PERCEPTIONS OF ADMINISTRATORS ON THE USE OF

DISTANCE EDUCATION IN TEXAS PUBLIC SCHOOLS

A Record of Study

by

RAYMOND BERNARD RABROKER, JR.

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

December 2011

Major Subject: Agricultural Leadership, Education, and Communications

PERCEPTIONS OF ADMINISTRATORS ON THE USE OF

DISTANCE EDUCATION IN TEXAS PUBLIC SCHOOLS

A Record of Study

by

RAYMOND BERNARD RABROKER, JR.

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Approved by:

Co-Chairs of Committee,	Timothy Murphy
	Steven Fraze
Committee Members,	Cynthia Akers
	Gary Briers
Head of Department,	John Elliot

December 2011

Major Subject: Agricultural Leadership, Education, and Communications

ABSTRACT

Perceptions of Administrators on the Use of

Distance Education in Texas Public Schools. (December 2011)

Raymond Bernard Rabroker, Jr., B.S., Texas A&M University;

M.Ed., Tarleton State University

Co-Chairs of Advisory Committee: Dr. Timothy Murphy
Dr. Steven Fraze

The purpose of this study was to determine the perceptions of school administrators about the use of distance education in Texas public schools. A mixed-method research design was used to determine if these administrators' perceptions were barriers to the implementation of distance education. The study included a series of 17 interviews with school principals and superintendents. Based on these interviews, a survey instrument was developed and sent to a larger sample of administrators. The sample population for the survey comprised administrators from three Education Service Centers in Texas. Results of the qualitative interviews and of the quantitative survey indicated that distance education has the potential to provide greater flexibility in offering high quality coursework and activities. However, administrators perceived that they lack control of these programs, and that the number of students who excelled in distance education was limited. Additionally, administrators perceived that distance education courses were not as good as traditional courses while admitting to a lack of knowledge about distance education. Overall, administrators who believed they had the

support of their local school boards were most likely to implement distance education in

their districts.

DEDICATION

This study is a culmination of 12 years of work. As I took my first class towards a mid-management degree, my oldest child was a junior in high school. I ended when my youngest was graduating as a member of the Texas A&M class of 2011. I dedicate my work to my family. I hope that this is an example to you all to keep setting new goals and strive to reach them. I hope this will be an example to you to become life-long learners. There will always be new and great things to grasp of and to understand.

To my wife, Kay: you are the wind beneath my wings. To my family: Shawna Rae, Ray Ben, Audra, Collin, my son-in-law Jared, my daughter-in-law Kendra, my grandchildren Pryce, Colton, Teagan, and Cade, and my future son- and daughter-in-law, and the yet to be born grandchildren, I want you all to know that there is nothing I would not do for you all. To my wife and 4 children, you have always supported me and encouraged me in this goal. All I ever needed was your encouragement. I love you all. I will never be able to give you all the gold I wanted to, so I guess I will have to accept the fact that I hope to have given you the example to never give up and that I gave you, and will continue to give you, all my love.

ACKNOWLEGEMENTS

There are many people who have assisted me and supported me in this endeavor. I have been very fortunate to have had a great number of friends and colleagues who, I am sure by now, are rejoicing as much I am that we have reached the end, but for a different reason than myself.

There are two people that were with me from the beginning and a third person that came in on the last phase to whom I will be forever grateful. To Dr. Murphy, for his patience and guidance, akin to taking a lost high school senior to graduation. To Whitt Weems, who was half of my age, and I am sure to this day has most of the people involved in our cohort were confused as to how we were ever paired up. Ours was truly a symbiotic relationship as we griped, complained, comforted, reminded, collaborated, consoled, and critiqued each other to the completion of this goal. To Ryan Steele, who was my editor and last typist. I could never have completed the final draft without your command of the programs which were used to complete the project. Your and Dr. Murphy's ability to change my colloquial writing into something readable greatly improved my tone and intent. Ryan, you were a true friend. Apologize to your wife for me again. If there is ever anything I can do for you, I will be there.

To the rest of my doctoral committee, Dr. Steven Fraze, Co-chair, and committee members, Dr. Cindy Akers and Dr. Gary Briers, many thanks for your input and guidance on this project. To the many people who were my typists on this project: my typing abilities are non-existent and, as I look back on this project, had I truly known the

extent this challenge would present, I might have decided differently—so, too, might I have the cohort selection committee, who soon found out about my deficiency midway through the first semester. Many thanks to Gracie Frie, Neice Smith, Brandon Childres, Becky Bobo, William "D," Nancy Parker, and Jane Kahlig. Many thanks to the Doc @ Distance faculty who made accommodations for my lack of typing abilities during timed assignments and written compositions.

TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

CHAPTER I

INTRODUCTION

Public education in Texas faces tremendous challenges in the foreseeable future. The budget shortfall for public education is estimated to be $9 billion dollars for the 2011-2012 biennium. Public school enrollment has increased roughly 80,000 students per year, and estimates are that this rate of growth will continue through the next decade (Equity Center, 2010). Compounding these problems, the baby-boom generation is rapidly approaching retirement age, meaning that Texas schools will lose many of their most experienced teachers. Some question whether enough qualified teachers will be available to meet the projected demand (Rodriguez & Gerrow, 2003). There are those who believe that non-traditional methods of instruction, such as distance education (DE), are the only way to meet these looming challenges.

Despite the widely publicized benefits of Distance Education (DE), there appears to be reluctance among educators to embrace this new model. A lack of technology and resources are often cited by opponents (Evans & Nation, 1992; Galusha, 1997), but the opposition to DE appears to go beyond simple economics. What are the factors that limit or prevent further development of DE in Texas? What are the factors that promote or sustain DE development? It is important and necessary to know the perceptions of educational leaders about DE, if it is to become a truly viable alternative to the

_____

This record of study follows the style of the *Journal of Agricultural Education*.

traditional education setting. Without such knowledge, Texas may never be able to establish DE as an acceptable part of the educational system.

The world of DE has changed over the last century (Lewis, 2009). DE has grown from simple correspondence courses, where students in remote areas would use the US Postal Mail to connect with teachers. During the 1980s, satellite television brought teachers and students together in near face-to-face classrooms, only separated by television monitors and fax machines (Williamson, 2009). With the advent of personal computers and the Internet, students and teachers are able to interact in a way that was impossible only 20 years ago (Williamson, 2009). Schools now have the flexibility to provide students with alternatives to the traditional classroom; yet despite these technological advances, DE is still not an integral part of most school systems.

Over the past two decades, distance education has opened a realm of learning that was never possible before. Friedman (2005) studied the evolution of technology. Computers and the Internet have brought the whole world into a single classroom—to a single student—allowing students to compete globally in ways that were impossible before. Technology provides increased access to education for students who might not otherwise be able to access such an education. DE courses are now available to students 24 hours a day, 365 days a year, to anyone with computer access. Concepts once limited to books in distant libraries are now available at the click of a mouse. The paradigm of what students could and could not learn in a given location has shifted, and it is up to the educational leaders of today to develop the means for students to benefit from these innovations.

At the same time, educational theories regarding what and how students learn have shifted (Knowles, 1977). Concepts like self-directed learning, when the student becomes a decision maker in the learning process, are now being applied. While the principles of self-directed learning were developed among adult learning theorists, they have been applied to young learners as well, especially in technology-assisted learning environments. Technology-assisted DE has enabled self-directed learning to occur in ways that traditional teaching could never facilitate. No longer is it necessary for a single teacher to disseminate information to a classroom. Learning in the 21st century is active, perpetually changing, and individualized to the student. DE not only enables self-directed learning to occur, but it also encourages learners to take ownership of what they learn and how they learn.

This newfound liberty in learning both frightens and empowers traditional educators. Educational purists are frightened at the possibility that learning might occur outside the traditional brick-and-mortar school building. Progressive educators see this concept as a way to create lifelong learners who are emboldened to learn more than teachers could ever teach them. In the end, it is how educational leaders perceive distance education that will lead to the future success or failure of distance education. Those educators who are willing to let go of their traditional concept of education, and to truly facilitate learning, want to see distance education expanded, while those who are unwilling or unable to change their perceptions of traditional education, continue to restrict distance education to the fringes, hoping that one day it will simply pass as another fad in education.

Statement of the Problem

While there have been numerous research studies on distance education and faculty perceptions of distance education in adult learning settings (Mupinga, 2005; Lewis, 2009), few studies have been done on the perceptions of educational leaders in the K-12 setting regarding DE. Given the current climate of K-12 education in Texas, further research is necessary to examine why distance education is not more often used in Texas schools. If effective models of distance education are to become more widely utilized, the perceived barriers must be known. Furthermore, it is necessary to address these perceived barriers in order to influence decision-makers who might have authority to make such decisions.

