

THE PERCEPTIONS OF PUBLIC SCHOOL ADMINISTRATORS TOWARD
TECHNOLOGY EFFECTIVENESS AND ADEQUACY IN CURRICULUM
AND INSTRUCTION IN THE GOLDEN TRIANGLE
PUBLIC SCHOOLS OF MISSISSIPPI

By

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The purpose of this study was to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions. The population consisted of 56 public school administrators for the 2008-2009 school year in the Starkville, Oktibbeha County, West Point, Clay County, Columbus, and Lowndes County school districts.

The variables that were studied were the perceptions of the public school administrators toward technology effectiveness in curriculum and instruction, the perceptions of the public school administrators toward technology adequacy in curriculum and instruction, and the demographic variables such as race, age, administrator's years of experience, school location, administrator's educational level,

gender, school level (elementary, middle, or high), school size, faculty size, and position (principal or assistant principal).

A questionnaire of 36 items was sent out to the administrators to collect data on their perceptions toward technology effectiveness and adequacy in curriculum and instruction and their demographic information. Analysis of variance (ANOVA), t-tests, and Pearson r correlations at the .05 alpha level were used to test the statistical significance of the public school administrators' perceptions toward technology effectiveness and adequacy and the demographic variables.

The findings resulted in the public school administrators "agreeing" that their teachers use technology effectively and adequate technology is available for the curriculum and instruction in their schools, but no statistically significant difference occurred between the perceptions of the administrators toward technology effectiveness or toward technology adequacy and the demographic variables. Also, there was no statistically significant relationship between the administrators' perceptions toward technology effectiveness and the administrators' demographics. The population for the study which included the Golden Triangle Public schools may have been too small and the demographics too limited.

DEDICATION

I dedicate this research to my father and mother, Douglass and Janet Hubbard, for telling me from the day I was born that if I put my mind to it I could do and be anything I wanted. With your encouragement and belief in me through the countless hours, days, and years of work, I have been able to persevere in completing this dissertation and attaining my degree. For this, I am eternally thankful!

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CHAPTER I

INTRODUCTION

According to Fouts (2000) and Jones (2001), there has been an increase in technology being used by principals, teachers, and students to improve student achievement. Principals are relying on technology to meet the various curriculum and instruction demands that are associated with the many hats that they have to wear as an instructional leader and curriculum facilitator. Until recently, principals felt their main job was to make sure that teachers were trained in using technology for student achievement, but now principals have to be aware of their own perceptions toward the effective use of technology to be seen as a role-model for technology use in their schools (Carter, 1997).

This need for an increase in awareness is due to the explosion of information and communication technologies such as desktops, laptops, personal digital assistants (PDAs), cell phones, and the Internet has changed society as we know it (Friedman, 2005). The youth of today need to be more prepared intellectually than their parents because of the rapidly changing ways that technology has changed shopping, banking, and working. Education must be the bridge to this preparation. Education is having to change to meet these requirements (Kozma, 2005; Partnership for 21st Century Skills,

n.d.). “Students need to leave school with a deeper understanding of school subjects, particularly science, mathematics, and technology, and with the skills needed to respond to an unbounded but uncertain 21st century—skills to use their knowledge to think critically, to collaborate, to communicate, to solve problems, to create, and to continue to learn” (Kozma, 2005, p. 1). These skills are not being noticed by the American population. A survey of 800 American employers found that as of October 2007, employers still do not feel that students today are prepared to meet the workplace demands, and the students will continue to be ill-prepared until the 21st century skills, including technology, are methodically taught in the curriculum (Rosenfeld, 2007).

Nationally the increase of societal demand has brought about educational reform and opportunities such as the creation of the No Child Left Behind law. Educational technologies and school reform can enhance learning if used correctly, and most of the schools in the United States have accepted technology into their school systems, and are strongly encouraged to emphasize it in the curriculums of the schools today (Gollub, Bertental, Labor, & Curtis, 2002; Kulik, 2003; Yeager, 2005). Although the Mississippi Department of Education encourages technology integration in each level of the curriculum from Kindergarten to 12th grade through the creation of the administrator and teacher technology standards, the percentage of teachers who actually integrate technology across the curriculum is only 54% (Mississippi Department of Education, 2007). This challenge in the school environment in regards to technology is now left in the hands of the administrators to set the stage for its implementation because the teachers feel that they are unprepared in training to carry out the demands of the school

(Cunningham & Cordeiro, 2000). To help in overcoming the challenge, more technology was acquired for the schools. Technology, though, is still not as highly regarded in schools as it is in society (Ediger, 1996) in terms of integration even with the increase in accessibility in Mississippi.

In 1994, 35% of schools had Internet access and now almost 100 % have access (NCES, 2002). More software and computers have become available to teachers and students over the past few years, and there has been a decline in the student to computer ratio. So, to try and stress the importance of technology even more, states are now using technology as part of their accountability process, which includes the school districts reporting to state department of education; the state department then reports to the federal government (*Education Week*, 2006). The emphasis being placed on accountability requires that administrators have to be able to ensure the effective use of technology in the schools (Picciano, 1998). The effective use of technology, though, can only be as great as the ability of those incorporating the technology (Ham, 1997).

Statement of the Problem

In 2005, public schools in Mississippi received \$318,000 for educational technology use in the schools. This low allocation of budgets for technology showed that technology is not one of the most important aspects of the curriculum because the budget was to satisfy all the technology needs for the 492,645 students in the state.

Administrators had to decide how to allocate the money so that their 887 public schools and 31,588 teachers of Mississippi would have the greatest impact of technology on their curriculum and instruction (Richard, 2005). The problem of this study was to determine if

the Golden Triangle public school administrators felt they allocated the money given for technology in their schools in the most efficient and cost-effective ways. The literature reviewed by this researcher revealed no recent studies involving Golden Triangle administrators and the implementation of technology.

Adequacy of technology in curriculum and instruction refers to having sufficient technology such as computers, projectors, etc. to meet the needs and demands of the school. To allocate such technology in the school, administrators must first decide what they perceive to be appropriate. With the infusion of even more educational technology into the school systems such as the Enhancing Education Through Technology Program (EETT) that Mississippi incorporated in 1997 (U. S. Department of Education, 2006), administrators have to make many decisions based on their own perceptions in regards to technology effectiveness and how it should be incorporated into the curriculum and instruction aspects of the school. Although a number of research studies have been conducted in the past in various parts of the United States on the perceptions of public school administrators toward technology, no current research could be found about the perceptions of Mississippi principals and assistant principals toward technology effectiveness in curriculum and instruction in the classroom. Therefore, this study focused on the perceptions of Mississippi principals and assistant principals to seek their perceptions toward technology effectiveness and adequacy in curriculum and instruction.

Purpose of the Study

Kent and McNemey (1999) suggested that more meaningful decisions can be made about the use of technology in classrooms when the principals' perceptions of technology use in classrooms are considered because the instructional leader is the driving force behind a successful or unsuccessful school. What the principal perceives as important in regards to technology is how technology is perceived by the school as a whole. The purpose of this study was to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions. This study will provide the district and the state officials a measuring stick as they look at allocating monies and other forms of technology.

Research Questions

The following research questions were used to guide this study:

1. What is the perception of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi?
2. What is the perception of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi?
3. Is there a statistically significant difference in the perceptions of public school administrators toward technology effectiveness in curriculum and

instruction in the public schools of Mississippi based on the administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal)?

4. Is there a statistically significant difference in the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi based on the administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal)?
5. Is there a statistically significant relationship between the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the schools of Mississippi and the administrator's demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size)?
6. Is there a statistically significant relationship between the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the schools of Mississippi and the administrator's

demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size)?

Significance of the Study

Even though there is research supporting the concept that leadership is imperative to change, there is little research relating to the perceptions of administrators toward technology effectiveness in the schools (Kearsly & Lynch, 1992). This study verified that an administrators' leadership influences the technology in the schools.

This study is significant because it provided quantitative information on the perceptions of administrators in the Golden Triangle about technology effectiveness and its adequacy in their schools. Administrators can use this information to examine if the use of technology in their daily tasks makes them more effective administrators. Administrators may also use this knowledge to their advantage as their role as an instructional leader, and to have a better understanding of their level of competency compared to the other administrators in the surrounding districts. This could, in turn, make them more marketable in the process because the principals with a positive attitude toward technology are thought to integrate technology more effectively into the school system than the principals with a negative attitude (Akababa-Altun, 2001).

Information gained from this study can also aid universities in incorporating information in the administrative courses that will educate principals in how technology should be used as an educational and management tool, and what technology should be acquired at their school to be effective. This can be done, for example, by demonstrating the appropriate and effective way to allocate the new budget that will be awaiting them

when they are hired by a school district. The Mississippi Department of Education and school districts can also provide training and/or support in the areas of weakness identified by the study such as how to use the given technology effectively.

Teachers have been trained repeatedly on how to implement technology, but the teachers need the principal's support. Because of this study, teachers will have the appropriate administrative support needed to use the small or large amount of technology available in their schools in the most effective way possible.

Limitations

Generalizations from the study were limited to only the population of seventy public school administrators described in this study. Generalization was also limited by the questionnaire based on its validity, reliability, and the honesty of the respondents. Time was also a limitation to this study because principals were busy and may not have had the time to complete the questionnaire in the time allotted.

Delimitations

Because the instructional and budgeting demands that the National and State Department of Education have on public schools instead of private schools affect the adequacy of funds for technology in the public schools more than in the private schools, this study focused on the seventy 2008-2009 public school administrators in the elementary, middle, and high schools of Oktibbeha, Starkville, Clay, West Point, Columbus, and Lowndes County school districts.

Definitions of Terms

For the purpose of this study, the following definitions were used:

Adequacy- sufficiency for a particular purpose. (www.dictionary.com)

Administrators- Principals and assistant principals of elementary, middle, and high schools. (Cunningham & Cordeiro, 2000)

Curriculum- The courses offered by an educational institution. (Merriam-Webster)

Curriculum facilitator- One who carries out the necessary demands to assure that the school curriculum is followed and attained. (Cunningham & Cordeiro, 2000)

Effectiveness- producing a decided, decisive, or desired effect. (Merriam-Webster)

Instruction- The action, practice, or profession of teaching. (Merriam-Webster)

Instructional leader- One who is focused on curriculum and instructional development, staff development, instructional supervision, program, teacher and student evaluation, and the continuous improvement of teaching and learning. (Cunningham & Cordeiro, 2000)

Perceptions- Feelings, beliefs, and tendencies to act in a particular way toward a person, place, or object. (Lyles, 2003)

Summary

Chapter I stated the problem and purpose for conducting this research. The questions, purpose, limitations, delimitations, and definition of terms for this research were presented. Chapter II reviews the literature on technology, administrators, and technology in curriculum and instruction. Chapter III includes the design, population, data collection, instrumentation, and data analyses that were used in the study. Chapter

IV includes the analyses and tests of the data that answers the research questions. Chapter V summarizes, presents conclusions, and offers recommendations for further research.

CHAPTER II

REVIEW OF LITERATURE

This chapter presents the research literature used in the study. The chapter is divided into the following sections: (a) Changes in Technology in Education, (b) Administrator's Role in the Use of Technology, (c) Administrators' Perceptions of Technology, (c) Technology Effectiveness in Curriculum and Instruction, (d) Technology Standards for Administrators, Teachers, and Students, and (e) Budgeting for Technology in Education.

Changes in Technology in Education

Technology has evolved into a more rapid paced way of life than in decades prior. Telephones, radios, and televisions played a significant role in the last several decades, but the microchip has revolutionized how society has changed into a more mainstreamed, modern, and progressive way of life. Technology affects all walks of life in society today. Computers are as revolutionary today as the printing press proved to be in the late fifteenth century (Provenzo, Brett, & McCluskey, 1999).

