Mississippi School Districts. The Mississippi Department of Education maintains a site listing of technology coordinators within the state. The researcher used a list of 145 technology coordinators as

potential participants. From the initial 145 potential participants, seven were asked to participate in a pilot study.

Procedures

After an application was approved by the Mississippi State University IRB, the names and email addresses of 145 Mississippi Technology Coordinators were obtained from the Mississippi Department of Education Directory. Pilot participants were sent a packet containing a letter of request, a copy of the survey, and a comment form. Minor changes were made to the survey instrument based on their recommendations.

After the pilot process, the remaining technology coordinators were sent an email (see Appendix E) that described the survey (see Appendix F) and asked for their voluntary participation. The email contained a confidentiality section and explained how the participant's identifying information was not included when the survey is submitted. The email served the function of a cover letter and asked participants to click the survey link only if they consented to participating. The email also included a link that allowed the participant to opt-out of participating at that point.

Participants who did not submit the survey and who did not click the opt out link were sent a second email (see Appendix G), one week later. The second email was sent in case the participant intended to participate and accidentally deleted their email, forgot to follow through with the survey, or had other technical issues. Participants who clicked the opt-out link received no further emails.

Data Analysis

The survey research design allowed the researcher to measure a variety of variables. There are four levels of measurement that are associated with variables: nominal, ordinal, interval, and ratio. Nominal or categorical measurements distinguish one category from another, such as male and female. Numbers can also be used to identify the different categories, but they do not indicate magnitude. There is no intrinsic ordering for the categories (Nardi, 2003). Ordinal measurements imply a rank or order among different categories of a variable.

Ordinal measurements can also be indicated by numbers on a scale, however the different numbers on the scale could not be considered to have equal distance between them. Interval measurements are similar to ordinal; however the numbers involved can express equal distances between values. Ratio and interval measurements share the same characteristics, but ratio measurements have a true zero. The level of measurement is an important consideration in determining the type of analysis required (Nardi, 2003).

Data were entered into SPSS version 14.0 for Windows. Descriptive statistics was conducted on demographic data. Descriptive statistics analyzed included frequency and percentages for nominal (categorical/dichotomous) data and means/standard deviations for continuous (interval/ratio) data. Standard deviation measures statistical dispersion, or the spread of values in a data set. If the data points are all close to the mean, then the standard deviation is close to zero.

To answer research question 1, “What are the characteristics and duties of technology coordinators in the state of Mississippi?” the researcher used descriptive statistical analysis utilizing frequencies and percentages to analyze survey items 1-26.

To answer research question 2, “What are the training needs of technology coordinators in the state of Mississippi?” the researcher used descriptive statistical analysis utilizing frequencies, percentages, means, and standard deviations to analyze survey items 26-29 on the Technology Coordinator Survey.

To answer research question 3, “Is there a relationship between the type of training technology coordinators find most necessary and whether or not coordinators have technical, administrative, or education experience” the researcher used a Pearson chi-square to examine the relationship between categorical survey items 4, 12, 18, and survey item 28 on the Technology Coordinator Survey.

To answer research question 4, “Is there a relationship between job responsibility and training needs of Mississippi technology coordinators?” the researcher used a Pearson chi-square to examine the relationship between categorical survey items 26 and 28.

CHAPTER IV

RESULTS

The technology coordinator provides a critical role in a school district's technology support system (McLeod, 2003). Technology coordinators often offer technical, administrative, and instructional support (Lewis, 2005; Wagner, 2004). According to several researchers, teacher access to knowledgeable and skilled technology coordinators positively influences their use of teaching strategies in the classroom (Silverstein, Frechtling, & Miyaoka, 2000). Although the importance of the technology coordinators role has been well established, there is little information known about the individuals in these positions (McLeod, 2003).

The purpose of this study was to examine the characteristics, duties, and training needs of technology coordinators in the state of Mississippi. The following research questions guided this study:

1. What are the characteristics and duties of technology coordinators in the state of Mississippi?
2. What are the training needs of technology coordinators in the state of Mississippi?

3. Is there a relationship between the type of training technology coordinators find most necessary and whether or not coordinators have technical, administrative, or education experience?
4. Is there a relationship between job responsibility and training needs of Mississippi technology coordinators?

This study used a cross-sectional, survey research design. The survey instrument, "Technology Coordinator Survey" was used to answer the research questions posed in this study. A pilot study was conducted to assess the validity of the questions in the survey.

Data were collected from 55 technology coordinators from a population of 138. The original number of 145 was reduced because 7 technology coordinators were used for pilot study participation. The survey instrument was sent to technology coordinators twice. This chapter provides the results of the survey and an analysis of data.

Demographic and Response Data

This section provides a description of the demographics of the technology coordinators surveyed. The population in this survey consisted of 138 technology coordinators. Out of the 138 emails, 4 potential participants had previously opted out of Survey Monkey surveys and did not receive an email. Eight emails were bounced backed to the researcher and 55 participants responded for a response rate of 43.6%. Low response rates have often been considered a problem with researchers. However, low

response rates do not introduce non-response error (Socha, 2010). Section I of the survey instrument contained demographic data and is described in the next section.

Age of Respondents

The breakdowns of respondent's age are provided in Table 1. The age distributions (N=55) revealed that of the 55 technology coordinators who participated in the research study, 36 were male and 19 were female. The age range of the participants was 21 to over 65 years. One participant did not provide an age.

Table 1

Technology Coordinator Age Distribution

Age	Frequency	Percentage
21-25	1	2.7%
26-35	9	16.2%
36-45	12	21.6%
46-55	18	32.4%
56-65	13	24.3%
Over 65	1	2.7%

Gender of Respondents

The majority of respondents were male (64.9%). The table below identified as Table 2 provides the summarized data for this demographic.

Table 2

Technology Coordinator Gender Distribution

Gender	Frequency	Percentage
Male	36	64.9%
Female	19	35.1%

Ethnic Background of Respondents

The majority of respondents to the survey were White (78.4%). The table below identified as Table 3 provides the summarized data for this demographic. One respondent neglected to indicate ethnicity.