There is a serious shortage of qualified teachers in Texas. According to a University of Texas at Austin feature story (Rodriguez & Gerrow, 2003), one in five instructors in grades 7 through 12 are teaching outside their areas of expertise in English, foreign language, math, social studies, and science. When one further analyzes the available pool of practicing math and science teachers, the percentages raise significantly (Rodriguez & Gerrow, 2003; Scott, 2006; Zinth, 2006; Rangel, 2007; TASB, 2007). This shortage is not a new problem, but one that has been building for quite some time. According to Carl (1984), Houston ISD introduced a program of innovative recruitment and incentives packages in order to attract and retain qualified math and science teachers in the mid-1980s.

The problem has only been exacerbated by the passage of House Bill 1 (HB1) by the 79th Texas Legislature, in the Third Special Session in 2005. This bill has become

commonly known as the "4x4 plan" (TASB, 2007). The key component of the bill was the addition of a math credit and a science credit for students graduating on the Recommended High School Plan (RHSP) and the Distinguished Achievement Plan (DAP). Adding a fourth year of science and math essentially required four years of English/language arts, social studies, math, and science on both the RHSP and the DAP. In 2006, only three other states required 4 credits of science, and only Alabama required 4 years of both math and science. This essentially made Texas graduation requirements the toughest in the nation (Hacker, 2006). The extra math and science requirements in the RHSP and the DAP further intensified the science and math teacher shortage.

For the school year 2007-08, San Antonio school districts needed to hire a total of 406 math and science teachers. The pool of prospective applicants earning their degrees from higher education institutes in the area during this same period totaled 151 (TASB, 2007). To fill the needs of San Antonio schools, applicants would have to come from other areas in the state. At the same time, public schools in West Texas, facing the same shortage of applicants, initiated hiring bonuses in varying amounts (TASB, 2007). This practice forced the school districts into a bidding war for the available pool of teachers, leaving some districts scrambling to put a qualified teacher in the classroom. Mark Stroebel, Assistant Superintendent for the 4,000 student Dumas ISD, recognized that these practices put small, rural districts at a disadvantage. Stroebel said, "…they [smaller school districts] just don't have the money to compete" (Rangel, 2007).

Given these challenges, it is important to examine why more public high schools have not adopted innovative approaches to solving their teacher shortage problems.

While many districts now spend more money on the recruitment and retention of teachers, through bonuses and incentive efforts, few have attempted to address the shortage of qualified teachers in more innovative ways. Patchwork attempts have been made. Some employed technology to connect students to regional service centers, local community colleges, and universities. Other districts bussed students to teachers at central locations. There has been a lack of overall collaboration to use technology and DE between districts to ensure that all schools have qualified teachers. Why have local schools, with their tight budgets, shortages of qualified personnel, and in some instances, great geographical distances from alternative sources of human resources, failed to develop technological and cooperative solutions to these problems? This study will examine administrators' perceptions of the barriers to the adoption of distance education technologies and techniques.

Purpose of the Study

The purpose of this study was to identify the perceptions of administrators that lead to barriers in the adoption and use of distance education technologies and techniques. To accomplish this purpose, the following objectives were developed:

1. Identify administrative perceptions of distance education that lead to administrative barriers in the adoption of distance education

2. Examine the relationships between the perceptions of experienced vs. inexperienced administrators, administrators from large vs. small schools/districts, rural vs. urban, and rich vs. poor schools/districts in Texas public school systems

3. Examine whether differences in perceptions exist between superintendents and principals in the K-12 setting

Research Questions

To accomplish these purposes, the following research questions were addressed:

1. What are the perceptions of K-12 public school administrators pertaining to distance education?

2. What are the perceptions of K-12 public school administrators regarding the barriers to distance education?

3. Are there differences in the perceptions of distance education held by K-12 public school administrators from large vs. school schools/districts, rural vs. urban schools/districts, and rich vs. poor schools/districts?

4. Are there differences in the perceptions of distance education held by K-12 public school administrators between long-time administrators and recently appointed administrators?

5. Are there differences in the perceptions of distance education in the K-12 setting between principals and superintendents?

Significance of the Study

While there have been numerous studies in the post-secondary setting regarding distance education and the perceptions of distance education, far fewer studies have been done in K-12 public school settings. With a student population in Texas growing larger every year, distance education could become a viable option for school districts to meet the needs of their students. It is important to know why more districts do not look to

distance education as an option, and why they do not communicate with each other about distance education. If distance education is to move from a fringe activity to a more mainstream option, then it is important to know what educational leaders perceive about distance education and whether these perceptions are creating barriers to the furtherance of distance education in the K-12 setting.

Assumptions of the Study

The assumptions of the study include:

1. Distance education is used in a limited way in many schools.

2. There is a lack of experience with, and knowledge about, distance education by many school administrators.

3. Distance education has historically been limited by fiscal, physical, and technological restraints; however, these constraints have been somewhat alleviated by the improvements in technology that have reduced costs and lessened the need for dedicated classrooms.

4. Many schools are having trouble finding highly qualified teachers to fill their positions.

Limitations of the Study

The study identified the following limitations prior to conducting the research:

1. Some of the largest urban school districts in Texas were not included in the study due to the inability to reach principals and superintendents within those districts.

2. The observation instrument, a questionnaire, was distributed through electronic mail correspondence. It is possible that a number of intended recipients never received the e-mail due to computer security settings (i.e., spam blockers).

Definition of Terms

The following terms are used in this study:

Distance Education (DE) – Distance education, as defined by Lewis (2009), are "educational programs where there is a separation of the student, instructor, and educational institution with the student having access to the institution's educational resources" (p. 9).

4 x 4 Plan – The 4 x 4 plan is the requirement that all high school graduates who are graduating on the Distinguished Achievement Plan (DAP) or the Recommended High School Plan (RHSP) earn 4 credits of English/language arts, mathematics, science, and social studies respectively (HB 1).

Highly Qualified Teacher – The "highly qualified" teacher comes from the No Child Left Behind (NCLB) Act of 2001. To be highly qualified, a teacher must hold at least a bachelor's degree, have full state certification and must demonstrate competency in the core academic subject area assigned (NCLB, 2002).

Traditionalist – Also known as "brick-and-mortar," a traditionalist believes in the long-established customs in schools that are a result of traditions deemed appropriate by society (Beck, 2009).

SWOT Analysis – Traditionally a business model, SWOT analysis refers to the strengths, weaknesses, opportunities, and threats to a given plan (Panagiotou, 2003).

Education Service Center – Throughout Texas, there are 20 Education Service Centers located by geographic region. The purposes of such centers to: (a) assist school districts in improving student performance in each region of the system, (b) enable school districts to operate more efficiently and economically, and (c) implement initiatives assigned by the legislature or the commissioner (TEC § 8.002, 1997).

Texas Assessment of Knowledge and Skills (TAKS) – The Texas Assessment of Knowledge and Skills (TAKS) is a standardized test used in Texas primary and secondary schools to assess students' attainment of reading, writing, math, science, and social studies skills required under Texas education standards (TEA, 2011).

Organization of the Study

Chapter I presents an overview of the research study. Chapter I emphasizes the need for the study, outlines the purpose, and provides the research questions to be addressed. Chapter II provides a review of the current literature, beginning with the history of distance education, and describing the barriers to distance education in adult learning. Chapter III provides a description of the methods used in the study, beginning with how the respondents were chosen and how the data were collected. Chapter IV contains the findings of the research study from both the qualitative interviews and the quantitative survey portions. Finally, Chapter V provides a summary of the research and offers recommendations and implications for future studies and for professional practice.

CHAPTER II

REVIEW OF LITERATURE

Introduction

A brief review of the current literature regarding distance education is presented here. The chapter begins with a review of the purpose of the study and the research questions that were introduced in Chapter I. Then, an analysis of the conceptual framework used by the author in developing and analyzing this study is provided, followed by history of distance education and the origins of distance education. Next, a review of distance education today, and how technology has transformed distance education over the last 20 years, is presented. Chapter II concludes with a discussion of the future of distance education and of the barriers to its adoption.