Since World War II, new technologies have been used at a surprising rate in the South and other areas, yet there is still a divide based on the geographic location and socioeconomic status of some schools (Collins & Dewees, 2001). Technology has been in the classroom in some shape or size for a long period of time, but it has changed forms.

Filmstrips, slides, phonographs, audio tape, and movie projectors were the beginning uses of technology. Rural classes in the South in the 30's and 40's used the radio. Now, the southern states give the students the opportunity to take satellite and virtual classes. Although satellite classes serve the most students, schools now have Internet, interactive video, and computer software classes (NCES, 2002).

Although it is sometimes thought that using a technology centered curriculum is impersonal, the use of technology actually came about when the focus was put back on the individual child after the mass production era emphasized the “empty vessel” theory where information was presented to the students and they memorized the information (Moursund, 1995). Constructivism and progressivism have flourished in the past decades with the beliefs that students are responsible for their own learning which allows teachers to adapt to technology (Roberts, Carter, Friel, & Miller, 1988).

Administrator's Role in the Use of Technology

Issues related to administrator instructional technology development in schools have been greatly ignored in “literature, at scientific meetings, and among special interest groups in professional associations in education” (Sharp & Walter, 1997, p. 595). Administrators are still in charge of increasing requirements to incorporate technology in their schools even though there is a lack of training and attention. “The importance of technology and computers has increased tremendously in the last few years as superintendents are pressured to purchase the latest equipment, hire computer coordinators, train teachers to use the equipment, and connect everything to the network” (Sharp & Walter, p. 8).

If administrators are to effectively incorporate technology, instructional technology must “become an integral part of the curriculum of universities and other institutions preparing school administrators” (Telem, 1991, p. 605). With training there is the possibility of “using [Instructional Technology] as an aggressive educational leadership tool and a proactive management tool” (Telem, p. 605).

Beach and Vacca (1985) found that school administrators that are knowledgeable about technology contribute greatly to the correct integration of technology. Instructional leaders receiving technology training is very important to the successful integration into the administrative and instructional plans of the schools today (Bruder, 1990). Whether the principals are setting budgets, standards, technology plans, or keeping current with the teachers and students, they must have a “solid base of knowledge” about all aspects of the educational system (Rockman & Sloan, 1993, p. 2).

The administrator can lead with and for technology by taking on the role of lead staff, developer, and learner; trying to become an on campus expert going beyond the plug in, turn on, and log on stage while using humor to lighten potentially frustrating situations (Scoolis, 1999). Brooks (1997) believed that administrators and teachers will have to change instructional approaches in the classroom to being a facilitator for technology to be productively integrated. Learning to be a facilitator is the biggest challenge (Boe & Lentz, 2004). Administrators “need to develop the understanding necessary to guide their instructional technology programs and to have the hands-on experiences that training on administrative uses of technology provides” (Beaver, 1991, p. 1).

An administrator's limited knowledge and training, though, can sometimes make using instructional technology daunting (Boe & Lentz, 2004). Stegall (1998) concluded that while becoming an administrator and learning about the administrative duties, instructional leadership, services, etc., she was never told how important her technology leadership would be in her school and in incorporating technology into the curriculum. Altun (2001) found that the administrator's role is changing with the quickly changing world which includes the technology abilities of understanding, recognizing, and using technology as part of the reality of today's society so that they may be a technologically competent principal.

Principals often have a misunderstanding of the term "technology integration." Principals thought that technology was being integrated in their schools if the school was: using an integrated learning system in a subject; allowing, encouraging, or requiring students to use word processing and presentation software in reports and displays; requiring papers to be done on a word processor; using presentation software software and projection technology for teacher presentations; and using computers for online testing and analysis of test results. (Northwest Educational Technology Consortium, 2005, p. 1)

According to the Northwest Educational Technology Consortium (2005), principals need to be able to distinguish between using technology just for the sake of using it and using technology to actually help students learn.

School principals should understand the dynamics of change and how the teachers and staff will respond to the change before they, the instructional leader, integrate

technology into the school. Principals must also be aware of all the external factors that may affect the change in the technology implementation (Bailey, 2000). Garcia, Johnson, and Dallman (1998) found that the principal's role is important to make sure that technology is used in the school as well as in the way that teachers instruct the students. The principal's support during the integration in the classroom is key to its success (Mecklenburger, 1989).

The optimal achievement of the students is what principals need to see as the necessity of having technology in the classroom. Some principals have had no positive experiences with technology and therefore see no need for technology in student learning experiences. Ediger (1996) pointed out that administrators should rise above their experiences and learn more about technology and how to integrate technology into the curriculum.

Administrators' Perceptions of Technology

If administrators are to hold teachers accountable for integrating technology in the classroom as part of their role, administrators have to exhibit a positive perception toward technology use in the curriculum and instruction so that the teachers will be motivated to do so. A survey of Administrators' Perceptions of Computer Usage in Education conducted by Carl and Hoelscher (1984) found that administrators had a positive perception of the use of computers in the classroom, and planned to buy more and more computers for the classrooms in their schools. The study also found that the principal's positive attitude created a positive attitude in the teachers and the students toward the integration of technology into the classroom.

In 1995, the National Education Association conducted a survey that found that administrators showed strong positive images and perceptions of technology use such as online services and the Internet (National Educational Association, 1995). This positive attitude was not found in the teachers though. This is where the administrators have to encourage and assert the want and need for technology in the classroom.

Lyles (2003) conducted a study entitled *The Perceptions of Elementary Principals and Teachers Toward the Integration of Computer Technology in the Classroom* that found that eighty – five percent of principals in the mid-west strongly to mildly agreed that technology in the classroom helps the teachers with their teaching; while twenty-five to thirty-five percent mildly disagreed and mildly agreed, respectively, that teaching plans should include the use of instructional technology in the lesson plans on a daily basis. Sixty to seventy-five percent of the principals were also found to express strong to mild agreement that there was sufficient amount of technology and related materials in the classrooms and schools to advance learning. Principals were also positive in their ability to design and develop a student-learning activity that used technology.

The study by Lyles (2003) tested the influence of the principal's age, years of experience as an administrator, and Title I status on the perceptions of usefulness and adequate materials, and the Title I status is the only variable that was found to have a significant relationship with the administrator's perceptions of usefulness.

Title I schools, consisting of mainly small rural school principals, do not have the funds to attract and retain highly qualified teachers and offer the bare requirements for the students. Funds are not available to incorporate technology into their schools. Richie

(1996) suggested that some of the reasons that minimal technology use occurs in some schools is because there is a lack of administrative support and a lack of funds to maintain the needed equipment. Two surveys conducted by the Southern Regional Educational Board found that many school administrators did not have training in how to determine the impact technology should have in the curriculum and instruction of the schools in their administrative course work, but more are being offered in the administrative programs today (Jensen, 1998).

Technology Effectiveness in Curriculum and Instruction

Even if the administrators are or are not prepared, society is changing at a lightning pace, and technology, itself, is the cause of such change. Educational systems that did not and do not accept and change with these new opportunities are no longer going to be acceptable by the future learners (Cunningham & Cordeiro, 2000). Students can benefit from learning experiences connected to the use of computers (Goldman, Cole, & Syer, 1999; Heinecke, Blasi, Milman, & Washington, 1999). Students must learn to handle the change like all the students before them because new opportunities and challenges are being presented with more responsibilities with the world-wide access to information. Students or teachers can integrate the technology in the classroom, as well as the use of technology to develop curriculums, communication, and analysis of data of student achievement (Bakia, Mitchell, & Yang, 2007).

For technology to be effective, there has to be a collaborative effort between teachers and principals to enhance stable, effective learning outcomes. Technology can be successfully integrated into the curriculum if it is utilized and viewed outside of

traditional uses. The teacher's use of technology in a traditional capacity i.e. presentation tool, remedial mechanism, or a computer literacy tool is sometimes viewed as poor practice which it is not, but it will not lead to transformation. Authentic uses of technology, which are immersed in complex projects that develop over time, breaks traditional barriers between superficial use and quality integrated use of technology (Newman, 1990). A research study sponsored by the Office of Educational Research and Improvement, U.S. Department of Education, and conducted by SRI International in 1999 stated that teachers and administrators both expressed bringing technology into schools (1) supports thinking processes, (2) stimulates motivation and self-esteem, (3) promotes equity in education, (4) prepares students for the future, (5) supports changes in school structure, and (6) explores technological capabilities.

Since bringing technology into the schools can help the students in so many ways, teachers need to learn how to use different programs on the computer, but the teacher also has to know how to create a presentation that is going to have the students actively learning (Newman, 1990). Placing the students in front of a screen all the time and having them read information or have information read to them is no different than taking notes off of the chalkboard or listening to a lecture from a teacher. In this situation, the students are not actively learning, instead, they are receiving information to be memorized. Adding sounds and clipart is not going to help the students understand the information any better. Teaching is not that simple. It takes effort to design and align learning opportunities with objectives adopted by the state, district, school, and teacher to create authentic learning. Due to this, most technology applications are limited to

enrichment for a “few” (Means, et al., 1993). For technology to be integrated correctly and effectively, the technology has to be matched with the objectives of the lesson plans. Quality goals and plans have to be set for successful integration of technology into the curriculum. Access to technology during the construction of these plans and goals is essential (Ediger, 1996).

Even with the wealth of technology in some schools, only a few teachers feel fully prepared to use technology in their daily instruction. In 2000 and 2002, the National Center for Educational Statistics reported that the less experienced teachers feel more prepared to use technology in their classes than the two-thirds of the teachers that have a wealth of technology experience. Some teachers in elementary schools use computers in the classroom for clerical tasks instead of instructional purposes (Becker, 1991; Becker, 1999, 2000a, 2000b; Becker, Ravitz, & Wong, 1999). One of the reasons that teachers shy away from using the computers is because they are simply not prepared (Dawson, 1998; Ediger, 1996; Espy, 1999; Guha, 2000; Michael, 2001). The teachers who do not use computers in the classroom do so because of lack of leadership, access and availability, incentive, personnel support, external constraints, philosophy, preparation in trainings (Franklin, 2005) and varying suggestions on how to integrate everything at once (Cuban, 1999).

Technology Standards

In order for technology integration to be implemented correctly, it has to involve all of the stakeholders which involve administrators. The administrator's use of technology is influenced by standards designed by the Collaborative for Technology Standards for School Administrators (TSSA Collaborative, 2001). These guidelines are a national consensus among educational stakeholders of what best indicates effective school leadership for comprehensive and effective use of technology in schools (TSSA Collaborative, 2001):

Leadership and Vision: Educational leaders inspire a shared vision for comprehensive integration of technology and foster an environment and culture conducive to the realization of the vision; Learning and Teaching: Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching; Productivity and Professional Practice: Educational leaders apply technology to enhance their professional practice and to increase their own productivity and that of others; Support, Management, and Operations: Educational leaders ensure the integration of technology to support productive systems for learning and administration; Assessment and Evaluation: Educational leaders use technology to plan and implement comprehensive systems of effective assessment and evaluation; Social, Legal, and Ethical Issues: Educational leaders understand the social, legal, and ethical issues related to technology and model responsible decision-making related to these issues. (p. 1)

Several standards in the State of Mississippi also define an administrator as one who is technologically savvy. The Mississippi Standards for School Leaders states an administrator is “a leader who initiates, promotes, and supports the effective integration of technology into the educational environment” (Mississippi Department of Education, 2007):

Maximizes student learning by working with staff to translate knowledge of learning theory and human development and relevant school data into successful curricular programs, instructional practices, and assessment strategies; Applies human relations and interpersonal skills to foster a climate of continuous learning and improvement; Facilitates the development and maintenance of organizational and managerial systems consistent with the vision and mission of the school community; Exhibits team building skills in the development of ownership among all stakeholders in the school community; Models and promotes ethics and integrity in professional and personal activities. (p. 1)

School administrators have to be able to lead the integration of the standards into the curriculum and instruction flawlessly in order for the students to fully realize the importance of technology in society today. Granger, Morbey, Lotherington, Owston, and Wildeman (2002) conducted a study of schools that were successful in the integration of technology. The study found that when the school principals were knowledgeable of the standards and encouraged the teachers to engage in training to become knowledgeable of the technology standards the schools were impacted more with technology in their curriculum and instruction.