Table 3

Technology Coordinator Ethnicity Distribution

Ethnicity	Frequency	Percentage
American Indian or Alaska	1	2.7%
Asian	0	0.0%
Black or African American	10	18.9%
Hispanic or Latino	0	0.0%
Native Hawaiian or other Pacific Islander	0	0.0%
White	43	78.4%

Research Question Analysis

Research Question 1

To answer research question 1, "What are the characteristics and duties of technology coordinators in the state of Mississippi?" the researcher used descriptive statistical analysis utilizing frequencies, and percentages. Several characteristics are listed

under the demographic data section of this chapter and will be summarized briefly in the next section.

Characteristics of Technology Coordinators

Few technology coordinators who responded were under the age of 25 or over 65. The majority of respondents (94.5%) ranged in age from 26 – 65 and 58% were over the age of 45. The majority of these respondents who completed the survey were male (64.9%) and white (78.4%), and 18% were black or African American and 2.7% indicated either American Indian or Alaskan.

This survey was designed to investigate other technology coordinator characteristics including whether or not coordinators were licensed educators, their job experience, salary range, educational backgrounds, certifications obtained, and whether they were responsible for duties outside of their role as technology coordinators.

The majority (59.5%) of respondents to the survey reported that they possessed a valid teaching license. Table 4 provides the summarized data for this demographic.

Table 4

Technology Coordinator Teaching License Distribution

Hold Valid Teaching License	Frequency	Percentage
Yes	33	59.5%
No	22	40.5%

The salaries of respondents varied greatly. No respondent earned less than $30,000, and 27% earned greater than $70,000 or more. The majority of respondents

(94.5%) earned greater than $40,000 per year. Additional salary information is represented in Table 5.

Table 5

Technology Coordinator Salary Range

Salary Range	Frequency	Percentage
$30,000 - $39,999	3	5.4%
$40,000 - $49,999	12	21.6%
$50,000 - $59,999	15	27.0%
$60,000 - $69,999	10	18.9%
$70,000 and over	15	27.0%

The majority of respondents in this study reported teaching experience. In fact, 62% had taught in a K-12 environment. The table identified as Table 6 provides the summarized data for the K-12 teaching experience of Technology Coordinators. According to the respondents, 30% had university teaching experience. Table 6 provides the summarized data for K-12 teaching experience.

Table 6

Technology Coordinator K-12 Teaching Experience

K-12 Experience	Frequency	Percentage
Yes	34	62.2%
No	21	37.8%

The table below identified as Table 7 provides the summarized data for the university teaching experience demographic.

Table 7

Technology Coordinator University Teaching Experience

University Experience	Frequency	Percentage
Yes	18	32.4%
No	37	67.6%

In addition to examining whether participants had teaching experience, this study identified participants who had technical experience. The majority of respondents had technical experience (70.3%) and possessed technical licenses or credentials. Tables 8 and 9 represent whether technology coordinators possessed technical experience or information technology certifications.

Table 8

Technology Coordinator Technical Experience

Technical Experience	Frequency	Percentage
Yes	39	70.3%
No	16	29.7%

Table 9

Technology Coordinator IT Certification Obtained

IT Certifications	Frequency	Percentage
Yes	33	59.5%
No	22	40.5%

The primary technical licenses represented were as follows: Cisco Certified Network Associate (CCNA), CompTIA's A+ certification, CompTIA Network + certification, and Microsoft Certified Professional. The CCNA certification was held by 30% of participants, the CompTIA A+ certification was held by 40% of participants and

the CompTIA Network Certification was held by 35%. A full breakdown of IT certifications held by Technology Coordinators is shown in Table 10. Certifications omitted from the table were not selected as being currently held by participants.

Table 10

IT Certifications Currently Held by Technology Coordinators

IT Certifications	Frequency	Percentage
Cisco Certified Network Associate (CCNA)	17	30.0%
CompTIA's A+ certification	22	40.0%
CompTIA Network + Certification	19	35.0%
CompTIA Security+ Certification	6	10.0%
Microsoft Certified Professional (MCP)	11	20.0%
Microsoft Certified Systems Engineer (MCSE)	3	5.0%
Microsoft Certified Trainer (MCT)	3	5.0%

The highest degree obtained by the technology coordinators was varied. Each participant was to choose only the highest degree they had obtained. The table identified as Table 11 provides the summarized data for this demographic.

Table 11

Technology Coordinator Degrees Obtained

Degrees Obtained	Frequency	Percentage
Doctoral	7	12.7%
Educational Specialist degree or more	9	16.4%
Masters degree or more	19	34.5%
Bachelors degree or more	13	23.6%
Associates degree or more	7	12.7%

Another characteristic examined by this researcher was whether or not respondents had responsibilities other than that of the technology coordinator as their sole responsibility. The majority (54.1%) of respondents were not holding a district position in addition to the technology coordinator position. However, many technology coordinators were in another position including the following; assistant superintendent, vocational director, district test coordinator, fixed asset manager, curriculum director, principal, and teacher.

The table identified as Table 12 includes data regarding whether or not technology coordinators are serving in multiple roles.

Table 12

Technology Coordinators Holding More Than One Position

Multiple Positions	Frequency	Percentage
Yes	25	45.5%
No	30	54.5%

In addition to identifying the characteristics of technology coordinators in Mississippi, this research also examined the current duties of technology coordinators.

Duties of Technology Coordinators

Participants were given the opportunity to select their current duties from a preselected list of items. Participants could select as many duties as necessary. No item from the list provided was left unselected. Every participant listed purchasing technology resources, and completing administrative paperwork as part of their responsibilities. Other responsibilities frequently selected included the following: informing staff about

technology opportunities (94.6%), planning technology related professional development activities (91.9%), researching emerging technologies (89.2%), working one on one with classroom teachers (75.7%), installation and troubleshooting of hardware (70.3%) and software (75.7%), and working with school board members on technology projects (73.0%). The frequency of the additional duties that were done by technology coordinators are shown in Table 13.