Conceptual Framework

The purpose of this study was to identify administrators' perceptions that lead to barriers to the adoption and use of distance education technologies and techniques. To accomplish this purpose, the research was conducted within the conceptual framework of diffusion of innovations. In the early 1900s, a French sociologist Gabriel Tarde plotted the original S-shaped diffusion curve. Tarde's S-shaped curve is still relevant today due to the fact that most innovations exhibit an S-shaped pattern of cumulative adoption over time (Rogers, 1983). See Figure 1.
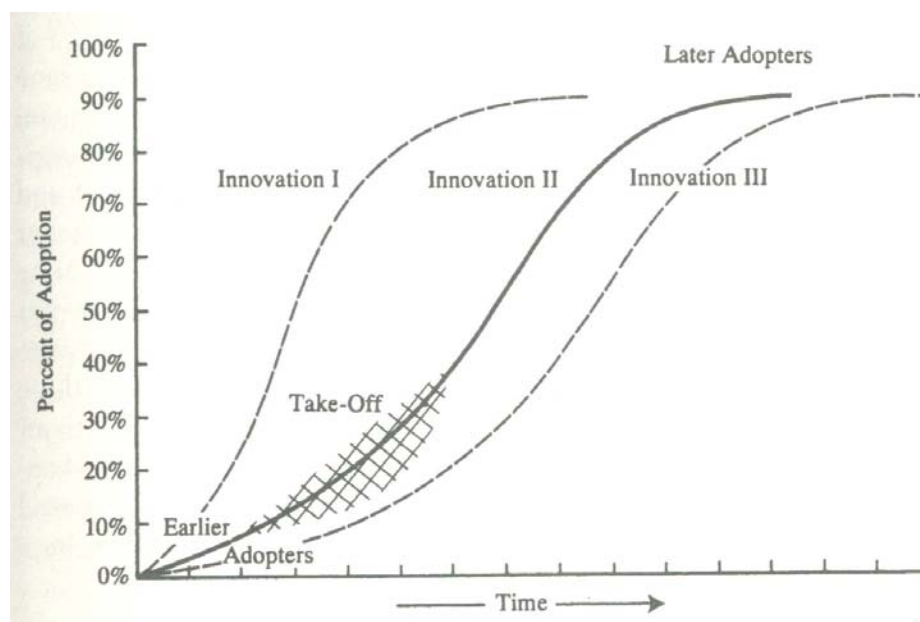
Figure 1: The Diffusion Process (Rogers, 1983)

According to Rogers (1983), "an *innovation* is an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (p. 12). In Rogers' definition, the idea did not necessarily have to be a new idea, only an idea that was perceived as new to the individual or collective group. An example of such innovations might be drawn from the Renaissance period. Though many of the concepts and ideas taught during the Renaissance period had been around since the classical Greek and Roman times, to those Europeans coming out of the Dark Ages, those ideas were new and could be considered innovations. The same could be said for the cyclical nature of education today. There are many current innovations in schools which are simply a revamped version of concepts that were in education 30 to 40 years ago.

Rogers (1983) further explained his concept of the diffusion of innovation. According to Rogers, "*diffusion* is the process by which (1) an *innovation* (2) is *communicated* through certain *channels* (3) over time (4) among the members of a *social system*" (p. 11). Diffusion of innovations has been applied in many different contexts, such as industry, technology, agriculture, medicine, and education. As innovations were created, information is spread through the system by a variety of means, and as knowledge of the innovation increases, more people begin using the innovation.

One example of diffusion of innovation was the spread of Facebook® over the last 5 years. Facebook® was an innovation in social networking that gained popularity in specific colleges. This innovation was communicated through electronic media and spread throughout the Internet. Seeing their peers joining Facebook®, other college students began to sign-up for the service. Over time, the popularity of Facebook® led to the addition of hundreds of millions of users throughout the world.

In this research project, the social system was the public school system. The innovation was distance education, where a student or groups of students were in an alternative physical space, separate from the instructor who is providing the information. Step 2 of the process of dissemination of information about distance education was typically given to other members of the social system, i.e. other schools, through word of mouth or the recognition or observation of successful distance education programs.

Step 3 in the diffusion of innovation was the time it takes for the innovation to be fully integrated into the system. For the purpose of this research, it was the time it has taken for distance education to be utilized to the extent that it is considered a regular part

of the school system. The final element of the diffusion of innovation was the social system, which determined the rate of diffusion. One of the most important aspects of the determining the rate of diffusion were the educational leaders and change agents who will lead the effort to implement the innovation.

According to Rogers (1983), there are five different groups of consumers when adopting new technology. These groups are:

1. Innovators: Innovators are venturesome, daring, and risky. They generally have the financial resources to sustain a possible loss. They are the first to adopt new innovations.

2. Early Adopters: Early adopters are an important part of the social system and usually serve as opinion leaders within that system. They are respected by their peers and are role models to others because of their success.

3. Early Majority: Early majority group members interact frequently with their peers, but seldom are considered opinion leaders. This group encompasses one-third of all consumers, making the early majority the largest category.

4. Late Majority: Late majority consumers are cautious and skeptical of innovation and will generally react to the innovation only after receiving pressure from their peers.

5. Laggards: Laggards are isolated and keep their point of reference in the past. They are suspicious of all innovations and have a lengthy process for making decisions about the implementation of new innovations.

These 5 types of consumers are present in the educational social system. There are innovative educational leaders who push for changes and innovations to the education system, while laggards have a tendency to resist the innovations put forth by these leaders.

Technology has geometrically increased as time has passed, yet distance education is still part of the fringe in education. It is important to determine whether there is a lack of innovators and early adopters which hinders the adoption of distance education, or whether its communication channels are disrupted. The innovation is still present, yet there must be a place in the diffusion of innovations process which poses a barrier to the furtherance of distance education in secondary schools.

History of Distance Education

Distance education is not new to the field of education. The first form of DE was through correspondence courses. According to Michael Jeffries (n.d.), Assistant Director of Education Services of the Indiana Higher Education Telecommunications System (IHETS®), correspondence courses can be traced back to the early 1700s. However, in the 1800s there seemed to be a blossoming of correspondence courses that coincided with the expansion of free mail delivery to rural areas. Bizhan Nasseh (1997) identified several groups or colleges that began correspondence courses. One of these was a society to promote educational opportunities for women in the 1870s. Several others

were the Chautaugua College of Liberal Arts and Yale University, which authorized William Raney Harper to grant degrees to students who completed correspondence studies. The University of Chicago was another institution that began a correspondence program. According to McIsaac and Gunawardena (1996), the University of Chicago tried to produce a major program for correspondence instruction that met with limited success.

These first attempts at distance education were meet with opposition. According to Pittman (1991), correspondence courses offended many educators. These traditionalists regarded correspondence programs as inferior to traditional programs where the students physically attended schools at distant places and met face-to-face with the instructor. In the late 1800s, only people with money or who had benefactors could attend schools of higher education. This was the upper class, or Elitists, way of maintaining the boundaries between the social classes.

However, progress continued in DE with the advent of new media as a medium for instructional delivery. With the arrival of the film industry, instructional films were being developed for the military (Jeffries, 2002), as well as the development of instructional radio programs during World War I (McIsaac & Gunawardena, 1996). According to Nasseh (1997), in the years between 1918 and 1946, the Federal government granted 202 radio broadcasting licenses to colleges, universities, and school boards for the purpose of broadcasting instructional programs. However, during the final years of WWII, radio correspondence courses ceased to draw any new students.

At the completion of World War II, a new interest was developed in the use of
television as a medium for instruction. According to Wright (1991, as cited in Jeffries,
n.d.), the military used the audio-visual television as a successful means to train soldiers.
The demonstrated success of using television to facilitate instruction in the military
could potentially be transferred to the education setting. This created a renewed interest
in distance education as a means to instruct students via the television (Reiser, 1987).
Television and its use as a medium for delivery of instruction for correspondence
courses were better received and utilized than radio as a medium for course material for
distance education. However, distance education by any media was still viewed as
lacking substance and credibility despite efforts of educational leaders in the field
(Wright, 1991, as cited in Jeffries, n.d.).

In the late 1950s, the Ford Foundation funded a grant for Gayle Childs to study
the effectiveness of television as a medium for distance education. At the time Childs
(1973) found little research to corroborate the value and strength of television as a viable
medium in distance education. In fact, Childs concluded that television did not improve
instruction for distance education and did not find a use for television to enhance student
academic achievement levels when in the classroom. Several years later in an interview
with Almenda (1988), Childs concluded that "television is not a method. Television is an
instrument by which instruction can be transmitted from one place to another" (p. 69).

Distance education did not go away with these apparent setbacks. Throughout the
1960s and 1970s, experiments were conducted using a number of alternative distance
education media. According to Nasseh (1997), as America continued to grow and

became increasingly mobile, the need for people to learn new skills continued to increase.

In 1971, Britain's Open University was founded (Open University, 2011). This marked a major turning point in distance education. According to Zigerell (1984), Britain's Open University became the largest and most innovative education organization in the world due to its in-depth research on delivering distance education effectively.

The success of Britain's Open University with distance education was due to its research on distance education and the early pioneers of distance education, such as Gayle Childs of the University of Nebraska and Charles Wedemyer of the University of Wisconsin who were early researchers in the field of distance education (Wright 1991, as cited in Jeffries, n.d.). Their research began to lend credibility to distance education. Thorough research and the success of programs like the Open University have contributed to the growth of distance education in the education system of today.