Budgeting for Technology in Education

To incorporate the national and state technology standards appropriately, money is needed. Money remains rigid even though technology is changing rapidly and unpredictably, and instructional technology budgets are getting larger. Administrators are making decisions without the appropriate information (Ehrmann, 1999). Initially teachers were forced to plan for activities that were low budgeted, yet when students responded positively to the learning experience, the school district was more willing to allow more spending (Boe & Lentz, 2004). The amount of money, interestingly, sometimes does not correlate with the effectiveness of the technology. Whether the money was used to create a supportive environment is the most important aspect (Weiss, 1994).

An economic and racial digital divide continues to widen, though, with the inability of all students to have the same access to computers and Internet in their curriculum even though they are technologically confident. Two-thirds of the Caucasian and Asian students have computers and Internet access compared to the forty-five percent of students who are black and the thirty-seven percent who are Hispanic, Native Americans and poor. Students with disabilities are also at a disadvantage because school is the primary source for most students to come in contact with computers or the Internet and most schools are not equipped to handle their needs because of the low budget received for the technology needs in their schools (Mason & Dodds, 2005).

The appropriate use of technology funding in these schools, though, is just as important as having enough funding for technology. Administrators should come up with a plan that includes the educational, technological, and societal needs and trends before

funding is spent. The needs and shortcomings of technology eventually rest upon the principal (Mason & Dodds, 2005). Once principals realize the perceptions of the impact of technology on the curriculum and instruction of their school, they are more apt to create a well prepared plan to ensure that adequate technology is purchased and is useful in the classrooms.

Collins and Dewees (2001) found that in the fall of 1997, “public schools with a high percentage of low-income students (71 percent or more of students eligible for a free or reduced-price lunch) were less likely to have Internet access than schools with a low percentage of low-income students (less than 11 percent of students eligible for a free or reduced-price lunch” (p. 4). Administrators need to be able to understand what is available, why, and how the challenges can be overcome so that the low income students will have the same opportunity to have technology access as do the students from the more affluent schools.

To allocate such technology in the school, administrators must first decide what they perceive to be appropriate. In 2005, public schools in Mississippi received \$318,000 for educational technology use in the schools. This low allocation of budgets for technology showed that technology is not one of the most important aspects of the curriculum because the budget was to satisfy all the technology needs for the 492,645 students in the state. With the students per Internet-connected computer in classrooms ratio being 8.4:1, administrators had to decide how to allocate the money so that their 887 public schools and 31,588 teachers of Mississippi would have the greatest impact of technology on their curriculum and instruction (Richard, 2005).

Today, schools have more technology than ever and partly because of the Enhanced Education Through Technology (EETT) program. It is the U.S. Department of Education's only program that focuses on the integration of technology in schools across the country that are high in poverty districts. EETT is the successor of the Technology Literacy Challenge Fund of 1997 (Bakia, Mitchell, & Yang, 2007). With this school system and funding support, more technology opportunities are available than could have ever been expected in the agrarian society.

Summary

The review of literature section provided information on the changes in technology in schools, the administrators' use of technology and perceptions toward technology, the technology effectiveness in curriculum and instruction, the administrators' technology standards, and the budgeting needed for technology. This literature is informative on the purpose of this study which is to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions.

CHAPTER III

METHODOLOGY

This chapter is divided into the following sections: (a) Research Design, (b) Population, (c) Instrumentation, (d) Data Collection, and (e) Data Analysis.

Research Design

Survey research design was used in this study to investigate the perceptions of public school administrators. A survey or questionnaire is the most widely used method in descriptive research (Leedy, 1997), and it is the best for this research study because it was used to gain information that described existing phenomena by asking the administrators their perceptions (Moore, 1983). This approach leads to a descriptive method for analysis of data. The descriptive approach is most appropriate in that “descriptive research entails collecting data in an attempt to describe as accurately as possible a subject’s behavior, attitude, or values” (Moore, 1983, p. 174).

Causal comparative was also used for this study. Gay and Airasian (2003) found that the basic assumption of causal comparative research is beginning with an effect and seeks to find a possible cause. Rumrill and Schenker (2004) also noted that the causal comparative model involves using pre-existing groups to explore differences in outcomes. Causal comparative was most appropriate for this study because this study seeks to find the perceptions of the public school administrators and to compare the

perceptions with the administrators' demographic variables to find if the demographic variables change the perceptions toward technology effectiveness and adequacy in curriculum and instruction.

Correlational research design was also used for this study. Gay and Airasian (2003) found that correlational research seeks to find if a statistically significant relationship exists between two or more variables and to what degree the relationship exists. Correlational research design was most appropriate for this study because this study sought to find the relationships between the administrators' perceptions toward technology effectiveness and adequacy in curriculum and instruction and the administrators' demographic variables.

Population

The population of this study consisted of the total of 70 public school administrators (principals and assistant principals), with only 56 administrators participating, during the 2008/2009 school year in the Golden Triangle Area which included the elementary, middle, and high schools of Starkville, Oktibbeha County, Columbus City, Lowndes County, West Point, and Clay County school districts. Table 1 shows the number of principals and assistant principals in each school district in this study.

Table 1

Descriptive Statistics of Administrators by School District

School district	Principals	Assistant Principals	Total
Oktibbeha County	4	2	6
Starkville	6	8	14
Clay County	1	0	1
West Point	6	6	12
Columbus Municipal	12	8	20
Lowndes County	9	8	17
Total	38	32	70

Instrumentation

Questionnaires were used for this study. Likert scales were used in this research of attitudinal scales which determined what the administrators' perceptions were toward technology effectiveness and adequacy in curriculum and instruction. A questionnaire of 36 items was compiled by the researcher that includes 3 sections to obtain the information needed to answer the research questions. The first section asked the administrator's perception toward technology effectiveness in curriculum and instruction, and the second section asked about the administrator's perception toward adequacy of technology in curriculum and instruction. The third section asked about the administrator's demographic information such as race, age, administrator's years of experience, school location, administrator's educational level, gender, school size, faculty size, and position (principal or assistant principal. A Likert scale (1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree) was used on items 1-10 and 13-23. Items 11 and 12 where more than one response could have been marked. Items 24-33

were demographic items about the administrators, and items 34-36 were open-ended items so that additional comments could be made by the administrators.

The instrument was tested for content validity by asking a group of five current and previous principals to complete a combination of questions on how well the items on the questionnaire represented the topic being discussed in the study. A letter was sent to the superintendent of a school district outside the population asking permission to pass out questionnaires to the principals and assistant principals to test the validity and reliability of the questionnaire. Questionnaires, analysis questions, consent forms, and 2 separate envelopes (to keep the identity of the consent form and the questionnaire separate) were mailed to each administrator and a call was made to inform the administrators that the packages were being mailed to them. The packages were picked up by the researcher a few days later. Four packages were completed which met the requirements of research design by Gay and Airasian (2003), who suggested that three to four people should complete the questionnaire for validity and reliability. With the completion of the questionnaires, consent forms and questionnaires were kept in separate packages to keep information anonymous. On the analysis sheet, the administrators were asked to give their input as to the consistency, understandability, format, length, content, and any additional comments that they had about the questionnaire and cover letter for face validity (Gay & Airasian, 2003). The recommended corrections to the cover letter and questionnaire were completed. If the principal's findings coincided, the content validity would be strong. The instrument's reliability would be tested by passing out the one questionnaire to the participants one time and calculating the Cronbach Alpha. The

calculated Cronbach Alpha was .672. A revised questionnaire was sent to the same sample group. The questionnaires were completed and sealed in envelopes. No revisions were noted. Then, the questionnaire was calculated for its reliability again, and the Cronbach Alpha was .679. Both test-retest and Cronbach Alpha were used to test the reliability of the instrument.

Data Collection

Approval from the Mississippi State University Institutional Review Board (IRB) was requested to conduct this study after a letter of request to conduct research was given to the six school district superintendents (Appendix A) and signed. Once IRB approval was complete, email contact was made with the Mississippi Department of Education to gain access to the database of public school administrators' names and addresses. The population of this study consisted of 70 public school administrators during the 2008-2009 school year in the Golden Triangle Area of Mississippi. Then, telephone calls were made to set up appointments with the principals and assistant principals to hand deliver cover letters (Appendix B) to each principal and assistant principal with a request for them to complete the enclosed questionnaire (Appendix E) and consent form (Appendix C) to be picked up in a week in supplied, unmarked envelopes. Telephone calls were made to each principal to make sure the questionnaires are ready to be picked up. A checklist was marked off as the questionnaires were picked-up for non-return follow-ups since the questionnaires were not coded.

With the total population of 70 administrators surveyed, the questionnaires demanded continuous telephone follow-ups until all questionnaires were completed and

picked up by the researcher. After a month, incomplete questionnaires were considered not part of the study.

The cover letters informed the principals and assistant principals that the completion of the questionnaire was strictly voluntary and could be concluded at any time during the study. No coding was on the questionnaires or envelopes to identify the participants so that the information was held confidential. All envelopes were kept in a larger envelope until all were collected to protect the privacy of the participants.

Data Analysis

After all the data were collected, the researcher entered the data for the 56 participating administrators into the SPSS 15.0 (2008) computer program for statistical analysis. The probability level for all the statistical analysis was set at $p < .05$.

To answer research questions one and two, data was collected through the questionnaires to determine (a) the administrators' perceptions toward technology effectiveness in curriculum and instruction, and (b) the administrators' perceptions toward technology adequacy in curriculum and instruction using a rating scale (1.00-1.49 = Strongly Disagree, 1.50-2.49 = Disagree, 2.50-3.49 = Undecided, 3.50-4.49 = Agree, 4.50-5.00 = Strongly Agree).

To answer research questions three and four, data were collected using the questionnaires to determine the frequency, mean, and standard deviation of the independent variables of (a) race; (b) age; (c) years of experience; (d) rural or suburban school; (e) educational level of the administrator; (f) gender; (g) elementary, middle, or high school level; (h) school size; (i) faculty size; and (j) principal vs. assistant-principal

response. A series of one-way analysis of variance (ANOVA) was used to compare mean perceptions across the levels of the various variables race, age, years of experience, educational level of the administrator, elementary, middle, or high school level, faculty size, and school size to answer research questions three and four because ANOVA test variables that have two or more levels. A series of t-test were carried out to compare mean perceptions across the levels of the variables rural or urban school, gender, and principal vs. assistant-principal response to answer the research questions three and four because the t-test compares means of groups with only two levels.

Three assumptions were met to use the ANOVA test in this study. The first assumption was the Normality assumption. A histogram was created using the data which showed the population distributions were normal. The second assumption was the Independent Observation assumption. The observations using the questionnaires were independent. The third assumption is the assumption of Equal Variances which was tested by squaring the largest and smallest standard deviations and dividing the larger by the smaller. The variance of each test was equal (SPSS Inc.).

Three assumptions were also met to use the t-test in this study. The first assumption is Independence. The observations were related because the administrators contributed to both scores. The second assumption is Scale of Measurement which when tested showed a rational zero point. The third assumption is Normality which was tested with a stem-and-leaf plot that showed the difference scores were normally distributed (SPSS Inc.).

Finally, a Pearson r was carried out on the perceptions of the public school administrators and the demographic variables to see if any relationships exist between the variables to answer research questions five and six. The assumption of normal distribution for a Pearson r was met using the Q-Q plot (probability plot) (SPSS Inc.).