Table 13

Technology Coordinator Duties

Technology Coordinator Responsibilities	Frequency	Percentage
working one-on-one with classroom teachers	42	75.7%
working with software installation and troubleshooting	42	75.7%
working with hardware installation and troubleshooting	39	70.3%
purchasing technology resources	55	100.0%
working with students	16	29.7%
handling subordinate personnel issues	37	67.6%
informing staff about technology opportunities	52	94.6%
researching emerging technologies	49	89.2%
working with school board members on technology projects	40	73.0%
completing administrative paperwork	55	100.0%
physically managing the district network system	37	67.6%
plan technology related professional development activities	51	91.9%

Participants were also given an option to include duties not listed by the researcher. A number of additional duties were provided by the respondents. Some of the additional duties provided include the following: managing e-rate, assessing the effectiveness of technology use, inventorying technology items, providing help desk and webmaster services, managing district fixed assets, and district wide telephone systems.

Research Question 2

To answer research question 2, "What are the training needs of technology coordinators in the state of Mississippi?" the researcher used descriptive statistical analysis utilizing frequencies and percentages to analyze survey items 26-29 on the Technology Coordinator Survey. First, the survey asked respondents directly whether or not they needed additional training. The majority of respondents (78.4%) stated that they did. The summarized data for this variable can be found in Table 14.

Table 14

Perception of Need for Additional Training

Additional Training Necessary	Frequency	Percentage
Yes	43	78.4%
No	12	21.6%

In addition to assessing whether or not participants needed training, the respondents were also given the opportunity to rank the type of training most necessary on a scale of 1 to 3, with 1 representing the type of training that would be most helpful and 3 representing the type of training that would be the least helpful. According to the

responses, 36% of participants reported administrative training would be the most helpful for them, while 33% stated that technical training would be the most helpful. As for the least helpful training, 46 % stated technical training would be the least helpful. Additional details from this demographic are provided in Table 15. Twelve participants responded that training would not be necessary for them; however, there was nothing to preclude those participants from responding to the question of which type of training would be beneficial.

Table 15

Ranking of Necessary Type of Training

	1 (Most Helpful)		2		3 (Least Helpful)	
Type of Training	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Administrative Training (ex. Technology plan creation)	20	36.7%	24	43.3%	11	20.0%
Technical Training (ex. Hardware, software, networks)	18	33.3%	11	20.0%	26	46.7%
Educational Research Training (ex. Would include learning about emerging technologies)	17	30.0%	20	36.7%	18	33.3%

Respondents were also given the opportunity to share how often they attended training sessions. The majority of respondents (32.4%) to the survey reported attending

two or more technology coordinator related trainings per year. Some respondents also suggested that training was more sporadic or on an as needed basis. The number of respondents that indicated they had never received training was 24%. The next table identified as Table 16 provides the summarized data for this demographic.

Table 16

Frequency of Training

Training Frequency	Frequency	Percentage
Never	14	24.3%
Once per year	10	18.9%
At least twice a year	7	13.5%
More than twice a year	18	32.4%
Other	6	10.8%

To summarize the results for research question 2, more respondents suggested administrative training would be more helpful than either technical or educational research training, but not by a large percentage. The majority of respondents stated that additional training was necessary.

Research Question 3

To answer research question 3, "Is there a relationship between the types of training technology coordinators find most necessary and whether or not coordinators have technical, administrative, or education experience?" the researcher used a Pearson chi-square to examine the relationship between categorical survey items 4, 12, 18 and survey item 28 on the Technology Coordinator Survey.

The chi-square measures test the hypothesis that the row and column variables in a cross tabulation are independent. A low significance value (below 0.05) would indicate that a relationship may exist between two variables.

Relationship between Training and Possession of Educator License

A crosstabs analysis was completed based on whether a technology coordinator possessed a teaching license and which type of training they reported as most helpful (administrative, technical, or educational research). No statistical significance was identified. Table 17 provides the summarized data for this demographic.

Table 17

Chi-Square Test for Training and Possession of Educator License

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.881(a)	2	.390
Likelihood Ratio	1.896	2	.387
N of Valid Cases	55		

Relationship between Technical Experience and Type of Training

A crosstabs analysis was completed based on whether a technology coordinator had worked in a position which required technical expertise before they began working as a technology coordinator and which type of training they reported as most helpful (administrative, technical, or educational research). No statistical significance was identified. Table 18 provides the summarized data for this demographic.

Table 18

Chi-Square Test for Technical Experience and Type of Training

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.393(a)	2	.822
Likelihood Ratio	.389	2	.822
N of Valid Cases	55		

Relationship between IT Certifications and Type of Training

A crosstabs analysis was completed based on whether a technology coordinator IT certifications and which type of training they reported as most helpful (administrative, technical, or educational research). No statistical significance was identified. Table 19 provides the summarized data for this demographic.

Table 19

Chi-Square Test for IT Certifications and Type of Training

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.399(a)	2	.819
Likelihood Ratio	.399	2	.819
N of Valid Cases	55		

In response to question 3, "Is there a relationship between the type of training technology coordinators find most necessary and whether or not coordinators have technical, administrative, or education experience?" Based on the data provided, there did not appear to be a relationship between the type of training technology coordinators find most necessary and whether or not they have technical, administrative, or educational experience.

Research Question 4

To answer research question 4, "Is there a relationship beween job responsibilities and training needs of Mississippi technology coordinators?" the researcher used a Pearson chi-square to examine the relationship between categorical survey items 26 and 27. Each individual job responsibility is listed next along with its corresponding Chi-Square test.

Participants were provided with a list of job responsibilities and asked to select those responsibilities that were a part of their personal duties. These responsibilities were later cross tabulated with whether or not the technology coordinators believed they needed additional training.

The majority of technology coordinators who worked one-on-one with classroom teachers did believe they needed additional training. Table 20 provides the cross tabulation of technology coordinators working one on one with classroom teachers and whether training is believed necessary.

Table 20

Cross Tabulation of Working with Classroom Teachers and Training Needed

			Training Needed		
			Yes	No	Total
Working one on one with classroom teachers	Yes	Count	35	7	42
		Expected Count	32.8	9.2	42.0
	No	Count	8	5	13
		Expected Count	10.2	2.8	13.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

The relationship between working one-on-one with classroom teachers and the technology coordinator's perceived need for training was not significant through a Pearson chi-square test.