The United States entered the field of distance education more slowly. According to McIsaac and Gunawardena (1996), the U.S. had a slightly different challenge to overcome. This challenge was geographic. The overall landmass of the U.S. is rural, and to fulfill the states' mandates to offer quality education, to meet the needs of teacher shortages in the areas of math, science, and foreign language, the use of satellite technology was employed. The states of Texas and Oklahoma developed the TI-In Network to beam instruction to rural schools who could not afford these teachers.

The widespread adoption of personal computers has played a major role in the advancement of distance education. Through the use of asynchronous technologies, like electronic mail (e-mail), a student can download and view an instructor's lecture on-line on their own time schedule. Students can also receive assignments and tests and completed these in a specified time frame and send their work back to the instructor. Asynchronous technology is the modern form of correspondence courses.

The use of synchronous technologies in distance education comes in two forms. The first is the use of videoconferencing. Videoconferencing allows two or more groups to be linked together. Participants have the ability to see each other and to speak to each other in real time. In a classroom setting, one or more large monitors allow the participants to see each other. In this way the lecture, discussion, or transfer of information is done at a prescribed time. Dedicated videoconferencing systems are now being replaced by web conferencing, making use of the more powerful personal computers and broadband connections that are available today. Web conferencing can support multiple sites with both video and audio, but in classroom settings, there is often less focus on video, and a greater focus on audio feedback to the instructor, an instant messaging style of communication can occur.

The evolution of distance education through the use of technology has increased. According to McIsaac and Gunawardena (1996), the population has doubled to over 5 billion people in the developing and third world countries. These countries, struggling with limited funding and unreliable infrastructure, still need to educate their populations to have a literate population in order to compete in the global market. Pakistan, India,

and China currently use a system based on Britain's Open University model, and have combined modern technology to provide low cost instruction to millions of people. According to Demiray and McIsaac (1993), the country of Turkey has enrolled more than one million students and possesses the sixth largest distance education program in the world.

There are numerous examples of successful distance learning programs in Texas, the United States, and around the globe. An example of the potential of a program of this type is the success Doctor @ a Distance joint doctoral program between Texas A&M University and Texas Tech University. This program, launched in 2000, uses technologically-mediated courses delivered through exiting telecommunication lines to connect instructors at both universities with a number of students at different sites. There are similar types of programs in the United Kingdom and Australia. The Australian program is especially unique in that their challenges are similar to ones that can be observed in various areas of West Texas, where there are relatively remote schools, and less than adequate numbers of highly qualified personnel (Evans & Nations, 1992).

According to Rice (2006), a majority of the studies in distance education (DE) involved post-secondary courses, where a majority of the students examined were adults. Rice reported that research on high school students enrolled in distance education was scarce, and research on elementary students enrolled in distance education environments was extremely rare. Therefore, research about distance education in the K-12 setting in this study has been supplemented with similar studies in post-secondary settings.

A study on DE in elementary and secondary education settings was conducted by Evans and Nations (1992) and focused on the barriers of implementing DE in K-12 schools. Evans and Nations found the barriers were the same for both elementary and secondary schools. The first barrier to the use of DE was adequate funding. A lack of funding translated into a lack of proper equipment to implement DE, and a lack of physical facilities in which to house DE. Evans and Nations performed their study in East Gippsland in southern Australia. Teachers in the study described their DE lab as a converted broom cupboard. The Australian teachers also cited poor auditory quality of the DE, poor reliability of receiving a signal, and poor connections via telephone as barriers to implementation. Evans and Nations noted that schools in Australia, as well as the United states, considered the cost of installing a system prohibitive.

The operational, or ongoing costs of maintaining, using, and upgrading technology to support distance learning make distance learning cost prohibitive (Galusha, 1997). As technology continues to improve, more money to improve software and hardware will be required. These future costs can only be estimated, and are a real concern in school budgets given the uncertainty of receiving revenues. Connectivity costs, although dramatically lower than in the past, add to the overall budget.

Funding the technology and network connectivity are not the only, or even the greatest, source of concern for school administrators, monetary incentives for teachers can greatly increase the cost of a distance education program (Maguire, 2005). An instructor who takes on the challenge of distance education will expect compensation for the extra duties. A distance learning course requires a great amount of upfront

preparation time in designing the course. In a study addressing incentives for faculty to participate in DE courses, the lack of monetary incentives was one of the primary barriers to participation in distance education, as were a lack of professional development, technical support, and adequate resources to develop the classes (Murphrey & Dooley, 2000). Other considerations identified in the literature include the extra planning and preparation required to stay ahead of the instruction given the student (Galusha, 1997). Teachers in Australia noted that at least twice as much time is needed for lesson development in distance education environments, or failure would be much more likely (Evans & Nations, 1992).

A separate study by Wolcott (2003) yielded similar results. According to Wolcott, participation by teachers in DE did not change their salaries, despite the fact that the teacher workload was higher than teaching traditional courses. Wolcott further noted that a lack of incentives was the greatest deterrent to faculty members who might otherwise participate in DE because they saw no value in increasing their workload without seeing an increase in their reward. The lack of teachers able and willing to teach DE courses continues to be a barrier to the adoption of DE.

In addition to finding a teacher willing to teach DE, there is the additional problem of funding two people for each class. A DE learning course in a Texas public school, where the instructor is teaching from a remote site, will require an onsite facilitator. This local site facilitator is expected to proctor exams, assist students, maintain discipline, and provide limited technical support. Funding a person to perform these functions adds to the costs associated with DE in high schools.

Maguire (2005) identified another barrier: a lack of course quality. In general Maguire found a lack of respect for the quality of DE courses among teachers. Respondents surveyed by Maguire (2005) were the general population of teachers at a site, and a vast majority of these respondents had no experience with DE. In another study (Berge & Mrozowski, 1999), the respondents felt that computer applications in the courses were overblown video games meant to entertain rather than educate. The vast majority of these people obtained their education in a traditional setting, i.e. instruction provided in person, day after day, where teachers share information with students. Consequently, the great majority of current teachers have experienced only the traditional setting, and they have a hard time accepting the notion that a DE course might have the same academic rigor as a traditional course (Galusha, 1997). DE courses must be well thought out, and prepared in advance, to overcome this perception.

Maguire (2005) found that some people believed distance education was inappropriate for traditional age students. Traditionalists believe that a brick and mortar building, with an instructor at the head of the class who dictates the moment-by-moment actions and activities of the class, is the way education should be. They believe that the loss of student interaction with the instructor and their peers lessens the learning experience. Traditionalists also feel that teacher-centered instruction, rather than learner-centered instruction, is the experience the students should receive (Galusha, 1997). Traditionalists are concerned that in DE, the instructor loses control over the students. The students, possibly hundreds or thousands of miles away, will be in control of the setting of the classroom, the mood of the class, and their own schedule. In DE

environments, the student decides if and when he or she will participate, and to what extent. One of the biggest fears of many instructors was a loss of control over classroom discipline. If an instructor was not present in the room, they lose the ability to monitor the situation and provide immediate feedback. Feedback to the unruly or uninterested student will be delayed. Even if a facilitator was present in the room, those facilitators tend to be auxiliary personnel, and lack the training necessary to maintain proper discipline. These concerns are often exacerbated by the fact that there will be different maturity levels of students in the room that are not necessarily associated with chronological age.

Another example of the traditionalists' view of DE classes is the commonly held belief that students in DE courses will not do as well on assessment instruments as on-site students, due to the lack of interaction with other students and the instructor (Galusha, 1997). Many traditional teachers believe that face-to-face interaction with students wasa necessary part of the learning process. The traditional, face-to-face, exchange among students, and between students and teachers, was seen as impossible for DE students.

Additional barriers to DE included social, cultural, and school community communication. The separation between teacher and student reportedly removes the vital link between the two parties, as well as knowledge of the everyday happenings of the on-campus learning experience (Galusha, 1997; Maguire, 2005). An inability to communicate and develop relationships between the teacher and the students, and the teacher and the parents, can have dramatic effects on the success of students.

Schools—high schools in particular—have their own distinct ways of doing things. Some schools might be into sports while others emphasize activities other than athletics. There will be highs and lows in overall school spirit and individual curriculums are usually matched to meet the individual school needs. This failure to align with the school culture is reflected in professional development days for the instructors, and exam schedules. Schools are different in their disciplinary ideologies, level of parental participation, and their thoughts on how instruction ought to be delivered. Schools also employ very different school calendars. Being independent schools systems, all schools do not take the same vacation days, or even start or stop at the same time. Even the individual timetables of changing classes, lunch times, or even bus routes, all add to the difficulty of synchronizing uniform start and ending time for DE classes.

A student's own emotional and psychological well-being can also limit the effectiveness of a DE course (Blum, 2005). In a DE course, a student, or a group of students, might feel alienated and isolated. Most students want to be part of the larger school community, to find out what is happening. For most students, this is an important part of their socialization. Feelings of isolation cans also come about through the lack of immediate feedback that the instructor in the classroom normally provides. Competent on-site instructors are able to answer questions, extend the lesson, and facilitate student learning. Without a teacher being present, the students tend to feel like they are alone in trying to complete the class.