Summary

In conclusion, Chapter III indicated that the survey research and causal comparative research designs were used in this study, the population of 2008-2009 public school administrators that were surveyed was 70 from the Golden Triangle Area of Mississippi, the description of the instrument, and how the public school administrators' perceptions toward technology effectiveness and adequacy in curriculum and instruction would be analyzed with the administrators' demographic information.

CHAPTER IV

FINDINGS

This chapter is divided into the following sections: (a) Participants, (b) Demographic Information, (c) Research Questions, and (d) Summary. Included in this chapter are descriptive statistics and a discussion of the research findings.

Participants

The participants of this study included six school districts in the Golden Triangle Area of Mississippi: Starkville, Oktibbeha County, West Point, Clay County, Columbus, and West Lowndes. There were 56 questionnaires completed which is 80% of the total population surveyed, $N = 70$.

Demographic Information

The following tables are the administrators' demographic information of the 56 questionnaires that were completed.

Race

Table 2 shows the frequency and percent of the number of administrators by race. There were slightly more White/Caucasian administrators than African American administrators.

Table 2

Administrators by Race

Race	<i>N</i>	Percent
White/Caucasian	29	52%
African American	27	48%
Other	0	0%
Total	56	100%

Age

Table 3 shows the frequency and percent of the number of administrators by age.

Most of the administrators were 48-57 years old.

Table 3

Administrators by Age

Age	<i>N</i>	Percent
28-37 years old	14	25%
38-47 years old	18	32%
48-57 years old	15	27%
58-67 years old	3	5%
Missing	6	11%
Total	56	100%

Years of Experience

Table 4 shows the frequency and percent of the number of administrators by years of experience. The number of administrators decreases as the years of experience increase.

Table 4

Administrators by Years of Experience

Years experience	<i>N</i>	Percent
1-5 years	24	42%
6-10 years	16	29%
11-20 years	11	20%
21-30 years	4	7%
30+ years	1	2%
Total	56	100%

School Location

Table 5 shows the frequency and percent of the number of administrators by school location. Most of the schools in the Golden Triangle that completed the survey are rural schools.

Table 5

Administrators by School Location

School Location	<i>N</i>	Percent
Rural	36	64%
Urban	15	27%
Missing	5	9%
Total	56	100%

Educational Level

Table 6 shows the frequency and percent of the number of administrators by educational level. Very few administrators have above a Master's degree.

Table 6

Administrators by Educational Level

Educational Level	<i>N</i>	Percent
Masters	35	63%
Specialist	16	29%
Doctorate	4	7%
Missing	1	1%
Total	56	100%

Gender

Table 7 shows the frequency and percent of the number of administrators by gender. More females than males completed the survey.

Table 7

Administrators by Gender

Gender	<i>N</i>	Percent
Male	26	46%
Female	28	50%
Missing	2	4%
Total	56	100%

School Level

Table 8 shows the frequency and percent of the number of administrators by school level. More elementary school administrators completed the survey than the other 2 school levels.

Table 8

Administrators by School Level

School Level	<i>N</i>	Percent
Elementary school	24	43%
Middle School	14	25%
High School	18	32%
Total	56	100%

School Size

Table 9 shows the frequency and percent of the number of administrators by school size. Most of the administrators surveyed have 399 or fewer students in their schools.

Table 9

Administrators by School Size

School size	<i>N</i>	Percent
399 or fewer students	17	30%
400-599 students	11	20%
600-899 students	12	21%
900 or more students	15	27%
Missing	1	2%
Total	56	100%

Faculty Size

Table 10 shows the frequency and percent of the number of administrators by faculty size. Most schools range between 19-48 people on the faculty and staff of the school.

Table 10

Administrators by Faculty Size

School faculty size	<i>N</i>	Percent
19-48 faculty/staff	23	41%
49-78 faculty/staff	14	25%
79-108 faculty/staff	11	20%
109-138 faculty/staff	5	9%
139-168 faculty/staff	1	2%
Missing	2	3%
Total	56	100%

Administrator's Position

Table 11 shows the frequency and percent of the number of administrators by position. More principals completed the questionnaire than assistant principals.

Table 11

Administrators by Position

Position	<i>N</i>	Percent
Principal	30	54%
Assistant Principal	26	46%
Total	56	100%

Research Question 1

Research question 1 asked what is the perception of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi?

Table 12 displays the Likert scale rating used to interpret the survey results (Gay & Airasian, 2003).

Table 12

Likert Scale Mean Score Interpretation

Rating	Description
1.00-1.49	Strongly Disagree
1.50-2.49	Disagree
2.50-3.49	Neutral
3.50-4.49	Agree
4.50-5.00	Strongly Agree

Source: (Gay, L. & Airasian, P. (2003). *Educational research: Competencies for analysis and applications*. Seventh Edition. Merrill & Prentice Hall: Upper Saddle River, NJ.)

Table 13 displays results from questionnaire Part I: Technology Effectiveness in Curriculum and Instruction which include the mean score results for the administrators' perceptions toward technology effectiveness in curriculum and instruction in the public schools of Mississippi. The overall mean of 3.72 with a standard deviation of .37 indicated that the administrators "agreed" that technology is being used effectively and is effective in the curriculum and instruction in their schools. Table 13 also displays the individual items and the descriptive statistics for questionnaire Part I: Technology Effectiveness in Curriculum and Instruction. The results of the administrators' perceptions varied from the highest positive perceptions on Item Number 1 ($M = 4.54$, $SD = .69$, $n = 56$) that showed the administrators "strongly agree" that teachers should use technology in the classroom to present the lesson to the result of the lowest positive perceptions on Item Number 3 ($M = 1.82$, $SD = 1.16$, $n = 56$) that showed that administrators "disagree" that technology should be used only as a computer literacy tool in the classroom.

Table 13

Items and Descriptive Statistics of Part I: Technology Effectiveness in Curriculum and Instruction

Item	<i>N</i>	<i>SD</i>	<i>M</i>
1. Teachers should use technology in the classroom to present the lesson.	56	.69	4.54
2. Teachers should use technology as a remedial mechanism when remediation is needed.	56	1.12	4.14
3. Technology should be used only as a computer literacy tool in the classroom.	56	1.16	1.82
4. Technology should be used to complete complex projects that engage the students in learning..	55	.74	4.42
5. Technology use in the classroom must be aligned with the lesson to meet the district and state goals in the curriculum	56	1.23	4.14
6. I encourage my teachers to effectively use technology in the school curriculum.	55	.60	4.44
7. The State of Mississippi curriculum frameworks incorporated enough effective uses of technology to prepare students for the 21 st century.	55	1.09	2.96
8. More emphasis needs to be placed on the use of technology in my school curriculum.	55	1.00	3.76
9. I have created a well prepared technology plan for my school that uses technology effectively.	53	.89	3.51
10. Technology is effectively used in my school curriculum and instruction because I am aware of the National and State Technology Standards for School Administrators.	49	1.00	3.47
Perception toward Effectiveness Overall	56	.37	3.72

Table 14 shows the results of the questionnaire's Item Number 11 that asked for the primary uses the administrators think that the computers in the classrooms should be used in the school. The administrators were able to choose one or more responses to the question. The highest percentage of administrators, 95% (53) believed that the computers should be used for enrichment while the lowest percentage, 14% (8), thought that computers should be used for other uses in the classroom such as for reward, preparing

the students for society, interventions, research, exploration, and all other effective uses the teacher deems necessary.

Table 14
Primary Use of Computers in Classroom

Computer uses	Frequency	Percentage
Presentation of material	49	88%
Remediation	51	91%
Practice	51	91%
Communication	48	86%
Enrichment	53	95%
Testing	42	75%
Other	8	14%

Table 15 shows the results of the questionnaire's Item Number 12 that asked for the primary uses of computers by the administrators. The administrators were able to choose one or more responses to the question. The highest percentage of administrators, 98% (55), indicated they use computers for administrative purposes. Administrators, 14% (8), also stated that they use computers to complete other tasks such as student information/management, communication (email), keeping records, planning, spreadsheets, and databases.

Table 15

Primary Use of Computer by Administrator

Computer uses	Frequency	Percentage
Research on the Internet	47	84%
Graphics	34	61%
Newsletters	42	75%
Administrative purposes	55	98%
Do not use computer	0	0%
Other	8	14%

Research Question 2

Research question 2 asked what is the perception of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi?

Table 16 displays results from questionnaire Part II: Technology Adequacy in Curriculum and Instruction which include the mean score results for the administrators' perceptions toward technology adequacy in curriculum and instruction in the public schools of Mississippi. The overall mean of 3.59 and a standard deviation of .77 indicated that the administrators "agreed" that technology is adequate for the curriculum and instruction in their schools. Table 16 also displays the items and the descriptive statistics for questionnaire Part II: Technology Adequacy in Curriculum and Instruction which relate to the perceptions toward technology adequacy in curriculum and instruction. Some of the results of the administrators' perceptions on technology adequacy show that the administrators "agreed" on Item Number 14 ($M = 4.02$, $SD = 1.03$, $n = 55$) that there is adequate technology to complete the administrative duties involving the school's curriculum and instruction issues, and on Item Number 21 ($M = 3.96$, $SD = .76$, $n = 56$)

that stated that the teachers are capable of using the amount of technology available to them in their classrooms.

Table 16

Items and Descriptive Statistics of Part II: Technology Adequacy in Curriculum and Instruction

Item	<i>N</i>	<i>SD</i>	<i>M</i>
13. My school has a sufficient number of technologies available to use in classroom instruction.	55	1.29	3.22
14. I have adequate technology to complete my administrative duties involving the school's curriculum.	55	1.03	4.02
15. The technology available to myself and the teachers is current.	56	1.05	3.73
16. Any technology grant that my school has received toward purchasing more technology was effectively allocated.	54	.98	3.80
17. My school has an adequate number of computers in the school that are Internet accessible to carry out the curriculum.	56	1.29	3.41
18. Adequate technical support is received from the school/district technology coordinator in the upkeep of the technology in my school.	56	1.28	3.43
19. I received the appropriate technology training in my college courses to implement the amount of technology I have in my school.	56	1.45	3.04
20. Sufficient technology training is available to me through the school district to learn how to incorporate technology correctly into the curriculum and instruction of my school in relation to the amount of technology I have in my school.	56	1.05	3.75
21. My teachers are capable of using the amount of technology available to them in their classrooms.	56	.76	3.96
Perception toward Adequacy Overall	56	.77	3.59

Table 17 shows the results of the questionnaire's Item Number 22 and 23 that asked the number of administrators that have computers available to students and parents in their schools. The results showed that the highest percentage of schools, 71% (40), have only 1-5 computers available for student use in the classroom while the highest

percentage of schools, 46% (26), have only 1-5 computers available for the parents to use in the school also.

Table 17

Number of Administrators that have Computers Available to Students and Parents

Number of computers	Frequency/Percent for Students	Frequency/Percent for Parents*
1-5 computers	40 (71%)	26 (46%)
6-10 computers	3 (5%)	4 (7%)
11-20 computers	2 (4%)	4 (7%)
More than 20 computers	11 (20%)	17 (30%)

*51 of 56 administrators responded

Research Question 3

Research question 3 asks is there a statistically significant difference in the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi based on the administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal))?

Race

In Table 18, the descriptive statistics for the administrators' race resulted in the most administrators being White/Caucasian (52%). While the administrators "agreed" with the technology effectiveness in their schools, the White/Caucasian administrators (*M*

= 3.74, $SD = .47$, $n = 29$) had more positive perceptions toward technology effectiveness than the African American administrators based on the means.