Table 21

Chi-Square Test for Working with Classroom Teachers and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.764	1	.096
Likelihood Ratio	2.535	1	.111
N of Valid Cases	55		

Participants were also asked to select whether they worked with software installation and troubleshooting and hardware installation and troubleshooting. The majority of participants that were responsible for installing software also believed they needed additional training.

Responses for these responsibilities were also analyzed through a Pearson chi-square test and are presented in Tables 22 and Table 23.

Table 22

Cross Tabulation for Installation of Software and Training Needed

			Training Needed		
			Yes	No	
Software Installation	Yes	Count	33	9	42
		Expected Count	32.8	9.2	42.0
	No	Count	10	3	13
		Expected Count	10.2	2.8	13.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

The relationship between whether or not a technology coordinator believed they needed additional training and whether they were responsible for the installation of software and troubleshooting of software did not prove to be significant.

Table 23

Chi-Square Test for Installation of Software and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.016	1	.900
Likelihood Ratio	.016	1	.900
Linear-by-Linear Association	.016	1	.901
N of Valid Cases	55		

A majority of participants who were responsible for the installation and troubleshooting of hardware stated that they believed they needed additional training as shown in Table 24.

Table 24

Cross Tabulation for Installation of Hardware and Training Needed

			Training Needed		
			Yes	No	
Hardware Installation	Yes	Count	32	7	39
		Expected Count	30.5	8.5	39.0
	No	Count	11	5	16
		Expected Count	12.5	3.5	16.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

The relationship between whether or not a technology coordinator believed they needed additional training and whether they were responsible for the installation of hardware and troubleshooting of hardware did not prove to be significant. The findings for this variable are presented in Table 25.

Table 25

Chi-Square Test for Installation of Hardware and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.177	1	.278
Likelihood Ratio	1.123	1	.289
N of Valid Cases	55		

Each respondent stated that they were responsible for purchasing technology resources for the district. No statistical analysis was necessary because this variable was constant.

Participants were also given the opportunity to state whether or not they worked with students within their district as part of their responsibility and this variable was cross tabulated with whether or not technology coordinators believed they needed additional training. The findings for this analysis are in presented in Tables 26 and 27. A majority of participants stated that they did not work with students within their districts. However, these respondents still indicated that they believed they needed additional training.

Table 26

Cross Tabulation for Working with Students and Training Needed

			Training Needed		
			Yes	No	Total
Working with Students	Yes	Count	14	2	16
		Expected Count	12.5	3.5	16.0
	No	Count	29	10	39
		Expected Count	30.5	8.5	39.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

The relationship between whether training was perceived as necessary and the responsibility of working with students was not significant as revealed in Table 27.

Table 27

Chi-Square Test for Working with Students and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.149	1	.284
Likelihood Ratio	1.246	1	.264
N of Valid Cases	55		

The responsibilities of handling subordinate personnel issues and informing staff of technology opportunities were also cross tabulated with whether or not technology coordinators believed they needed additional training. A majority of participants responded that they did handle subordinate personnel issues and believed that they needed additional training. This finding is presented in Table 28.

Table 28

Cross Tabulation for Handling Subordinate Personnel Issues and Training Needed

			Training Needed		Total
			Yes	No	
Handling Subordinate personnel issues	Yes	Count	28	9	37
		Expected Count	28.9	8.1	37.0
	No	Count	15	3	18
		Expected Count	14.1	3.9	18.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no significance indicated between handling subordinate personnel issues and technology coordinators believing they needed additional training. The chi-square test for this variable is presented in Table 29.

Table 29

Chi-Square Test for Handling Subordinate Personnel issues and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.416	1	.519
Likelihood Ratio	.431	1	.511
N of Valid Cases	55		

A majority of participants stated that they did inform their staff about technology opportunities and that they believed that they needed additional training. The cross tabulated data for this finding is presented in Table 30.

Table 30

Cross Tabulation for Informing Staff and Training Needed

			Training Needed		
			Yes	No	Total
Informing Staff	Yes	Count	41	11	52
		Expected Count	40.7	11.3	52.0
	No	Count	2	1	3
		Expected Count	2.3	.7	3.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no significant relationship indicated between informing staff about technology opportunities and the perceived need for training by technology coordinators. The chi-square test for this variable is presented in Table 31.

Table 31

Chi-Square Test for Informing Staff and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.247(b)	1	.619
Likelihood Ratio	.224	1	.636
N of Valid Cases	55		

Participants were asked to select whether or not they were responsible for researching emerging technologies as a part of their job duties. A majority of technology coordinators surveyed stated that this was one of their duties. However, they also stated that they believed that training was necessary. This finding is presented in Table 32.

Table 32

Cross Tabulation for Researching Emerging Technologies and Training Needed

			Training Needed		Total
			Yes	No	
Researching Emerging Technologies	Yes	Count	38	11	49
		Expected Count	38.3	10.7	49.0
	No	Count	5	1	6
		Expected Count	4.7	1.3	6.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no significant relationship between researching emerging technologies and whether participants decided training was needed. The details of this particular finding are presented in Table 33.

Table 33

Chi-Square Test for Researching Emerging Technologies and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.105	1	.746
Likelihood Ratio	.111	1	.739
N of Valid Cases	55		

A cross tabulation was prepared for technology coordinators who were responsible for working with school board members on technology projects and whether or not additional training was perceived as necessary. A majority of technology coordinators did work with school board members and also believed that training was necessary. Data are presented in Table 34.

Table 34

Cross Tabulation for Working with School Board Members and Training Needed

			Training Needed		
			Yes	No	Total
Working with School Board Members	Yes	Count	31	9	40
		Expected Count	31.3	8.7	40.0
	No	Count	12	3	15
		Expected Count	11.7	3.3	15.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no statistically significant relationship indicated between working with school board members on technology projects and training needed. The details for this finding are presented in Table 35.