Other barriers were identified by university level instructors. One of the main concerns cited by instructors was a lack of job security (Galusha, 1997; Maguire, 2005).

If DE instruction became a widely accepted and successful alternative to on-site instruction, one instructor could teach and interact with thousands students. This teacher/student ratio would greatly reduce the current number of teachers needed. If students were able to take classes at remote sites, some class sessions may not fill or have small numbers. This would lead to the obvious question of whether or not the teacher's position wass needed. In a study completed by Murphrey and Dooley (2000), the respondents felt that there could be a long-term threat not only to themselves but to the university as well since the students could go anywhere to obtain their credits.

Instructors also cited the lack of recognition by administration and peers as a barrier to teaching a distance learning course. The lack of recognition may be related to the lack of understanding of the rigor of the class. The instructors feared that this lack of recognition might hinder their careers, including being unable to earn tenure, and the money that goes with this advancement (Maguire, 2005).

According to Murphrey and Dooley (2000) instructors, while often reluctant to admit it, were fearful of technology. Highly experienced instructors were accustomed to books, chalkboards, paper handouts, and lectures. Distance learning courses, often use these same methods of teaching, but the tools used to present the material are different, and foreign to them. Instructors were also resistant to changing their teaching style (Galusha, 1997). DE courses required teachers to change the way they mentor students, how they tutor students at long distance, and how they facilitated learning. Instructors were concerned that increased focus on the delivery, reduced focus on the content in the

class, thus lowering class quality. Students were often distracted from learning by the technology of teaching (Murphrey & Dooley, 2000).

There are numerous examples of successful distance learning programs in Texas, the United States, and around the globe. The Doc @ a Distance joint doctoral program between Texas A&M University and Texas Tech University illustrates the potential of these programs (Martin, 2007). This program utilizes electronic mediated courses through existing telecommunication lines where instructors at both universities teach a number of students at different sites. There are similar types of programs in the United Kingdom and Australia. The Australian program is especially unique in that their challenges were similar to ones observed in various areas of West Texas, with remote schools and less than adequate numbers of highly qualified personnel.

In summary, previous research into the questions of distance learning has revealed some of these barriers. The primary barriers cited were those related to funding, proper equipment, physical, and plant facilities (Evans & Nation, 1992; Galusha, 1997). In a study completed by Evans and Nation (1992) in East Grippsland, South Australia, the lack of adequate funding presented a major challenge. This challenge was also cited by Galusha (1997) in American schools.

Another barrier identified was course quality (Galusha, 1997; Berge & Morzowski, 1999; Maguire, 2005). Researchers have found that teacher's perceptions to those that use computer applications, or the use of computers in education, amounted to overblown video games (Berge & Morzowski, 1999). Others have found that distance learning courses would not have the same academic rigor as a traditional course

(Galusha, 1997). Other respondents believed that when comparing traditional vs. non-traditional courses, traditional was the best way to educate students, especially when considering the age of the students (Maguire, 2005).

Other concerns revolve around the business of instruction, and not the instruction of students (Galusha, 1997; Maguire, 2005). These concerns included job security, lack of job recognition, and lack of job recognition in the form of tenure and salary increases. Other barriers that will be examined are disciplinary, social, psychological, cultural, and age appropriateness.

The Future of the Adoption of Distance Education

Distance education continues to evolve as technology evolves. Despite great advances in technology, school districts seem reluctant to utilize distance education as a means to provide quality instruction to their students. The realization that distance education has even greater potential with the continued advancement in technology leads to the following questions:

- Why are schools reluctant to adopt distance education if there is a possibility that distance education can provide a cheaper, more flexible option for schools to provide high-quality education for students?

- Is distance education ever going to be accepted as a mainstream vehicle to instruct high school students, or will it remain a novelty to educators?

- Are there any perceived barriers that hinder the communication channels leading to greater acceptance of distance education?

- Has there been enough time for the innovation of distance education to be accepted by educators, or has there been too much time, causing educators to perceive that distance education will never be an innovation worth accepting?

- Has the social system of education—with its preconceived notions and biases—become the barrier that has hindered the widespread acceptance of distance education?

CHAPTER III

METHODOLOGY

Introduction

This chapter begins with an explanation of the rationale for using a mixed-method model. From there, the qualitative interview process is explained as part of the mixed-method research technique. Next, an explanation of how the data were collected using qualitative interviews and a quantitative questionnaire is provided. How the data were recorded, sorted into usable information, and analyzed follows. Finally, the processes followed to ensure the trustworthiness, transferability, or validity and reliability of data are discussed.

The researcher employed a mixed method research technique. This technique employed both quantitative and qualitative research methods. The model used in this study was based on a mixed-methods technique described by Gay and Airasian (2003) as the Qual-Quan Model. In this method of research, a qualitative research technique is used first. The authors described this as exploratory research methodology in which observations and open-ended interviews with individuals were conducted to identify concepts or potential hypotheses. The second phase in this model was to identify themes, and develop variables and constructs that emerged from the qualitative analysis. The authors of the book recommended caution in the use of mixed-method research, in that the researcher needed to be skilled in both qualitative and quantitative research. The researcher also needed to be prepared for the additional time and resources required, and that these studies often exhibited a lack of quality. The authors found that in recent years

there has been an increased use of the mixed-method techniques, especially in

educational research, and that the use of mixed method designs can enable researchers to

investigate the subject more fully.

While a mixed method technique is not widely used, and is often discouraged

(Fraenkel & Wallen, 2006; Dillman, 2007), this researcher felt that it was appropriate for

this study. In a preliminary review of research, administrative barriers to the use of DE

lacked sufficient analysis. In addition, technology in any field changes very rapidly, and

many perceived challenges or barriers, widely held several years ago, may no longer be

valid. The qualitative method in the mixed method technique was utilized to get the most

current perceptions of individual administrators about the perceived barriers of DE, and

allowed the researcher to identify the perceived potential barriers most often cited by

multiple administrators to the adoption of DE. Furthermore, the qualitative information

gathered in this study allowed the researcher to focus the survey instrument into a

manageable form for respondents (Dillman, 2007*).*

Qualitative Research

The qualitative piece of this research employed a convenience sampling method

(Gay &,Airasian, 2003; Fraenkel & Wallen, 2006). The researcher preferred to

characterize it as a purposive sample. All respondents were known to the researcher

prior to the interviews, and there was a degree of familiarity between the interviewer and

the interviewees. This prior knowledge and familiarity improved the communication

between research and subject, resulting in higher quality responses to the core questions

in a more timely fashion. In addition, an assumption was made that the purposive sample

of selected administrators in Texas represented a fluid group, with experiences from wide geographic areas, as well as serving in schools of various sizes. The current and former assignments of the interviewees included administrative duties in schools ranging in size from schools which span only Kindergarten to eighth grade (K-8) to school districts classified as 5A. All members of the purposive sample held a Master's degree in education administration, and most held superintendent certificates.

The Interview Process

IRB approval was requested and approved for the qualitative research used in this study. Due to the nature of mixed-method research, further IRB approval was required after the researcher developed the survey instrument used in the quantitative portion of the research. The second request, an amendment to the original approval, included the survey instrument developed from the summarized SWOT analysis (Panagiotou, 2003) done during the interview process. By using the interviews and analysis, the researcher was able to develop a more precise and detailed questionnaire for the ultimate purpose of the study. Prior to the dissemination of the survey instrument, IRB approval of the study as amended was granted.

The interview process served as the primary data collection instrument for the qualitative piece of this mixed-method study. A recruitment script (See **Appendix A**) was developed to be used when recruiting potential interviewees in order gain their verbal consent and set up an appointment for the interview. Prior to the interview, all respondents were given a brief written consent form (See **Appendix B**) to read and sign in order to participate in the interview. A total of 17 interviews were conducted. Five of

those selected for interviews were practicing superintendents, and 12 were practicing

principals. In addition written field notes done by the researcher, interviews were

recorded with permission from the subject. Respondents were informed of their part in

the researcher's study, and how their responses would be summarized into a quantitative

survey given to a much larger sample population. In addition, the respondents were

informed that their responses would be kept anonymous, coded with a respondent code

of A1, A2, A3, and A4, etc. The respondents were also informed of their probable

inclusion in the questionnaire that was part of the quantitative piece in the mixed method

research to be conducted.

The questions used in the structured-interview data gathering guide (See

Appendix C) were developed by the researcher. The researcher used his own personal

experience, as well as information gathered from the literature review, to create

questions for the interview process. After the data gathering was assembled, two fellow

colleagues were asked to review, critique, and add or delete questions contained in the

data guide. The series of questions at the start of the interview allowed the researcher to

establish the respondent's experience in education, and the degree to which the

respondent had used technology. Following the introductory questions, a series of

questions were asked to elicit administrator knowledge of DE as it pertains to the use of

DE in secondary schools. Based on the responses in the interview, a more open-ended

interview emerged with additional questions that were outside the data gathering guide.