Table 18
Descriptive Statistics of Administrators' Race

Race (effectiveness)	<i>n</i>	<i>SD</i>	<i>M</i>
White/Caucasian	29	.47	3.74
African American	27	.22	3.70
Other	0	0	0

Table 19 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on the administrator's race. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by race, $F(2,55) = .19$, $p = .67$.

Table 19
ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness
Based on Race

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Race	.03	.19	.67

* $p < .05$

Age

In Table 20, the descriptive statistics for the administrators' age resulted in the most administrators being between 38-47 years old (32%), and the least number of

administrators being between the ages of 58-67 years old (5%). While the administrators “agreed” with the technology effectiveness in their schools, the 28-37 year olds ($M = 3.83$, $SD = .37$, $n = 14$) had more positive perceptions toward technology effectiveness than the older administrators based on the means.

Table 20

Descriptive Statistics of Administrators' Age

Age (effectiveness)	<i>n</i>	<i>SD</i>	<i>M</i>
28-37 years old	14	.37	3.83
38-47 years old	18	.41	3.80
48-57 years old	15	.35	3.54
58-67 years old	3	.20	3.70

*50 of 56 administrators responded

Table 21 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on the administrator's age. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by age, $F(3,49) = 1.77$, $p = .17$.

Table 21

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness Based on Age

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Age	.25	1.77	.17

* $p < .05$

Years of Experience

In Table 22, the descriptive statistics for the administrators' years of experience resulted in the most administrators having between 1-5 years of experience, 24 (43%), and the least number of administrators that have 30 or more years experience, 1 (2%). Although the administrators "agreed" with the technology effectiveness in their schools, the administrators with 1-5 years experience ($M = 3.88$, $SD = .40$, $n = 24$) had a more positive perception toward technology effectiveness than all the other administrators that had more administrative experience based on the means.

Table 22

Descriptive Statistics of Administrators' Years of Experience

Years experience	<i>n</i>	<i>SD</i>	<i>M</i>
1-5 years	24	.40	3.88
6-10 years	16	.32	3.56
11-20 years	11	.30	3.62
21-30 years	4	.19	3.75
30+ years	1	.00	3.50

Table 23 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on years experience. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by years experience, $F(4,55) = 2.41$, $p = .06$.

Table 23

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness
Based on Years Experience

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Years experience	.30	2.41	.06

* $p < .05$

School Location

In Table 24, the descriptive statistics for the administrators' school location resulted in more than twice the schools being identified as rural by the administrators. The administrators "agreed" with the technology effectiveness in their schools, but the administrators in the urban schools ($M = 3.83$, $SD = .48$, $n = 15$) had a more positive perception than the rural administrators ($M = 3.71$, $SD = .31$, $n = 36$) based on the means.

Table 24

Descriptive Statistics of Administrators' School Location

School location	<i>n</i>	<i>SD</i>	<i>M</i>
Rural	36	.31	3.71
Urban	15	.48	3.83

*51 of 56 administrators responded

Table 25 displays the results of the t-test which was calculated for the administrators' perceptions toward technology effectiveness based on school location. The t-test between the rural and urban administrators revealed there was no statistically

significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness, $t(49) = -1.12, p = .27$.

Table 25

T-test Results of Administrators' Perceptions Toward Technology Effectiveness Based on School Location

Index	<i>t</i>	<i>p</i>
School location	-1.12	.27

* $p < .05$

Educational Level

In Table 26, the descriptive statistics for the administrators' educational level resulted in more administrators, 36 (64%), having a Masters degree and only 4 (7%) attaining a Doctorate degree. Although the administrators "agreed" with the technology effectiveness in their schools, the administrators with the Specialist degree ($M = 3.76, SD = .36, n = 16$) had a more positive perception than the other administrators toward technology effectiveness in curriculum and instruction in their schools based on the means.

Table 26

Descriptive Statistics of Administrators' Educational Level

Educational level	<i>n</i>	<i>SD</i>	<i>M</i>
Masters	36	.39	3.70
Specialist	16	.36	3.76
Doctorate	4	.18	3.70

Table 27 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on educational level. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by educational level, $F(2,55) = .16, p = .86$.

Table 27

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness Based on Educational Level

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Educational level	.02	.16	.86

* $p < .05$

Gender

In Table 28, the descriptive statistics for the administrators' gender resulted in almost even numbers of males, 26 (48%), and females, 28 (52%). The female administrators had a slightly higher perception toward technology effectiveness ($M = 3.73, SD = .40, n = 28$) than the male administrators ($M = 3.71, SD = .35, n = 26$) according to their means even though both "agreed" with the technology effectiveness in their schools.

Table 28

Descriptive Statistics of Administrators' Gender

Gender	<i>n</i>	<i>SD</i>	<i>M</i>
Male	26	.35	3.71
Female	28	.40	3.73

*54 of 56 administrators responded

Table 29 displays the results of the t-test which was calculated for the administrators' perceptions toward technology effectiveness based on gender. The t-test between the male and female administrators revealed there was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness, $t(52) = -.21, p = .83$.

Table 29

T-test Results of Administrators' Perceptions Toward Technology Effectiveness
Based on Gender

Index	t	p
Gender	-.21	.83

* $p < .05$

School Level

In Table 30, the descriptive statistics for the administrators' school level resulted in more elementary school administrators, 24 (43%), completing the questionnaire than high school, 18 (32%), and middle school administrators, 14 (25%). The administrators from the high schools ($M = 3.63, SD = .37, n = 24$) surveyed had the highest perceptions toward technology effectiveness based on the means even though all the administrators "agreed."

Table 30

Descriptive Statistics of Administrators' School Level

School level	n	SD	M
Elementary school	24	.37	3.63
Middle school	14	.36	3.73
High school	18	.42	3.84

Table 31 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on school level. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by school level, $F(2,55) = 1.69, p = .19$.

Table 31

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness
Based on School Level

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
School level	.22	1.69	.19

* $p < .05$

School Size

In Table 32, the descriptive statistics for the administrators' school size resulted in more administrators with schools of 399 or fewer students, 17 (30%). While the administrators "agree" with the technology effectiveness, the administrators with more 900 or more students ($M = 3.79, SD = .50, n = 15$) had a more positive perception toward technology effectiveness than the smaller schools based on the means.

Table 32

Descriptive Statistics of Administrators' School Size

School size	<i>n</i>	<i>SD</i>	<i>M</i>
399 or fewer students	17	.36	3.70
400-599 students	11	.22	3.63
600-899 students	12	.33	3.76
900 or more students	15	.50	3.79

*55 of 56 administrators responded

Table 33 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on school size. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by school size, $F(3,54) = .43, p = .73$.

Table 33

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness Based on School Size

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
School size	.06	.43	.73

* $p < .05$

Faculty Size

In Table 34, the descriptive statistics for the administrators' size of faculty and staff resulted in the most schools, 23 (43%), having a faculty and staff of 19-48 people. The administrators with 79-108 faculty and staff in their schools ($M = 3.91, SD = .51, n = 11$) had more positive perceptions, though, toward technology effectiveness than the other administrators based on the means.

Table 34

Descriptive Statistics of Administrators' Size of Faculty and Staff

Size of Faculty/Staff	<i>n</i>	<i>SD</i>	<i>M</i>
19-48 faculty/staff	23	.31	3.63
49-78 faculty/staff	14	.17	3.83
79-108 faculty/staff	11	.51	3.91
109-138 faculty/staff	5	.49	3.43
139-168 faculty/staff	1	.00	3.67

*54 of 56 administrators responded

Table 35 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology effectiveness based on size of faculty and staff. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology effectiveness by size of faculty and staff $F(4,53) = 2.32, p = .07$.

Table 35

ANOVA Results of Administrators' Perceptions Toward Technology Effectiveness Based on Size of Faculty and Staff

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Size of Faculty/Staff	.29	2.32	.07

* $p < .05$

Administrator's Position

In Table 36, the descriptive statistics for the administrators' position resulted in more principals, 30 (54%), than assistant principals, 26 (46%). Assistant principals ($M = 3.77, SD = .39, n = 26$) had a more positive perception toward technology effectiveness

than the principals ($M = 3.68$, $SD = .35$, $n = 30$) did based on the means even though both “agreed” with the technology effectiveness in their schools.

Table 36

Descriptive Statistics of Administrators’ Position

Administrative position	<i>n</i>	<i>SD</i>	<i>M</i>
Principal	30	.35	3.68
Assistant Principal	26	.39	3.77

Table 37 displays the results of the t-test which was calculated for the administrators’ perceptions toward technology effectiveness based on administrative position. The t-test between the principal and assistant principal revealed there was no statistically significant difference at the .05 alpha level in the administrators’ perceptions toward technology effectiveness, $t(54) = -.89$, $p = .38$.

Table 37

T-test Results of Administrators’ Perceptions Toward Technology Effectiveness Based on Administrative Position

Index	<i>t</i>	<i>p</i>
Administrative position	-.89	.38

* $p < .05$

In conclusion, for Research Question 3 there was no statistically significant difference found in the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi based on the administrator’s demographic information.

Research Question 4

Research question 4 asks is there a statistically significant difference in the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi based on the administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal))?

Race

In Table 38, the descriptive statistics for the administrators' race resulted in most administrators being White/Caucasian, 29 (52%). The White/Caucasian administrators had more positive perceptions ($M = 3.70$, $SD = .77$, $n = 29$) toward technology adequacy than the African American administrators based on the means.

Table 38

Descriptive Statistics of Administrators' Race

Race (adequacy)	<i>n</i>	<i>SD</i>	<i>M</i>
White/Caucasian	29	.77	3.70
African American	27	.75	3.47
Other	0	0	0

Table 39 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on race. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by race, $F(2,55) = 1.32$, $p = .25$.

Table 39

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy
Based on Race

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Race	.77	1.32	.25

* $p < .05$

Age

In Table 40, the descriptive statistics for the administrators' age resulted in the most administrators being between 38-47 years old, 18 (36%), and the least number of administrators being between the ages of 58-67 years old, 3 (6%). The 28-37 year olds had more positive perceptions ($M = 3.80$, $SD = .78$, $n = 14$) toward technology adequacy than the older administrators based on the means.

Table 40

Descriptive Statistics of Administrators' Age

Age (adequacy)	<i>n</i>	<i>SD</i>	<i>M</i>
28-37 years old	14	.78	3.80
38-47 years old	18	.93	3.65
48-57 years old	15	.63	3.36
58-67 years old	3	.61	3.52

*50 of 56 administrators responded

Table 41 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on age. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by age, $F(3,49) = .82$, $p = .49$.

Table 41

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy
Based on Age

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Age	.52	.82	.49

* $p < .05$ *Years of Experience*

In Table 42, the descriptive statistics for the administrators' years of experience resulted in the most administrators having between 1-5 years of experience, 24 (43%), and the least number of administrators that have 30 or more years experience, 1 (2%). The administrators with 1-5 years experience ($M = 3.83$, $SD = .85$, $n = 24$) also had a more positive perception toward technology adequacy than all the other administrators that had more administrative experience based on the means.

Table 42

Descriptive Statistics of Administrators' Years of Experience

Years experience	<i>n</i>	<i>SD</i>	<i>M</i>
1-5 years	24	.85	3.83
6-10 years	16	.65	3.57
11-20 years	11	.67	3.38
21-30 years	4	.55	2.94
30+ years	1	.00	3.22

Table 43 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on years of experience. There was no statistically significant difference at the .05 alpha level in the

administrators' perceptions toward technology adequacy by years of experience, $F(4,55) = 1.63, p = .18$.

Table 43

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy Based on Years of Experience

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Years experience	.91	1.63	.18

* $p < .05$

School Location

In Table 44, the descriptive statistics for the administrators' school location resulted in more than twice the schools being identified as rural by the administrators. The administrators "agreed" with the technology adequacy in their schools, but the administrators in the urban schools ($M = 3.91, SD = .91, n = 15$) had a more positive perception than the rural administrators ($M = 3.50, SD = .71, n = 36$) based on the means.