Table 35

Chi-Square Test for Working with School Board Members and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.040	1	.842
Likelihood Ratio	.041	1	.841
N of Valid Cases	55		

Each respondent stated that they were responsible for completing administrative paperwork for the district. No statistical analysis was necessary because this variable was constant.

A majority of participants indicated that they were responsible for managing the district network system and believed that they needed additional training. The details for this finding are presented in Table 36.

Table 36

Cross Tabulation for Physically Managing the District Network System and Training Needed

			Training Needed		
			Yes	No	Total
Managing District Network	Yes	Count	30	7	37
		Expected Count	28.9	8.1	37.0
	No	Count	13	5	18
		Expected Count	14.1	3.9	18.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no significant relationship indicated between technology coordinator's physically managing the district network system and their perceived need for additional training. The chi-square test for this item is presented in Table 37.

Table 37

Chi-Square for Physically Managing the District Network System and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.557	1	.455
Likelihood Ratio	.542	1	.462
N of Valid Cases	55		

Participants were asked whether planning technology related professional development was a part of their duties. A cross tabulation was prepared for this variable and whether or not technology coordinators determined that additional training was necessary. A majority of technology coordinators did have planning for professional development as one of the job responsibilities and also believed they needed additional training. The details for this finding are shown in Table 38.

Table 38

Cross Tabulation for Planning Technology Related Professional Development and Training Needed

			Training Needed		
			Yes	No	Total
Planning professional development	Yes	Count	41	10	51
		Expected Count	39.9	11.1	51.0
	No	Count	2	2	4
		Expected Count	3.1	.9	4.0
Total		Count	43	12	55
		Expected Count	43.0	12.0	55.0

There was no indication of a significant relationship between planning technology related professional development and perceived training needed. A detail of this finding is presented in Table 39.

Table 39

Chi-Square Test for Planning Technology Related Professional Development and Training Needed

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.008	1	.156
Likelihood Ratio	1.679	1	.195
N of Valid Cases	55		

Summary of Results

This purpose of this chapter was to provide the statistical results from the survey completed as a part of this research. Descriptive statistics and Pearson Chi-Square were used to analyze the data set obtained and to answer the research questions that were presented in this study.

The results of this study indicated that technology coordinators have a multitude of responsibilities that vary greatly. The majority of participants in this study are responsible for duties that range from working one-on-one with teachers, installing and troubleshooting hardware and software, purchasing technology resources, planning technology related professional development activities for other staff members, as well as other duties. One responsibility that a majority of technology coordinators in this study did not share was working with students. Only 29% of respondents had this as part of their duties.

Many Mississippi technology coordinators were also responsible for a number of different roles within their school districts. For some technology coordinators they had

the responsibility of being superintendents, principals, curriculum coordinators, or held a number of other independent jobs that were not technology related. In addition, 36% of technology coordinators believed that additional administrative training would be most beneficial; 33% considered technical training the most beneficial.

This study did not find that a significant relationship existed between the type of training a technology coordinator found most necessary and whether or not technology coordinators possessed administrative, technical, or educational experience. In addition, this research did not find that a significant relationship existed between a technology coordinator's job responsibilities and whether or not they perceived the need for additional training.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Technology coordinators provide a number of different services to school districts from providing technical support services, staff development, technology planning, and administrative support for teachers (Cox-Cruey, 1998; Lesisko, 2004). Research on the role of technology coordinators have indicated a variety of position titles, descriptions, and job responsibilities depending on the available state research. These professionals were often hired from a variety of backgrounds and often lacked either the technical training or theoretical educational foundation required for the position (Frazier, 2003; Hawkes & Brockmueller, 2003; Tomasso, 2003). More recent data on the position of Technology Coordinators in school districts was limited and no research was found identifying the role of the technology coordinator in Mississippi public school districts.

This study surveyed Mississippi technology coordinators to examine their characteristics, duties, and training needs. Information collected included variables such as gender, age, salary, and years of experience, educational background, technical training, workforce environment, and training needs.

The research design for the study was descriptive. Descriptive statistics were used to respond to four research questions. A survey instrument was used to collect demographic data. The survey was emailed to 145 technology coordinators. Four technology coordinators opted out of the survey, eight emails were bounced back to the research and 55 responded for a response rate of 43.6%. Section I of the survey contained demographic data. Section II contained questions about the technology coordinator's duties and job characteristics and Section III contained questions about the perceived training needs of technology coordinators.

Discussion

The results of this study provided details about the characteristics of the technology coordinators in Mississippi school districts who participated in the study. The majority of participants were white males, whose ages ranged from 21 to over 65 years. Most participants did hold a valid Mississippi teaching license and there were a variety of license endorsements represented.

In addition to K-12 classroom teaching experience, a number of technology coordinators also had university classroom teaching experience. Some technology coordinators had no teaching experience at the university level or K-12. Specially, one technology coordinator had over 40 years teaching experience, while another had over 13 years of university teaching experience.

Some technology coordinators had many years of experience in educational administrative experience. For instance, one technology coordinator had over forty years

of administrative experience, while some were new administrators with no previous experience in administration. There was also a variety of technical expertise. Approximately 30% of participants had no technical expertise before working as a technology coordinator. Other participants had as many of 25 years experience working in a technical position that required interaction with hardware, software, troubleshooting, and/or networks.

The salary and educational attainment levels of technology coordinators also varied greatly. The salary ranged from $30,000 to over $70,000. However, in many cases the role of technology coordinator was not the sole job responsibility for the participant. Some participants were also principals, assistant superintendents, curriculum developers, and high school teachers. In fact, 46% of technology coordinators were in dual roles, with some participating in more than two positions. The educational attainment level varied with some reporting associate degrees and others, doctoral degrees. The majority of participating technology coordinators possessed at least one IT certificate; many held a variety of certifications.

The job characteristics and duties of technology coordinators also provided a lot of variety. Some technology coordinators supervised full time and/or part time employees who provided technology assistance within the district, while others supervised no employees. Although a number of participants indicated they held official job titles other than technology coordinator such as Director of Technology or Director of Information Systems, the job title of technology coordinator was the most prevalent. This is one of the

few categories that differed from some of the research done in previous states. There was more of a variety in job titles in some other states.