Respondents were given the opportunity to go back over their responses to allow for

additional comments and questions. During this debriefing period, the interviewer shared

his findings from the review of literature, as well as the anonymous responses from previous interviews, in an effort to surface additional comments. The last inquiry that the researcher explored with the interviewee was specifically why he/she though that DE technologies and techniques were not used more in addressing the teacher shortage and the fulfillment of the 4 x 4 mandates.

Qualitative Data Analysis

Data were recorded into categories of positive comments (strengths and opportunity) and negative comments (weaknesses and threats). The SWOT analysis technique originated at the Harvard Business School as a way to analyze case studies (Panagiotou, 2003). It was designed to evaluate the strengths, weaknesses, opportunities, and threats of a business project. Even though a SWOT analysis is a technique generally used in the business world, this type of analysis was applicable to the examination of distance education programs because the analysis of distance education programs should attempt to analyze factors such as cost-benefit of implementing distance education versus a traditional education program. All comments were placed in categories accompanied with the appropriate respondent code (A1, A2, A3, A4, etc.). The data were then further stratified in the SWOT analysis categories in an effort to see which responses were virtually the same. Responses that could be recorded in similar categories were important because the questions used in the survey instrument and in the quantitative analysis were based on the categories created through the SWOT analysis. The SWOT method identified the attributes that were helpful in achieving the goals of the project and identified the attributes that were harmful to achieving the goals of the

project. In addition, this method identified the external conditions that were potentially

helpful as well as harmful to achieving the goals of the project (Panagiotou, 2003).

In order to increase the likelihood that correct conclusions were drawn from the

data gathered, the researchers used methods to increase the trustworthiness of the study

(Frankel and Wallen, 2006). According to Lincoln and Guba, 1985), the aim of

trustworthiness is to support the argument that the study's findings are "worth paying

attention to" (p. 290). There are several tenets of trustworthiness which must be

addressed. These tenets include credibility, transferability, dependability, and

confirmability. Credibility is an assessment as to whether or not the findings drawn by

the researcher represent a "credible" explanation of the participants' original data

(Lincoln & Guba, 1985, p. 296). Transferability is the extent to which the findings of the

study can be applied or transferred to situations beyond the scope of the study.

Dependability is an estimation of the quality of the procedures used by the researcher

during data collection, analysis, and theory generation. Finally, confirmability is the

evaluation of how well the study's findings are substantiated by the data collected.

Several methods were used to ensure the trustworthiness of the findings. These

methods were recommended by Lincoln and Guba (1985) as a way to diminish bias of

the researcher. The first method was peer debriefing. Peer debriefing "is a process of

exposing oneself to a disinterested peer in a manner paralleling an analytical sessions

and for the purpose of exploring aspects of the inquiry that might otherwise remain only

implicit within the inquirer's mind" (Lincoln & Guba, 1985, p. 308). Peer debriefing

helps the researcher discover unknown biases and assumptions when analyzing data. It

also enables the researcher to become aware of his position toward the data analysis. For the purpose of this research, two fellow administrators were asked to peer debrief the documents and field notes. Both administrators possessed knowledge of DE and were actively writing a grant proposal to establish an early middle college that would have been served through distance learning. An early middle college is a high school which provides students the opportunity to earn college credits while taking classes on their high school campus (Ozark Technical Community College, 2007).

Another method used to ensure the trustworthiness of the research was the use of member-checking. A member-check, as described by Yanow and Schwartz-Shea (2006), is used by researchers to help improve the credibility, transferability, and accuracy of a qualitative study. Member-check methods call for the researcher to restate and summarize the answer to his questions in order for respondents to critically analyze their answers. It helps remove the biases of the researcher by allowing participants to comment on the researcher's analysis. As part of the study, the researcher regularly reviewed the field notes with the participants to ensure that researcher accurately described the feelings and intents of the interviewees.

Another technique associated with member-checking called for the researcher to share the experiences of others to see if the respondent has had the same type of feelings about a given question. This technique is called triangulation and is used to increase the trustworthiness of the analysis. Triangulation is defined as a "method of cross-checking data from multiple sources to search for irregularities in the research data" (O'Donoghue & Punch, 2003, p. 78). During this study, triangulation was employed with the sharing of

previous literature review as well as responses of previous interviewees that remained

anonymous and were referred to with appropriate respondent code such as A1, A2, A3,

A4, etc. The interviewees were allowed and encouraged to make additional comments

which were coded and entered into the field notes. The interview process continued until

the research began to receive the same response to a question or a group of questions and

recognized that the saturation point had been reached and very few new responses were

being recorded (Siegle, 2002).

In order to increase the dependability and confirmability of the analysis, a

competent peer was used to provide further analysis of the research methods. This

method follows the advice of Lincoln and Guba (1985) who suggested using and

independent audit by an expert in the field to confirm the appropriateness of the methods

used and the analysis completed. During this study, Dr. Timothy H. Murphy, professor

and associate head of graduate programs at the Department of Agricultural Leadership,

Education, and Communications at Texas A&M University—who also served as the

committee co-chair for this record of study—was used as the expert in the field.

To strengthen the transferability of the study, the researcher kept all field notes

and tape recordings of the interviews for the purpose of developing a paper trail for the

researcher and/or other researchers who might wish to conduct further analysis. These

documents were kept at a secure location at the researcher's place of residence.

However, a fire at the researcher's place of residence destroyed all field notes and tape

recordings of the interviews. Fortunately, the recorded interviews had been transcribed,

and the field notes had been summarized, analyzed, and categorized prior to the
destruction of all the qualitative data."

The Survey Process

The researcher surveyed high school principals and superintendents in three
Educational Service Center (ESC) regions in Texas. These three regions were Regions
12, 13, and 15. The three regions were chosen because they were accessible to the
researcher (Fraenkel & Wallen, 2006) and achieved a blend of urban and rural schools
with student populations from A (50-100) to 5A (20,000+) desired by the researcher. In
addition, these three regions allowed for a sampling of property-rich districts as well as
property-poor districts and were in close proximity to several large universities and
numerous community colleges. This alleviated some of the potential lack of professional
development opportunities or access to observe working distance education (DE) labs in
a college setting for the sample population.

The selection of sample for the survey contained numerous criteria. These
criteria followed the second objective of the study which was to identify any differences
in the perceptions of DE from administrators who were experienced versus
inexperienced, worked in rural versus urban districts, worked in large versus small
districts, and worked for rich verses poor school districts. Education Service Centers
(ESCs) from Region 12, Region 13, and Region 15 were chosen because of their close fit
to the criteria desired. ESC Region 15 is largely rural and property poor and is located in
the western part of Texas. ESC Region 13 is located in the Austin area, which is
considered a large urban area with pockets of affluent communities and a number of

Chapter 41 districts. ESC Region 12 is located in Central Texas and consists of a great number of medium-sized to small-sized districts (3A to K-8) and varying degrees of wealth. ESC Regions 12 and 15 contained a large number of small districts, which generally supported a larger number of less experienced administrators in entry level administrative positions. ESC Regions 12 and 13 also contained a large number of community colleges, mid-sized universities, as well as several large major universities. These post-secondary schools are important to this study in that they alleviate some of the pressures on schools by providing on-site access (brick and mortar buildings) for dual credit courses for high school students. Without these institutions, school districts would face additional pressure to provide the necessary access needed to employ distance education.

The decision to survey a target population of high school principals and superintendents was multifaceted. There was a desire to obtain the perceptions of those who were responsible for making decisions regarding money and from those who were responsible for making all program decisions. In the larger school districts, the campus-level principal often makes both of these decisions with superintendent oversight. In the medium and smaller sized districts, the superintendent often controls appropriations, and the principal generally has program control. The grouping follows closely with what Frankel & Wallen (2006) identify as a target population, where a specific, well-defined group serves as the focus of the study.

Quantitative Sampling

Several different methods were employed to get the most complete list of respondents from the respected ESC regions. One of the methods was to obtain the most current ESC Region directory, which provided the name, phone number, and email address of each possible respondent. Another tactic used was to look up the school websites to verify the names of the principals and superintendents listed in the directories. The school websites were not only used to verify the names of the target population, but to obtain their individual school email address, since this was the avenue used to link the potential respondent to the chosen survey instrument.

While following this predetermined plan to obtain names and school email addresses, an interesting challenge was presented. The larger the school size, as determined by student population, the less access there was to the individual email addresses. To remedy this challenge, it was necessary to contact each school by phone to find the needed email address. The remedy met with some success, as some email addresses were obtained while others remained elusive.