Table 44

Descriptive Statistics of Administrators' School Location

School location	<i>n</i>	<i>SD</i>	<i>M</i>
Rural	36	.71	3.50
Urban	15	.91	3.91

*51 of 56 administrators responded

Table 45 displays the results of the t-test which was calculated for the administrators' perceptions toward technology adequacy based on school location. The t-

test between the rural and urban administrators revealed there was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy, $t(49) = -1.71, p = .09$.

Table 45

T-test Results of Administrators' Perceptions Toward Technology Adequacy Based on School Location

Index	<i>t</i>	<i>p</i>
School location	-1.71	.09

* $p < .05$

Educational Level

In Table 46, the descriptive statistics for the administrators' educational level resulted in more administrators having only a Masters degree, 36 (64%) and only 4 (7%) attaining a Doctorate degree. The administrators with the Masters degree ($M = 3.63, SD = .77, n = 36$) had a more positive perception than the other administrators toward technology adequacy in curriculum and instruction in their schools based on the means.

Table 46

Descriptive Statistics of Administrators' Educational Level

Educational level	<i>n</i>	<i>SD</i>	<i>M</i>
Masters	36	.77	3.63
Specialist	16	.67	3.60
Doctorate	4	1.18	3.18

Table 47 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on educational level.

There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by educational level, $F(2,55) = .63, p = .53$.

Table 47

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy
Based on Educational Level

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Educational level	.38	.63	.53

* $p < .05$

Gender

In Table 48, the descriptive statistics for the administrators' gender resulted in almost even number of males, 26 (48%), and females, 28 (52%). While both genders "agree" with the technology adequacy, the female administrators ($M = 3.71, SD = .67, n = 28$) had a slightly higher perception toward technology adequacy than the male administrators ($M = 3.52, SD = .86, n = 26$) based on the means.

Table 48

Descriptive Statistics of Administrators' Gender

Gender	<i>n</i>	<i>SD</i>	<i>M</i>
Male	26	.86	3.52
Female	28	.67	3.71

*54 of 56 administrators responded

Table 49 displays the results of the t-test which was calculated for the administrators' perceptions toward technology adequacy based on gender. The t-test

between the male and female administrators revealed there was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy, $t(52) = -.89, p = .37$.

Table 49

T-test Results of Administrators' Perceptions Toward Technology Adequacy Based on Gender

Index	t	p
Gender	-.89	.37

* $p < .05$

School Level

In Table 50, the descriptive statistics for the administrators' school level resulted in more elementary school administrators, 24 (43%) completing the questionnaire. The administrators from the elementary schools ($M = 3.64, SD = .63, n = 24$) surveyed had a slightly higher perception than the high school administrators ($M = 3.63, SD = .92, n = 18$) based on the means.

Table 50

Descriptive Statistics of Administrators' School Level

School level	n	SD	M
Elementary school	24	.63	3.64
Middle school	14	.80	3.45
High school	18	.92	3.63

Table 51 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on school level. There

was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by school level, $F(2,55) = .29, p = .75$.

Table 51

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy Based on School Level

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
School level	.18	.29	.75

* $p < .05$

School Size

In Table 52, the descriptive statistics for the administrators' school size resulted in more administrators with schools of 399 or fewer students, 17 (31%). The administrators with more 900 or more students ($M = 3.74, SD = .86, n = 15$) had a more positive perception toward technology adequacy than the smaller schools based on the means.

Table 52

Descriptive Statistics of Administrators' School Size

School size	<i>n</i>	<i>SD</i>	<i>M</i>
399 or fewer students	17	.67	3.61
400-599 students	11	.67	3.35
600-899 students	12	.78	3.71
900 or more students	15	.86	3.74

*55 of 56 administrators responded

Table 53 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on school size. There

was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by school size, $F(3,54) = .65, p = .58$.

Table 53

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy Based on School Size

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
School size	.37	.65	.58

* $p < .05$

Faculty Size

In Table 54, the descriptive statistics for the administrators' size of faculty and staff resulted in the most schools having a faculty and staff of 19-48 people, 23 (43%). The administrators with 79-108 faculty and staff in their schools ($M = 3.89, SD = .90, n = 11$) had more positive perceptions than the other administrators based on the means.

Table 54

Descriptive Statistics of Administrators' Size of Faculty and Staff

Size of Faculty/Staff	<i>n</i>	<i>SD</i>	<i>M</i>
19-48 faculty/staff	23	.76	3.41
49-78 faculty/staff	14	.66	3.77
79-108 faculty/staff	11	.90	3.89
109-138 faculty/staff	5	.71	3.38
139-168 faculty/staff	1	.00	2.62

*54 of 56 administrators responded

Table 55 displays the results of the One-way ANOVA which was calculated for the administrators' perceptions toward technology adequacy based on size of faculty and

staff. There was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy by size of faculty and staff $F(4,53) = 1.44, p = .24$.

Table 55

ANOVA Results of Administrators' Perceptions Toward Technology Adequacy Based on Size of Faculty and Staff

Index	<i>MS</i>	<i>F-ratio</i>	<i>p</i>
Size of Faculty/Staff	.84	1.44	.24

* $p < .05$

Administrator's Position

In Table 56, the descriptive statistics for the administrators' position resulted in more principals, 30 (54%), than assistant principals, 26 (46%). While both "agree" with the technology adequacy in their schools, assistant principals ($M = 3.67, SD = .90, n = 26$) had a more positive perception toward technology adequacy than the principals ($M = 3.52, SD = .64, n = 30$) did based on the means.

Table 56

Descriptive Statistics of Administrators' Administrative Position

Administrative position	<i>n</i>	<i>SD</i>	<i>M</i>
Principal	30	.64	3.52
Assistant Principal	26	.90	3.67

Table 57 displays the results of the t-test which was calculated for the administrators' perceptions toward technology adequacy based on administrative

position. The t-test between the principal and assistant principal revealed there was no statistically significant difference at the .05 alpha level in the administrators' perceptions toward technology adequacy, $t(54) = -.72, p = .47$.

Table 57

T-test Results of Administrators' Perceptions Toward Technology Adequacy Based on Administrative Position

Index	<i>t</i>	<i>p</i>
Administrative position	-.72	.47

* $p < .05$

In conclusion, for Research Question 4 it was found that there is no statistically significant difference between the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi based on the administrator's demographic information.

Research Question 5

Research question 5 asks is there a statistically significant relationship between the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the schools of Mississippi and the administrator's demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size)?

Table 58 shows the Correlation Interpretation Table (Cohen, 1988) which was used to interpret the Pearson r correlations.

Table 58

Correlation Interpretation Table

Correlation	Negative	Positive
Small (Weak)	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Large (Strong)	-1.0 to -0.5	0.5 to 1.0

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

Table 59 shows the Pearson r correlations between the questionnaire's Part I: Technology Effectiveness in Curriculum and Instruction and the administrators' demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size) on Part III (demographics) of the questionnaire. When analyzing the relationship between the administrators' perception of technology effectiveness and the administrators' age ($r = -.25, p = .07$), years of experience ($r = -.25, p = .06$), educational level ($r = .04, p = .75$), school size ($r = .12, p = .39$), and faculty size ($r = .05, p = .73$), no statistically significant relationship was found.

Table 59

Correlation between Administrators' Perceptions Toward Technology Effectiveness and the Administrators' Demographics

Index		School size
Administrators' Perceptions Toward Technology Effectiveness	Pearson r Values	.12
	Sig. (2-tailed)	.39
	N	55
		Size of faculty/staff
	Pearson r Values	.05
	Sig. (2-tailed)	.73
	N	54
		Educational level
	Pearson r Values	.04
	Sig. (2-tailed)	.75
	N	56
		Age
	Pearson r Values	-.25
	Sig. (2-tailed)	.07
	N	50
		Years of Experience
	Pearson r Values	-.25
	Sig. (2-tailed)	.06
	N	56

* Correlation is significant at the 0.05 alpha level

Research Question 6

Research question 6 asks is there a statistically significant relationship between the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the schools of Mississippi and the administrator's demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size)?

Table 60 shows the relationship which exists between the two variables, years experience and administrators' perception of technology adequacy, was determined by

the Pearson r statistic. This result was derived by correlating the total scores from Part II (Technology Adequacy) and Part III (demographics) of the questionnaire. When analyzing the relationship between the years of experience and the administrators' perception of technology adequacy, a Pearson r of $-.32$ was obtained which is a medium, negative correlation (Table 58). This means that as the years of experience increased, the administrators' perception of technology decreased. Therefore, a statistically significant relationship exists between the years of experience and the administrators' perception toward technology adequacy.

Table 60

Correlation between Years Experience and Administrators' Perception Toward Technology Adequacy in Curriculum and Instruction

Index		Perception toward Technology Adequacy
Years experience	Pearson r Values	$-.32$
	Sig. (2-tailed)	$.01^*$
	N	56

* Correlation is significant at the 0.05 alpha level

Summary

Six research questions were tested in this research study to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions. Based on the research findings and the significance of all statistical tests being at the $.05$ alpha level, public school administrators “agreed” with the technology effectiveness and adequacy in

their curriculum and instruction, but no statistical significance was found between the perceptions and the demographic variables. Statistically significant relationships were found, though, between the years of experience and the administrators' perceptions toward technology adequacy in curriculum and instruction. This relationship is the only significant finding in this study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purposes of this chapter are to summarize the study and to present conclusions and recommendations. The purpose of this study was to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions. Dependent variables included the perceptions of the public school administrators toward technology effectiveness and adequacy. The problem of this study was to assess school administrators' perceptions toward the use of technology to implement curriculum and facilitate instruction, and also examine if principals perceive the use of technology to be effective and adequate in curriculum and instruction.

Data were collected from the questionnaire created by the researcher. The files were analyzed using the SPSS statistical program. Statistics used in analyzing the data were ANOVA, t-tests, and Pearson-R.

Summary of the Study

The research designs used in this study were survey research, causal comparative, and correlational. Gay and Airasian (2003) noted the basic assumption of causal comparative research as beginning with an effect and seeks to find a possible cause. Of

the 70 administrators in the Golden Triangle public schools, 56 were part of the research for this study.

The first question asked what was the perception of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi? Based on the mean score of Part I of the questionnaire (Table 13), the administrators “agreed” that the technology in their schools were being used effectively in the curriculum and instruction of the school. The highest positive perceptions were those of the administrators that felt that technology should be used to present lessons, and the lowest positive perceptions were those of the administrators that thought technology should be used only as a computer literacy tool in the classroom.

The second question asked what was the perception of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi? Based on the mean score of Part II of the questionnaire (Table 17), the administrators “agreed” that the technology in their schools was adequate to carry out the curriculum and instruction of the school. The highest positive perceptions were those of the administrators that felt that they had enough technology to carry out their administrative duties, and the lowest positive perceptions were those of the administrators who thought they did not receive the appropriate technology training in their college courses to implement the amount of technology they have in their school.

The third question asked is there a statistically significant difference in the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the public schools of Mississippi based on the

administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal))?

Based on the analysis of the total group using ANOVA and the t-test, all demographics were investigated. No significant difference was found at the .05 level between the public school administrators' perceptions toward technology effectiveness in curriculum and instruction and their demographic information.

One possibility of not finding a significant difference in the perceptions of the public school administrators toward technology effectiveness and their demographic information may be because the study's population was too small that was included in this study. A larger population (the entire state of Mississippi) may reveal a significant difference between the public schools administrators' perceptions toward technology effectiveness and their demographic information.

The fourth question asked is there a statistically significant difference in the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the public schools of Mississippi based on the administrator's demographic information (e.g., race; age; administrator's years of experience; school location; administrator's educational level; gender; school level (elementary, middle, or high); school size; faculty size and position (principal or assistant principal))?