Technology coordinators were given the opportunity to select duties from a specified list of job responsibilities. The list included the following responsibilities including working one-on-one with classroom teachers, working with software installation and troubleshooting, working with hardware installation and troubleshooting, purchasing technology resources, working with students, handling subordinate personnel issues, informing staff about technology opportunities, researching emerging technologies, working with school board members on technology projects, completing administrative paperwork, physically managing a district network system, and planning technology related professional development activities. There were two responsibilities that every technology coordinator provided as one of their responsibilities and that was completing administrative paperwork and purchasing technology resources. Most technology coordinators professed to have every responsibility listed except for one, working with students. Only 29.7% of respondents acknowledged working with students as a responsibility.

A majority of respondents indicated they needed additional training to perform their duties effectively. Participants were given the opportunity to rank their most important training needs as administrative, technical, or educational research oriented. Administrative training was chosen more often than any other training need as most necessary. However, technical and educational research training were also popular

choices. There was no clear cut indicator to suggest that one type of training was decidedly more important than any of the others.

Conclusion

The research findings based on the technology coordinators in Mississippi seem to parallel those of many other states. The position related duties of a Mississippi technology coordinator are quite vast and varied. In addition, it is not unusual for the technology coordinator to hold multiple roles, each with their own layers of responsibilities.

Collins and Dewees (2001) revealed that technology decision makers often have little or no technology training or resources to make knowledgeable decisions. As in the Collins study, many technology coordinators did not have technical backgrounds. However, the possession of a technical background did not appear to make a difference in whether or not technology coordinators needed additional technical training. Perhaps the underlying consistency in this study was that regardless of the technology coordinator's background many believed that they needed additional administrative, technical, and educational research training.

The lack of consistency in the level of responsibility, compensation, and perhaps expectations implies a different job at each school district for technology coordinators. For perspective, a 12th grade English teacher can move from district to district with a base level of understanding of what to expect. A technology coordinator's job can be different from district to district.

This lack of consistency within the state for technology coordinator expectations, compensation, etc. would seem to make the position vulnerable for high turnover rates and low workplace satisfaction. In addition, with the myriad of job responsibilities, it is questionable whether technology coordinators would have the time necessary to truly help school districts integrate technology into curriculum. Technology coordinators must be aware upon entering a district that the job description may not be fully developed and should anticipate the need for additional training.

Recommendations for Mississippi Technology Coordinators and for Further Research

Based on the results of this study, there are several areas suggested for future research. These recommendations are listed below:

1. The results of the study indicated a variety of responsibilities for a technology coordinator. It would be beneficial that a study is conducted to determine how much time is devoted to the many individual tasks completed by technology coordinators because if this role is pivotal in helping integrate technology into curriculum, an understanding of how much time could be devoted to tasks related to that objective is necessary. For instance, a technology coordinator who spends most of his/her time installing hardware and software and troubleshooting network issues may only have a minimal amount of time or no time at all to working with teachers and share relevant research or provide professional development.

2. Respondents in this study indicated a desire to have additional training in administration, technology, and educational research. A study should be conducted that identifies training needs within each of these categories. For instance, what administrative training do technology coordinators find they need help with e.g. technology planning, applying for grants, etc.
3. Based on the findings in this study, it would be beneficial to know in what types of professional development technology coordinators are currently participating. Are these training opportunities task specific? Should they be task specific?

Some states have schools that have recognized that building or school level technology coordinators are beneficial to integrating technology. Therefore, a study should be conducted to determine if Mississippi schools districts are beginning to employ these specialists at the school building level.

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APPENDIX A

DISTRICT LEVEL TECHNOLOGY COORDINATOR SURVEY

LESISKO (2004)

Please answer the following questions by circling the appropriate letter or by filling in the blanks(s).

PART I: BACKGROUND INFORMATION

1. **Gender:** A. Male B. Female

2. **Age:** _____

3. **Race:** A. Caucasian Non-Hispanic B. Black Non-Hispanic C. Hispanic
   D. Asian-Pacific Islander E. American Indian/Alaskan

4. **Total number of years working in education:** _____

5. **Your highest college degree is:** _____ **Major:** _____

6. **Do you hold a professional teaching certificate in PA?** A. Yes B. No

7. **Please list any Information Technology certificates you hold, i.e. Cisco, Microsoft, A+, Novell.**
   _____
   _____

8. **How long have you been employed in your current school district as the Technology Coordinator? Years:** _____ **Months:** _____

9. **What is your exact position title approved by the Board of Education?**
   _____

10. **What is the total number of students enrolled in your district?** _____

11. **What percent (%) of the total district budget is allocated for technology?** _____%

12. **What is the ratio of students to computers in your district?**
    # _____ **students to #** _____ **computers**

PART II: JOB RELATED ACTIVITIES

13. **What percentage of your responsibilities is devoted to the role of Technology Coordinator?**
    A. 1-25% B. 26-50% C. 51-75% D. 76-100%

14. If you do not perform technology coordinator 100 percent of the time, please indicate other areas of responsibility?

    _____

    _____

15. Acting as the Technology Coordinator, who is your immediate supervisor?
    A. Superintendent
    B. Assistant Superintendent
    C. Director/Supervisor of Curriculum & Instruction
    D. Other (please specify) _____

16. How many district buildings are you responsible for coordinating technology efforts? _____

17. Please indicate if your position fall under the umbrella of Act 93?
    A. Yes B. No

    *If "No", are you part of the professional bargaining unit? A. Yes B. No

18. How many employees do you supervise who provide technology assistance within the district on a full-time basis? _____

19. How many employees do you supervise who provide technology assistance within the district on a part-time basis? _____

20. Do you plan technology-related professional development activities for the professional staff?
    A. Yes B. No

21. Do you hold the PA Department of Education Instructional Technology Specialist Certificate?
    A. Yes B. No

    * If "Yes", proceed to question 23.

22. Are you presently enrolled in an approved program to earn the PA Department of Education Instructional Technology Specialist Certificate?
    A. Yes B. No

    * If "No", do you plan to in the future? A. Yes B. No

23. Do you hold the PA Department of Education Instructional Technology Specialist Supervisor Certificate? A. Yes B. No

    * If "Yes", proceed to question 25.