Through the various techniques used to obtain the target population's names and email addresses, it was determined that the total potential target population in ESC 12, 13, and 15 was 329 principals and superintendents. Individually, there were 119 possible respondents in Region 12, 125 possible respondents in Region 13, and 85 possible respondents in Region 15. Out of the possible 329 respondents, the list was reduced to for the following reasons:

- Austin ISD has its own IRB process that is approved by the school board once a year. Therefore, Austin ISD was not included in the survey.

- The 17 people interviewed were also excluded from responding to the survey.

- Administrators working in the home district of the researcher were also excluded.

In addition, no charter schools or alternative education schools were included in the sampling due to the differences in funding methods, as well as student populations. Furthermore, the possible respondents from large districts, where individual email addresses were not available, were excluded. Finally, all vacant positions in the various districts and campuses were excluded. In the end, 261 potential respondents were eligible to respond to the survey. In order to increase the validity of the survey, the researcher established a minimum response rate of at least 30% of the potential respondents to be confident that the response to the survey represented a true sampling of the regions and districts.

Instrument

The questionnaire was delivered via email. The survey instrument was created using Survey Monkey®. This economical service adequately met the needs of the research project. One attribute of Survey Monkey® was that it allowed the input of a list of all potential, viable email addresses. This service also had the capability to identify non-respondents, and to produce a new list containing all the non-respondents for additional data collection efforts. The program was able to continue resending the survey at the researchers desired interval until the response period had ended. The program also

captured the completed responses in an anonymous manner, and continued to add responses until the aforementioned response period was over. The questionnaire was designed to allow respondents to skip any unwanted questions and still complete the survey.

Development

The development of the survey instrument began with the interview process described earlier in the methods section as part of the qualitative piece in this mixed-methods research project. As interviews were being conducted, responses were categorized as strengths, weaknesses, opportunities, and threats using the SWOT process (Panagiotou, 2003). As responses were coded, major themes and trends began to materialize. Through the multiple interviews, these themes reached a saturation point which allowed the researcher to begin the development of the survey instrument.

There were 70 different identified themes coded through the interview process. The number of themes identified varied by the individual respondents. While some of the themes may have been identified in only one of the interviews, other themes were identified by all 17 interviewees. The decision was made to quantitatively explore themes on the survey instruments that were identified during at least 7 of the 17 interviews. This decision allowed the survey instrument to focus on the 25 themes so identified. This method was used in an effort to reduce the length of the questionnaire, and lessen the effect of what Frankel and Wallen (2006) called observer bias—where certain characteristics or ideas of the observer may bias what the observer sees.

From these 25 themes, identified in at least 7 of the 17 interviews, 71 possible questions emerged to be used on the survey instrument. Each of the questions was grouped into one of nine major constructs. The constructs were:

1. Programmatic Considerations

2. Value Considerations

3. Quality of Instruction

4. Ability to establish an instructional Setting with Students

5. Institutional Control

6. Appropriate Topics

7. Campus Culture and Climate

8. Appropriate Students

9. Adoption rate and Knowledge of Distance Education

Additionally, a demographic section was added to gather information about the person responding to the questionnaire. Each respondent was allowed to self-identify as experienced or inexperienced, rural or urban, large school or small school, and rich or poor school district. The demographic section was necessary due to the anonymous nature of the survey, and served as the independent variables during analysis.

At this point, with the aid of several peers as well as guidance from the committee chair, the researcher reviewed the possible questions and was able to eliminate redundant or ambiguous questions. This reduced the number of questions from 71 to 57. This action was taken to help ensure a concise survey, designed to get the

specific information desired in a succinct manner so as to not tire out the respondents, which could potentially cause the respondents to choose to opt out of the survey.

The questions were arranged in what Dillman (2007) described as criteria for ordering questions. Questions were grouped in constructs like a conversation (Schwarz, 1996). In addition, the more difficult or potentially objectionable questions were placed at the end of each construct (Dillman, 2007). The demographic section was placed at the end of the survey to help ensure that the respondents would not lose interest in the survey by wondering about the relevance of these questions to a survey on distance education.

Design

The ability of the Survey Monkey® program to allow a person to customize the questionnaire was very useful. Numerous backgrounds shades and combinations, as well as letter size, color, and boldness, were examined to ensure the survey was formatted in the proper manner. The questionnaire's final look incorporated three shades of green with black lettering for the questions, and smaller lettering for the selection area. The questionnaire employed a bar graph indicating the completion percentage of the questionnaire to let respondents gauge their progress through the instrument. The first page of the questionnaire included the welcome, an explanation of the survey, instructions for its use, the required disclaimer, and the IRB approval with names and email addresses of those involved for any desired contact. In addition, a statement was included that suggested the results of this questionnaire might be of value to the participant at their respective school district/campus so as to improve the delivery and/or

expansion of distance education for their students, as well as to help disseminate information to their colleagues at their respective school districts. The statement in the questionnaire regarding the possible value of the survey to the participant was included because of Dillman's (2007) assertion that participants are more likely to respond due to the increased motivation of receiving some sort of return on their efforts to complete the questionnaire.

The completed instrument (See **Appendix D**) was sent to four colleagues to pilot test the mechanics of the instrument, and for any last minute suggestions for improvement to the instrument. In addition, the colleagues were informed that this was only a test, and any responses would not be included in the data. All four responded in a positive way to the questionnaire, establishing face validity, and no changes were made.

In addition to the using colleagues to complete a pilot test before releasing the questionnaire to potential respondents, a post-hoc reliability test was conducted to calculate the reliability of the instrument. A post-hoc reliability test was used to calculate the internal consistency of the questionnaire (Gay & Arasian, 2003). In this study, the researcher calculated the Cronbach's Alpha score of the questionnaire as a whole and each of the 9 constructs individually. The Cronbach's Alpha performance test was suggested by Gay and Arasian (2003) as an effective test to measure questionnaires that use more than two choices as possible responses, such as the questionnaires which use a Leikert scale. According to Fraenkel and Wallen (2006), for research purposes, a reliability score of .70 or higher is preferred.

Data Collection

According to Dillman (2007), there are five elements that can be used to achieve a high response rate. There was a slight modification to the second element in that the questionnaire was sent out via email. Dillman's elements of tailored design method pertain to the mail out hard copy questionnaires, yet were easily modified to this particular email questionnaire, which kept Dillman's basic structure for contact intact.

A pre-notice email (See **Appendix E**) was sent to the 261 selected respondents in the sample population of the forthcoming survey on March 1, 2010. The pre-notice email described the instrument that was to be sent out the following Monday. This pre-notice had the purpose of alerting the sample population to an impending survey request. The second reason for the pre-notice was to determine the number of correct email addresses which would allow a small window of time to try to obtain the correct addresses of the recipients before sending out the actual questionnaire. A total of 25 pre-notices came back as undeliverable through email, and though an attempt to find correct email addresses was made, no correct email addresses were obtained. This pre-notice was sent through the Texas A&M University email system. The use of the Texas A&M University email system was utilized in an effort to potentially give greater credibility to the research project. Additionally, the actual questionnaire was sent through the Texas A&M email system.

On Monday, March 8, 2010, the first questionnaire was sent out to 236 respondents. A total of 37 messages were sent back saying that this email address did not accept messages from Survey Monkey®. This is a feature in the Survey Monkey®

service that enables recipients who had previously opted out of responding to a Survey Monkey® to be automatically opted out of all future surveys using the Survey Monkey® platform. This left 199 potential survey respondents who had received the emailed questionnaire. A total of 12 responses were collected in this initial request. The researcher the waited two weeks—due to the traditional Spring Break schedule in Texas—until a second attempt was made. On March 23, 2010, a second request was sent to the non-respondents as sorted out by the Survey Monkey® service. After the second request, an additional 15 responses were received. A third request was sent on March 31, 2010, which produced 11 new completed responses. A fourth request was made on April 8, 2010, which resulted in two additional responses.

At this point, a decision was made to attempt to reach the non-respondents using a different method. Though there had been 40 responses, the total did not meet the predetermined number of at least one third of the total population surveyed. This new to the non-respondents. Postal addresses were collected as part of the initial sample frame. This letter (See **Appendix F**) briefly explained that the researcher knew the respondents were very busy, but that their participation was very important and vital to the success of the project. This letter also contained a URL address that went directly to the Survey Monkey® instrument. This letter was mailed on May 1, 2010. Following this hard copy mailed request, the researcher waited three weeks to collect additional responses. At the end of this time period, the response rate still had not reached the predetermined number of responses necessary; however, the mass mailing did yield an additional 24 responses.