Based on the analysis of the total group using ANOVA and the t-test, all demographics were investigated. No significant difference was found at the .05 level

between the public school administrators' perceptions toward technology adequacy in curriculum and instruction and their demographic information.

One possibility of not finding a significant difference in the perceptions of the public school administrators toward technology adequacy in curriculum and instruction and their demographic information may be because the study was limited to a certain area of Mississippi (Golden Triangle Area) which includes all Title I schools. The Title I schools do not have enough funds to purchase technology and/or keep the technology current without the small amount of funds given to the schools through the Title I money. A larger population of different states around the United States may reveal a significant difference in the public schools administrators' perceptions toward adequacy in curriculum and instruction and their demographic information because most of Mississippi includes Title I schools.

The fifth question asked whether there is a statistically significant relationship between the perceptions of public school administrators toward technology effectiveness in curriculum and instruction in the schools of Mississippi and the administrator's demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size).

The results of a Pearson r correlation showed no statistically significant relationship was found at the .05 level between the perceptions of the public school administrators toward technology effectiveness in curriculum and instruction and the administrator's demographic information.

The researcher concluded that since no significant relationship was found between the perceptions of the public school administrators toward technology effectiveness in curriculum and instruction and the demographics in this study, then there are possibly other demographic factors that may have a relationship such as school level (Level 1-5).

The sixth question asked is there a statistically significant relationship between the perceptions of public school administrators toward technology adequacy in curriculum and instruction in the schools of Mississippi and the administrator's demographic information (e.g., age; administrator's years of experience; administrator's educational level; school size; and faculty size)?

The results of a Pearson r correlation showed a statistically significant relationship was found at the .05 level between the perceptions of the public school administrators toward technology adequacy in curriculum and instruction and the administrator's years of experience. This result was derived by correlating the total scores from Part II (Technology Adequacy) and Part III (demographics) of the questionnaire. When analyzing the relationships between the years of experience and the administrators' perception of technology adequacy, a Pearson r of $-.32$ was obtained which is a medium, negative correlation. This means that as the years of experience increased, the administrators' perception of technology adequacy decreased.

The administrators were also asked on Questionnaire Item Number 34 to explain the effect adequacy/ inadequacy of technology has on their school. Of the 30 participants that responded to the item, 27% (8) stated that the technology in their schools have a positive effect on student learning and the motivation of the students. This positive effect

is also apparent in the 20% (6) of the administrators that stated that the technology in their schools is effective in terms of the remediation and enrichment of their students. It is also apparent in the 3% (1) of the administrators that stated their teachers were more at ease now with the technology they use because of the district training they have received, and the 10% (3) of the administrators that are pleased with the web-based programs, computers, and SmartBoards that are available in their schools. Only 10% (3) of administrators feel that their schools do not have adequate technology, and 10% (3) of the administrators that feel that their teachers are not trained well enough to incorporate the technology in the classroom which limits student achievement at their schools.

Of the administrators that do have some technology in their schools, 7% (2) report that the technology is out-of-date so it is almost like having no technology at all because it will not run the programs needed for the current curriculum and instruction in the school. To make matters worse, 13% (4) of the administrators stated that the teachers are frustrated waiting on what little technology the schools do have to be repaired by central office which prevents them from using it proficiently. All of these are compelling findings that district office administrators and state administrators can address to improve the effects technology adequacy and inadequacy have on the curriculum and instruction of the public schools of the Golden Triangle Area of Mississippi.

The administrators were asked on Questionnaire Item Number 33 to list their recommendations for strengthening the effectiveness of technology in their schools. The highest percentage of administrators, 34% (15), stated that adequate and continuous training is needed for teachers and administrators to be able to learn how to use the

technology available in the schools and the new technology that is added throughout the year(s). The second highest percentage of administrators, 30% (13), stated that their recommendation to strengthen the effectiveness of technology in their schools is the acquiring of more student computers, SmartBoards, and projection devices for the classrooms which directly relates to the third highest recommendation that was the 13% (6) of administrators that stated that the technology that is already in the schools needs to be updated and kept current to stay ahead of the times. To do this, 5% (2) of the administrators believe that more support is needed from the technology department at the central offices, and 2% (1) believed that the administrators need to be given the ability to hire a fulltime technology facilitator with full rights at the school level to correct any technology problems that may arise during the school day.

Some of the administrators, 5% (2), believed, however, that if the money was just available to them that they could strengthen the technology effectiveness in their schools. This would also solve the problem that 5% (2) of the administrators have which is a small amount of Internet accessible computers, and another 2% (1) of administrators that feel that money is needed to attain student friendly reading and math programs on the computers. Some recommendations, however, do not require money such as the 2% (1) of the administrators that stated that their teachers just needed time to prepare lessons using the technology to have the technology used more effectively in their schools. Another 2% (1) of administrators also stated that their recommendation was that the teachers actually use the technology available to them daily. So, there are many ways to

increase the perceptions of the administrators in the Golden Triangle public schools of Mississippi.

Conclusion

The following conclusions were drawn based upon the findings in this study:

The study indicated that the administrators “agreed” with the technology effectiveness in their school’s curriculum and instruction. The administrators “strongly agreed” on one concept that is one of the most important which is that teachers should use technology in the classroom to present the lesson which can be done if adequate technology is available to the teacher.

It is also concluded that the research findings of this study are supportive of a survey of Administrators’ Perceptions of Computer Usage in Education conducted by Carl and Hoelscher (1984) that found that administrators had a positive perception of the use of computers in the classroom.

The study also indicated that the administrators “agreed” with the technology adequacy in their school’s curriculum and instruction. Technology is adequate in the schools in that it carries out administrative duties, is current, is effectively allocated, is received with adequate training, and is able to be used by the capable teachers in the classrooms. The study also indicated that most schools only have 1-5 computers available in each classroom for students and 1-5 computers available in the school for parents.

It is also concluded that the research findings of this study are supportive of Lyles (2003) who conducted a study entitled *The Perceptions of Elementary Principals and Teachers Toward the Integration of Computer Technology in the Classroom* that found

that 60 to 75 percent of the principals were also found to express strong to mild agreement that there was adequate technology and related materials in the classrooms and schools to advance learning.

The study also indicated that demographic information had no statistically significant difference on the perceptions of public school administrators toward technology effectiveness and adequacy. Other conclusions that were found were such that the administrators in the age range of 28-37 years old (Table 20) reported the highest positive perception as it relates to technology effectiveness and adequacy toward curriculum and instruction with more positive perceptions toward technology effectiveness rather than technology adequacy. Several other demographic variables such as race, years of experience, gender, school size, size of faculty and staff, and administrative position yielded more positive perceptions toward technology effectiveness rather than technology adequacy. Administrators who have 1-5 years of experience (Table 22) reported the highest positive perceptions toward technology effectiveness and adequacy in curriculum and instruction, as well as, female administrators (Table 28) and White/Caucasian (Table 18) administrators.

Administrators of a school size of 900 or more students (Table 32) reported the highest positive perceptions toward technology effectiveness and adequacy in curriculum and instruction along with administrators with a faculty and staff of 79-108 (Table 34). The administrative position of assistant principal (Table 36) also reported the highest positive perceptions toward technology effectiveness and adequacy in curriculum and instruction. However, the demographic variable of school location which is urban (Table

44) reported the highest positive perceptions toward technology effectiveness and adequacy with technology adequacy having more positive perceptions than technology effectiveness. The demographic variable of administrators' educational level reported that administrators with a Specialist degree (Table 26) have the highest perceptions toward technology effectiveness while administrators with a Masters degree (Table 46) have the highest perceptions toward technology adequacy in curriculum and instruction. The demographic variable of school level showed that high school administrators (Table 30) have more positive perceptions toward technology effectiveness while elementary school administrators (Table 50) have more positive perceptions toward technology adequacy in curriculum and instruction.

The study also indicated no statistically significant relationship between the administrators' perceptions toward technology effectiveness in curriculum and instruction and the demographic variables. The study did indicate that a statistically significant medium, negative relationship (Table 58) does exist between the administrators' perceptions toward technology adequacy in curriculum and instruction and the years of experience of the administrator. The perceptions become more negative with the more years of experience that the administrators have in the school system.

Recommendations

The following recommendations are made from the findings in this study:

1. Further research should be conducted on different demographic information such as the school level (Level 1-5) of the administrator's school.

2. Further research should be conducted on a larger population (statewide and nationwide). The schools in this study were all Title I schools. A larger population such as different states around the whole United States will give greater variety of schools.
3. Further qualitative research should be conducted to gain more insight into the administrators' perceptions toward technology effectiveness and adequacy in curriculum and instruction that quantitative research does not allow.
4. Further research should be conducted to compare the perceptions of the administrators with the perceptions of the teachers who actually have to use the technology in curriculum and instruction.

Summary

In conclusion, Chapter V stated the summary, the conclusions, and the recommendations of this study. No statistically significant differences were found in this study, so further research should be conducted to find if other demographic variables or a larger population should be used to try and find a statistically significant difference between the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction.

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APPENDIX A
COVER LETTER TO SUPERINTENDENT

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

October 1, 2008

Dear (Superintendent):

I am a doctoral student at Mississippi State University collecting data for use in a dissertation which addresses the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi.

I have developed a questionnaire to administer to principals and assistant principals to identify their perceptions on technology. This research project is based upon technology research literature. Completing the questionnaire is strictly voluntary, all results are confidential, and completion of the questionnaire can be concluded at any time.

Your district has been chosen for participation in this research project. Would you please allow me to survey your principals and assistant principals? If so, please sign at the bottom of this letter. You will receive a copy for your records.

Your assistance is greatly appreciated. If you have any questions regarding this project, please feel free to call me at (662) 552-0465 or email: wendylynnhubbard1@yahoo.com.

Sincerely,

Wendy Hubbard

Participant's Signature

Date

Principal Investigator's Signature

Date

APPENDIX B
COVER LETTER TO PRINCIPALS

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

November 1, 2008

Dear Sir or Madam:

I am a doctoral student at Mississippi State University collecting data for use in a dissertation which addresses the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi.

I have developed a questionnaire to administer to principals and assistant principals to identify their perceptions on technology. This research project is based upon technology research literature. Completing the questionnaire is strictly voluntary, all results are confidential, and completion of the questionnaire can be concluded at any time.

Your district and school has been chosen for participation in this research project. The district's superintendent has given me permission to ask you to complete my questionnaire; however, the superintendent will not know if you respond or do not respond to the questionnaire. If you would, please complete the attached questionnaire to be picked up in **a week** in the supplied envelopes.

Your assistance is greatly appreciated. If you have any questions regarding this project, please feel free to call me at (662) 552-0465 or email: wendyllynnhubbard1@yahoo.com.

Sincerely,

Wendy Hubbard

APPENDIX C
CONSENT FORM

Informed Consent Statement for Questionnaire Instrument
Mississippi State University
Principal Investigator: Wendy Hubbard

Dear Participant,

Before agreeing to participate in this study, it is important that the proposed procedure be read and understood. The purpose, procedures, benefits, risks, and precautions of the study are described below.

Your signature below indicates your agreement to serve as one of 70 public school administrators who will complete a questionnaire instrument regarding technology. The study will analyze the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions.

Your participation in this study involves the completion of a 35 item questionnaire instrument. There are no right or wrong answers to the questionnaire, and there are no foreseeable risks with this research. You may refuse to answer any question. The questionnaire will require no longer than ten minutes of your time to read the instructions and complete the questionnaire. Your responses and results of this study will be confidential and held in the strictest confidence. Individual responses and schools will not be identifiable in the study.

I would appreciate your voluntary cooperation in completing a questionnaire for this project that I feel is important to the school districts of Mississippi. Should you have any questions about the questionnaires, please feel free to contact me at (662) 552-0465, or email me at wendylynnhubbard1@yahoo.com. In addition, if you have any questions about your rights as a research subject, please contact the Office of Regulatory Compliance at (662) 325-5520.