24. Are you presently enrolled in an approved program to earn the PA Department of Education Instructional Technology Specialist Supervisor Certificate?

A. Yes B. No

* If "No", do you plan to in the future? A. Yes B. No

25 On a given day, what percentage of your time is devoted to:

Note: your answer must add up to 100%

____% working one-on-one with classroom teachers to integrate technology into their classrooms and media centers?

____% working with software installation and troubleshooting?

____% working with hardware installation and trouble shooting?

____% purchasing technology resources?

____% working with students in order to help them utilize educational technology?

____% handling subordinate personnel issues?

____% informing staff about technology opportunities through e-mails, memos, newsletters, meetings, etc.?

____% researching emerging technologies?

____% working with Board members on technology related projects?

____% completing administrative paperwork?

____% physically managing the district network systems?

100%

PART III: BELIEFS AND PERCEPTIONS

Please circle the number that corresponds best to your beliefs.

1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly;

1 2 3 4 5	26. The teachers in the district are well informed about current educational technology issues.
1 2 3 4 5	27. The teachers in the district routinely utilize educational technology for instruction.
1 2 3 4 5	28. Teachers have adequate access to educational technology when they need it for instruction.
1 2 3 4 5	29. The district has an ample amount of educational technology available for student use.
1 2 3 4 5	30. The teachers in the district are properly trained on how to utilize educational technology.
1 2 3 4 5	31. The teachers in the district receive continuous technology professional development.
1 2 3 4 5	32. The district offers adequate technology support services.
1 2 3 4 5	33. The Technology Coordinator understands the technology concerns of the teachers in the district.
1 2 3 4 5	34. When teachers make it technology requests for service, they are notified in a timely manner.
1 2 3 4 5	35. As the Technology Coordinator, you feel that your efforts are having a positive effect on the educators with whom you work.
1 2 3 4 5	36. Generally speaking, you feel that your performance as the Technology Coordinator has been successful.

37. Please rank the following items in order of importance (1 through 7), as they relate to your position with 1 being the most and 7 as the least important. Please do not duplicate numbers.

_____ Helping teachers to utilize technology in the classroom

_____ Providing technical support services for the district

_____ Keeping current with technology issues and trends

_____ Physically working with hardware

_____ Physically working with software

_____ Helping students to utilize educational technology

_____ Developing innovative ways to encourage educators to use technology

Please provide comments and/or reactions.

As a follow-up to this study, may I contact you for a short interview?
If so, please print your name and phone number.

Name: _____

Phone Number: _____

Thank you for completing this survey

APPENDIX B

REQUEST TO USE DISTRICT TECHNOLOGY COORDINATOR SURVEY

Dr. Lesisko,

My name is Vicki Webster and I am a doctoral student at Mississippi State University in the Department of Instructional Systems and Workforce Development. Your dissertation has provided valuable insight and understanding in a topic that interests me greatly. I would like to modify your District Level Technology Coordinator Survey for use with my dissertation. If you decide to approve of my use of the survey, I would also like permission to record your approval as part of my final dissertation documentation, if necessary.

Please let me know if this is acceptable with you. I would like to thank you, in advance, for taking the time to consider this request.

If I can be of any future assistance to you, please let me know. For additional information or concerns, I can be contacted at vwebster@deltastate.edu or 662.588.1262.

Sincerely,

Vicki N. Webster

APPENDIX C

APPROVAL TO USE DISTRICT TECHNOLOGY COORDINATOR SURVEY

Hello Vicki, I am glad you found my study helpful. You have my permission to modify the survey to use in your study. If you want me to sign a document as such, please send it and I will electronically sign it. Good luck on your study.

Dr. Lee J. Lesisko
Pleasant Valley School District

APPENDIX D

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

Mississippi State University
Office of Regulatory Compliance
Post Office Box 6223
Mississippi State, MS 39762

Compliance Division
Administrative Offices
Animal Care and Use (IACUC)
Human Research Protection
Program (IRB)
1207 Hwy 182 West
Starkville, MS 39759
(662) 325-3496 - fax

Safety Division
Biosafety (IBC)
Radiation Safety
Hazardous Waste
Chemical & Lab Safety
70 Morgan Avenue
Mississippi State, MS 39762
(662) 325-8776 - fax

http://www.orc.msstate.edu
compliance@research.msstate.edu
(662) 325-3294

June 12, 2009

Vicki Webster
407 McClain Avenue
Cleveland, MS 38732

RE: IRB Study #09-020: An Examination of the Characteristics, Duties, and Training Needs of District Level Technology Coordinators in Mississippi School Districts

Dear Ms. Webster:

The above referenced project was reviewed and approved via administrative review on 6/12/2009 in accordance with 45 CFR 46.101(b)(2). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at http://www.orc.msstate.edu/human/aahrpp.php. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research.

Please refer to your IRB number (#09-020) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

[For use with electronic submissions]

Christine Williams
IRB Compliance Administrator

cc: Linda Cornelious

APPENDIX E

TECHNOLOGY SURVEY EMAIL

Dear Respondent,

I am inviting you to participate in a research project on the characteristics, duties, and training needs of technology coordinators in Mississippi school districts. I am a doctoral student at Mississippi State University in the Department of Instructional Systems and Workforce Development. This research will help me understand the working environment and background of district level technology coordinators in the state of Mississippi as well as their possible training needs. The research will also be used in the completion of a dissertation in partial fulfillment of the requirements for my doctoral degree.

I do not know of any risks to you if you decide to participate in this survey. This questionnaire should take less than fifteen minutes to complete. Please understand that your participation is voluntary and your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue your participation at any time without penalty or loss of benefits. If you do not wish to participate, simply click the opt out link and you will not be contacted further.

Please note that any records retained will be held by a state entity and therefore subject to disclosure if required by law. Results from the study will be presented in a summative manner and will not include identifying information. Completing and returning the questionnaire constitutes your consent to participate. Regardless of whether you choose to participate, please let me know if you would like a summary of my findings. To receive a summary contact me at vwebster@deltastate.edu .