Participant's Signature

Date

Principal Investigator's Signature

Date

APPENDIX D
ANALYSIS QUESTIONS

Questions to Think About

Please read each question below to analyze the questionnaire and cover letter. Feel free to mark any needed corrections on the questionnaire and cover letter.

1. Is the format easy to follow?
2. Would you be able to mark the answers easily?
3. Can the comments be answered with the given choices?
4. Is the questionnaire too short or too long?
5. Are the comments too crowded?
6. Do the comments relate to the topic of the study?
7. Are the comments clearly stated?
8. Are the comments too wordy?
9. Are the directions clear?
10. Do some comments need to be deleted?
11. Do some comments need to be added?
12. Any comments or changes about the cover letter?
13. Any comments or suggestions:

Thank you for all of your help!

APPENDIX E
QUESTIONNAIRE

The Perceptions of Public School Administrators toward Technology Effectiveness and Adequacy in Curriculum and Instruction in the Golden Triangle Public Schools of Mississippi

The purpose of this study is to determine the perceptions of public school administrators toward technology effectiveness and adequacy in curriculum and instruction in the Golden Triangle Public Schools of Mississippi and the demographic variables that may affect the perceptions.

Please check the appropriate response to each comment below.

Section I: Technology Effectiveness in Curriculum and Instruction

- 1. I think teachers should use technology in the classroom to present the lesson.**
☐Strongly Agree ☐Agree ☐Neutral ☐Disagree ☐Strongly Disagree
- 2. I do not think teachers should use technology as a remedial mechanism when remediation is needed.**
☐Strongly Agree ☐Agree ☐Neutral ☐Disagree ☐Strongly Disagree
- 3. I think technology should be used only as a computer literacy tool in the classroom.**
☐Strongly Agree ☐Agree ☐Neutral ☐Disagree ☐Strongly Disagree
- 4. I think technology should be used to complete complex projects that engage the students in learning.**
☐Strongly Agree ☐Agree ☐Neutral ☐Disagree ☐Strongly Disagree
- 5. I do not think technology use in the classroom must be aligned with the lesson to meet the district and state goals in the curriculum.**
☐Strongly Agree ☐Agree ☐Neutral ☐Disagree ☐Strongly Disagree

- 6. I think I encourage my teachers to effectively use technology in the school curriculum.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 7. I do not think the State of Mississippi curriculum frameworks incorporated enough effective uses of technology to prepare students for the 21st century.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 8. I think more emphasis needs to be placed on the use of technology in my school curriculum.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 9. I think I have created a well prepared technology plan for my school that uses technology effectively.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 10. I think technology is effectively used in my school curriculum and instruction because I am aware of the National and State Technology Standards for School Administrators.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 11. I think the primary purpose for which classroom computers should be used is (check all that apply)**

☐ Presentation of new material ☐ Remediation ☐ Practice

☐ Communication

☐ Enrichment ☐ Testing ☐ Other_____

- 12. I think the primary purpose for which I use computers is (check all that apply)**

☐ Research on the Internet ☐ Graphics ☐ Newsletters

☐ Administrative purposes ☐ Do not use ☐ Other_____

Section II: Technology Adequacy in Curriculum and Instruction

- 13. I think my school has a sufficient number of technologies available to use in classroom instruction.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 14. I think I have adequate technology to complete my administrative duties involving the school's curriculum and instruction issues.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 15. I think the technology available to myself and the teachers is current.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 16. I think any technology grant that my school has received toward purchasing more technology was effectively allocated.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 17. I think my school has an adequate number of computers in the school that are Internet accessible to carry out the curriculum.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 18. I think adequate technical support is received from the school/district technology coordinator in the upkeep of the technology in my school.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 19. I think I received the appropriate technology training in my college courses to implement the amount of technology I have in my school.**

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

- 20. I think sufficient technology training is available to me through the school district to learn how to incorporate technology**

correctly into the curriculum and instruction of my school in relation to the amount of technology I have in my school.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

21. I think my teachers are capable of using the amount of technology available to them in their classrooms.

☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

22. The number of computers available to students for instructional use in the classroom each school day is

☐ 1-5 ☐ 6-10 ☐ 11-20 ☐ more than 20

23. The number of computers available in the school for parents to use to help their child/children with their curriculum is

☐ 1-5 ☐ 6-10 ☐ 11-20 ☐ more than 20

Section III: Demographic Information

24. Number of years I have been in administration

☐ 1-5 ☐ 6-10 ☐ 11-20 ☐ 21-30 ☐ 30+_____

25. My administrative position is

☐ Principal ☐ Assistant Principal

26. My age is _____.

27. My gender is

☐ male ☐ female

28. My school location is

☐ rural ☐ urban

29. The highest educational level I have attained is

☐ Bachelors ☐ Masters ☐ Specialist ☐ Doctorate

30. My school level is

☐Elementary ☐Middle ☐High

31. The number of faculty/staff in my school is ____.

32. My school size is

☐900 or more students ☐600-899 students

☐400-599 students ☐399 or fewer students

33. My race is

☐White/Caucasian ☐African American ☐Other

34. List your recommendations for strengthening the effectiveness of technology in your school.

35. Explain the effect adequacy/inadequacy of technology has on your school.

36. Other comments:

Thank you for your time and consideration!

APPENDIX F

LETTER FROM MISSISSIPPI STATE UNIVERSITY IRB



Mississippi State
UNIVERSITY

October 27, 2008

Wendy Hubbard
1087 Stark Rd Apt. 13F
Starkville, MS 39759

RE: IRB Study #08-084: The Perceptions of Public School Administrators toward Technology Effectiveness and Adequacy in Curriculum and Instruction in the Golden Triangle Public Schools of Mississippi

Dear Ms. Hubbard:

The above referenced project was reviewed and approved via administrative review on 10/24/2008 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. You must use copies of the stamped consent form for obtaining consent from participants.

Please refer to your IRB number (#08-084) 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,

Christine Williams
IRB Compliance Administrator

cc: Dr. Chein Yu

Office for Regulatory Compliance

P. O. Box 6223 • 8A Morgan Street • Mailstop 9563 • Mississippi State, MS 39762 • (662) 325-3294 • FAX (662) 325-8776

APPENDIX G

LETTERS FROM PARTICIPATING SUPERINTENDENTS

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

June 12, 2008

Dear Superintendent:

I am a doctoral student at Mississippi State University collecting data for use in a dissertation which addresses the perceptions of public school administrators on the impact of technology on curriculum and instruction in Mississippi.

I have developed a questionnaire to administer to principals and assistant principals to identify their perceptions on technology. This research project is based upon technology research literature. Completing the questionnaire is strictly voluntary, all results are confidential, and completion of the questionnaire can be concluded at any time.

Your district has been chosen for participation in this research project. Would you please allow me to survey your principals and assistant principals? If so, please sign at the bottom of this letter. You will receive a copy for your records.

Your assistance is greatly appreciated. If you have any questions regarding this project, please feel free to call me at (662) 552-0465 or email: wendyllynnhubbard1@yahoo.com.

Sincerely,

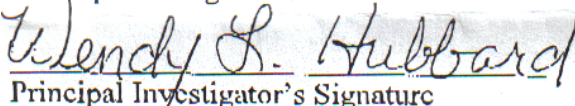
Wendy Hubbard



Participant's Signature

6-17-08

Date



Principal Investigator's Signature

6/12/2008

Date

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

June 16, 2008

Dear Superintendent:

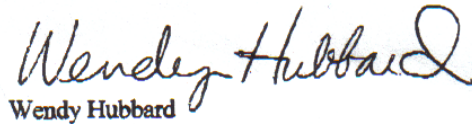
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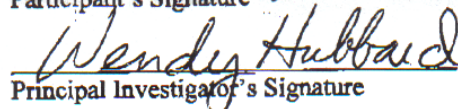
Your assistance is greatly appreciated. If you have any questions regarding this project, please feel free to call me at (662) 552-0465 or email: wendyllynhubbard1@yahoo.com.

Sincerely,


Wendy Hubbard


Participant's Signature

6-17-08
Date


Principal Investigator's Signature

6/16/08
Date

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

36

March 25, 2008

Dear Dr. Phillips:

I am a doctoral student at Mississippi State University collecting data for use in a dissertation which addresses the perceptions of public school administrators on the impact of technology on curriculum and instruction in Mississippi.


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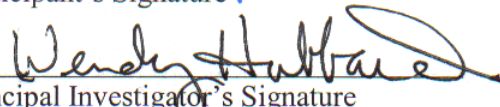
Your assistance is greatly appreciated. If you have any questions regarding this project, please feel free to call me at (662) 552-0465 or email: wendylynnhubbard1@yahoo.com.

Sincerely,

Wendy Hubbard


Participant's Signature

3/27/08
Date


Principal Investigator's Signature

3/25/08
Date

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

June 13, 2008

Dear Superintendent:

I am a doctoral student at Mississippi State University collecting data for use in a dissertation which addresses the perceptions of public school administrators on the impact of technology on curriculum and instruction in Mississippi.

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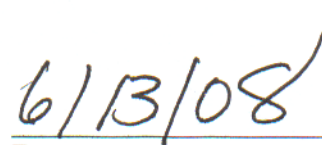
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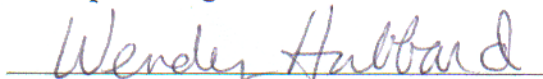
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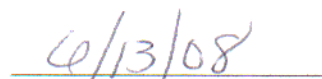
Sincerely,

Wendy Hubbard


Participant's Signature


Date


Principal Investigator's Signature


Date

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

June 12, 2008

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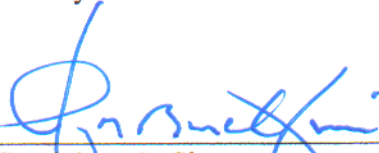
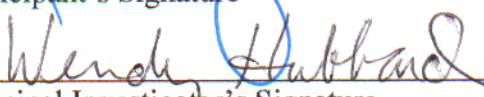
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Sincerely,


Wendy Hubbard


Participant's Signature

Principal Investigator's Signature

JUNE 12, 2008
Date
6/12/08
Date

Wendy Hubbard
1087 Stark Road Apt. 13F
Starkville, MS 39759

June 16, 2008

Dear Superintendent:

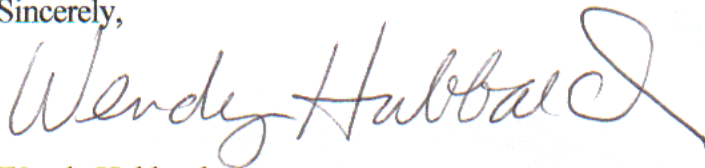
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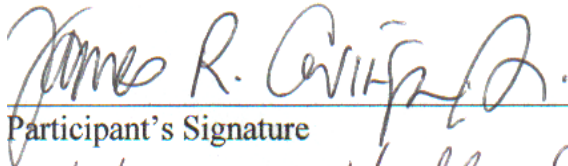
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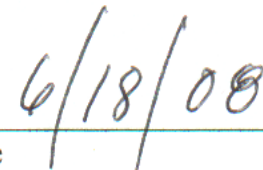
Sincerely,



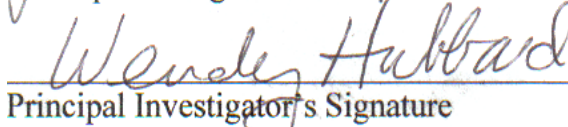
Wendy Hubbard



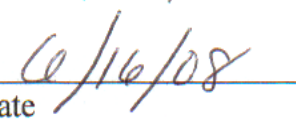
Participant's Signature



Date



Principal Investigator's Signature



Date