Keep this email for your records. If you have any questions regarding the research, contact Vicki Webster at 662-846-4423. If you have any questions regarding your rights as a research subject, please contact the Office of Regulatory Compliance at 662-325-5220.

Please click the following link if you are interested in completing this survey.https://www.surveymonkey.com/s.aspx

If you would prefer not to participate in this survey, please click the following link.https://www.surveymonkey.com/optout.aspx

APPENDIX F

TECHNOLOGY COORDINATOR SURVEY

An Examination of the Characteristics and Duties of
Technology Coordinators in Mississippi School Districts

1. Gender:
   __ Male
   __ Female

2. Age:
   __ 21 – 25
   __ 26 – 35
   __ 36 – 45
   __ 46 – 55
   __ 56 – 65
   __ Over 65

3. Ethnicity
   __ American Indian or Alaska Native
   __ Asian
   __ Black or African American
   __ Hispanic or Latino
   __ White

4. Do you hold a valid Mississippi teaching license:
   __ Yes __ No

5. Please list any license endorsements that you have held:
   __

6. Have you ever taught in a K-12 classroom environment:
   __ Yes __ No
7. Have you ever taught in a university classroom environment:
   __ Yes __ No

8. Total number of years you have taught in a K-12 classroom:
   __

9. Total number of years you have taught in a university classroom:
   __

10. Total number of years you have worked in an administrative position in a school district:
    __

11. Total number of years you have worked in an administrative position in a school district that does not include the technology coordinator position:
12. Have you ever worked in a position that required technical expertise before you began working as a technology coordinator:
    __ Yes __ No

13. Total number of years that you have worked "part-time" as a technology coordinator:

    __

14. Total number of years that you have worked "full-time" as a technology coordinator:

    __

15. Total number of years you have worked in an technical position (that does not include technology coordinator) that required interaction with hardware, software, troubleshooting, networks, etc:

    __

16. Your current salary (gross per year):
    __ under $30,000
    __ $30,000 - $39,999
    __ $40,000 - $49,999
    __ $50,000 - $59,999
    __ $60,000 – 69,999
    __ $70,000 and over

17. Your highest college degree:
    __ Doctoral degree
    __ Educational Specialist degree or more
    __ Masters degree or more
    __ Bachelors degree or more
    __ Associates degree or more

18. Do you hold any IT certificates
    __ Yes __ No

19. Please select any IT certifications you hold (Select all that apply):
    __ CompTIA's A+ certification
    __ Cisco Certified Network Associate (CCNA)
    __ Cisco Certified Network Professional (CCNP)
    __ Microsoft Certified Database Administrator (MCDBA)
    __ Microsoft Certified IT Professional (MCITP)
    __ Microsoft Certified Professional (MCP)

__ Microsoft Certified Trainer (MCT)
__ Microsoft Certified Technology Specialist (MCTS)
__ Microsoft Certified Systems Engineer (MCSE)
__ CompTIA Network + Certification
__ CompTIA Security + Certification
__ Other

20. How many years have you been employed as a district technology coordinator:

    __

21. What is your exact position title as approved by your local school district:

    __

22. Are you currently holding a position in addition to your technology coordinator position:
    __ Yes __ No
23. If you are currently holding a position in addition to your technology coordinator position, please enter the title.

    ___

24. How many employees do you supervise who provide technology assistance within the district on a full time basis.

    ___

25. How many employees do you supervise who provide technology assistance within the district on a part time basis.

    ___

26. Select any of the following duties that are a part of your responsibility as technology coordinator:
    __ Working one-on-one with classroom teachers
    __ Working with software installation and troubleshooting
    __ Working with hardware installation and troubleshooting
    __ Purchasing technology resources
    __ Working with students
    __ Handling subordinate personnel issues
    __ Informing staff about technology opportunities
    __ Researching emerging technologies
    __ Working with school board members on technology projects
    __ Completing administrative paperwork
    __ Physically managing the district network system
    __ Planning technology related professional development activities
    __ Other

27. Do you currently believe you need additional training to perform your technology coordinator duties effectively:
___ Yes ___ No

28. Please rank the type of training that you believe would be most necessary for your success as a technology coordinator on a scale of 1 to 3, with 1 representing the type of training that would be **most** helpful and 3 representing the type of training that would be the **least** helpful for you.

___ Administrative Training (ex. would include technology plan creation)

___ Technical Training (ex. hardware, software, networks)

___ Educational Research Training (ex. would include learning about emerging technologies)

29. How often do you receive technology coordinator related training? (select the most appropriate)
__ Never
__ Once a year
__ At least twice a year
__ More than twice a year
__ Other

30. Do you believe you have received enough training to perform your duties effectively:
___ Yes ___ No

APPENDIX G

FOLLOW UP EMAIL

Dear Respondent,

This email represents a second invitation requesting your participation in a research project on the characteristics, duties, and training needs of technology coordinators in Mississippi school districts. I am a doctoral student at Mississippi State University in the Department of Instructional Systems and Workforce Development. This research will help me understand the working environment and background of district level technology coordinators in the state of Mississippi as well as their possible training needs. The research will also be used in the completion of a dissertation in partial fulfillment of the requirements for my doctoral degree.

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APPENDIX H

PILOT STUDY: SURVEY INSTRUMENT ASSESSMENT FORM

An Examination of the Characteristics, Duties, & Training Needs of
Technology Coordinators in Mississippi School Districts

Survey Instrument Assessment Form
for Pilot Study

Directions: Please read the directions for each part of the survey instrument attached. If an error appears in the directions, please mark that error on the form. As you review the instrument, please read each statement for clarity, preciseness of instructions, and appropriateness of content. Statements that are unclear, vague, or ambiguous should be listed in the space provided. Please make suggestions and recommendations that would improve the survey instrument in the space entitled "Comments".

Part I – Background Information

Unclear Statements: _____
_____

Comments: _____
_____
_____

Part II – Job Characteristics and Duties

Unclear Statements: _____
_____

Comments: _____
_____
_____

Part III – Training Needs

Unclear Statements: _____
_____

Comments: _____
_____