The next step taken to ensure the predetermined number of responses was to use what Dillman (2007) describes as an additional special contact. The additional special contact was made by phone to non-respondents who had not completed the questionnaire. This phone call followed a script approved by IRB, from the initial IRB request. The phone call follow-up invited these selected non-respondents to respond to the questionnaire, and provided the URL verbally. Respondents were asked to write down the address. In some cases, the researcher actually waited on the respondents as they typed in the URL, and accessed the Survey Monkey® site, to complete the questionnaire. These phone calls netted an additional 17 responses. These additional responses allowed the researcher to meet the predetermined response threshold. After the phone calls were made, a total of 81 responses to the survey were completed by July 1, 2010.

Non-response error was a concern. Non-response error was estimated as recommended by Linder, Murphy, and Briers (2001) using their method 3. In method 3, respondents are compared with 'non-respondents,' or what Dr. Murphy likes to call "reluctant respondents." The 17 reluctant respondents solicited through the follow-up phone calls were compared to the 64 solicited earlier through electronic and US Postal mail on the primary variables of interest. While Linder, Murphy, and Briers (2001) caution against using method 3 with samples of nonrespondents fewer than 20, the researcher deemed 17 to be the maximum number of reluctant respondents he could achieve, and adequate for this purpose. No differences between the groups were found, and the data were pooled for analysis.

Quantitative Data Analysis

SPSS 17 for Windows© was used for data analysis. Descriptive statistics were used to summarize data. Frequencies, percentages, measures of central tendency, and variability were used to describe the data. Responses were compared between experienced versus inexperienced, rural versus urban, large versus small, and rich school districts versus poor school districts. To add more descriptive power to the reporting process, Cohen's (1988) methodology, which measures the effect size of the relationships using a Pearson's r score, was employed. According to Cohen, the magnitude of the effect size of relationships in the social sciences can be measured in the following ways: 1) Small effect size (Pearson's $r = 0.1 - 0.23$), 2) Medium effect size (Pearson's $r = 0.24 - 0.36$), and 3) Large effect size (Pearson's $r = 0.37$ or larger. The results that follow describe the perceptions of Texas public high school administrators on distance education and its delivery and compare their perceptions and the barriers they produce to the use of distance education described in previous research.

In addition, to ensure the internal consistency of the descriptive analysis, an alpha coefficient—often called Cronbach's alpha—was calculated. This method follows the design of Fraenkel and Wallen (2006) to gauge the reliability of the study. The Cronbach's alpha score is a measurement which describes the degree to which the respondents would answer in the same general way if given the same questionnaire multiple times.

CHAPTER IV

FINDINGS AND RESULTS

Introduction

The results of this study were presented as follows: first, a description of the qualitative analysis of the interviews along with their results and findings is provided. In this section, the interviewees were identified as A1, A2, A3, A4, etc. Their responses were categorized into Strengths, Weaknesses, Opportunities, and Threats. Responses from this effort were used by the researcher to develop the questionnaire used in the quantitative survey.

The second part of Chapter 4 explained the descriptive statistics of the quantitative portion of the research. Quantitative analysis of the survey data was provided including the descriptive statistics used to describe the data, and the independent and dependent variables. A Likert scale was developed with a range of 1-10, with 1 being strongly disagree and 10 being strongly agree. A mean value of 5.5 was interpreted as neutral. The measures of central tendency for each construct were reported as mean, median, and modal responses, as well as the percentage or respondents in agreement with the statements. The descriptive statistics were also reported for each of the nine constructs and the items included in the demographic section. The constructs were developed from the responses given by interviewees to questions used during the qualitative interviews.

Qualitative Results/Findings

Strengths

Using a SWOT analysis (Panagiotou, 2003), positive comments were categorized as either strengths, or opportunities. Strengths were those positive comments currently being utilized, while opportunities were those not being currently used, that could be advantages in the future.

The first theme identified under strengths was that specific courses could be offered. The interviewees responded to this category in several ways. One stated (A1) that it was the only way that a transfer student would be able to obtain a distinguished achievement diploma. Others (A6, A8, A10, and A14) noted that the ability to earn a distinguished achievement diploma would also be available for their regular students. Some respondents (A2, A5, A11, A12, and A17) stated DE was invaluable for gifted and talented students and for foreign exchange students who wanted or needed a specific course. Respondents (A13, A15, and A16) further described this strength as offering a wider variety of courses to their students.

The second theme addressed the ability to fill positions with highly qualified teachers. Interviewees replied with a variety of responses. Several examples were that DE allowed all your courses to have highly qualified teachers (A1, A3, A4, and A13) as instructors. Respondents (A10, A11, and A12) noted it was a strength because they would not have to hire a certified teacher on campus to teach the class. Finally, respondents (A8, A16, and A17) liked the ability to offer classes that could not be offered before in their schools.

Another theme that emerged was the economic advantages of DE. Two respondents (A1, A5) replied that DE allowed smaller schools to provide the same learning opportunities as larger schools. Other respondents (A4, A10) believed that it was a great advantage for poor, rural schools and some (A2, A15, A3, A5, A13, A16) felt DE could be more cost effective for schools because they could avoid hiring a teacher for a few courses. Respondent A3 felt the savings "pays for a technology room" and he liked the ability to "pay a la carte" for specific courses. DE allowed students to take specific classes the school could not afford to pay a teacher for (A17), and in some cases, alleviated the need to find a teacher in the teacher shortage areas such as math, science, and foreign language (A10, A13, A16). Respondents (A5, A15, and A16) described the economic advantages as allowing low population classes to take higher level courses.

A fourth theme of responses that emerged was that DE was an option to fulfill the mandated 4X4 plan passed by the legislature. Responses of interviewees included, DE helped smaller schools fulfill the mandates for the fourth year of science (A1, A2, A10) while respondents (A7, A9) described DE as being able to strengthen the core offerings to fulfill the mandated 4X4 plan. Respondents (A13, A17) cited DE as helpful in fulfilling the critical shortage areas created by the 4X4 plan.

The ability of schools to offer dual credit courses constituted the fifth theme in the strength category. Respondents (A4, A5, A10, A16) indicated that this was one of DE's greatest strengths for students to receive both college and high school credit at the same time. DE addressed safety issues of traveling to and from institutions of higher

learning (A10, A16, A17). Respondents (A10, A14, and A15) cited that DE saved parent's money for college education of their students.

The sixth theme emerged related to small-populations of students, including those in Discipline Alternative Education Program placements. Interviewees (A2, A4, A5, A10, and A16) referred to keeping DAEP students on track with their course work. Respondents (A5, A10) discussed merits of DE for credit recovery opportunities and summer school offerings, as well as its value to home bound students (A5). Foreign language courses, specifically Spanish, were cited as strength by respondents (A1, A2, A3, A4, A5, A7, A8, A9, A11, and A12), with respondent (A5) citing Hmong as one of the foreign languages being taught in his school. Other respondents (A11, A12, and A17) described how American Sign Language, considered a foreign language at their school, was delivered through DE.

Several of the minor themes cited by the interviewees were their students' ability to interact with peers from other schools (A5). Respondent (A8) shared an experience of foreign language classes that connected five different school sites at one time, and the value of these students communicating with each other in a collegial way. Respondent (A5) cited the additional value of garnering a "broader view of the world." Training students to be lifelong learners was expressed as a strength by some (A5, A8, and A10) due to the fact that DE students have to be more self-motivated when completing DE courses. Respondents (A10, A14, A15, and A17) cited having a college teacher instruct their DE students as an advantage. In addition, a respondent (A10) described this advantage as allowing the students to experience "real world instruction." The last theme

noted by respondents (A14, A15) was the savings in transportation costs when the district offered college courses on their site, rather than on higher education campuses.

Opportunities

The second major category of positive comments in this SWOT analysis (Panagiotou, 2003) was opportunities, or options not currently being utilized. Seven themes emerged in this category. The first major theme was that students experienced activities the school could never provide. Respondent (A3, A8) cited the ability to link to virtual tours as opportunities students might not otherwise be able to experience. One respondent (A1) expressed the ability of students to view live procedures, like open heart surgery, as a possible opportunity for students. Others (A3, A11, and A12) mentioned that opportunities to communicate with professionals in varying fields, such as a video conferencing with NASA, as other opportunities made possible through DE.

Another opportunity expressed by the respondents was that DE would allow students to gain a broader perspective of the world. Comments in this theme included the ability to connect locally to the world (A3), gain global perspective (A1), and experience a worldwide perspective (A11). Respondent (A12) described it as the ability to experience worldwide cultures while not leaving home. Respondent (A2) described it as participating in learning activities worldwide, and respondent (A1) described it as gaining exposure to activities happening worldwide. (A5) said DE enabled students to gain a more diverse world view. Other comments included in this theme were the ability of DE to link with other schools or teachers for learning activities (A1, A2, and A7).

The third theme of activity of responses involved the creation of an alternative school setting through the use of DE. Respondent (A4) provided several comments on this theme, such as allowing students who did not like or function well in a regular school setting to design their own flexible schedules to allow for work, or to allow a drop out to gain credit to receive a high school diploma. Other responses included in this category were to create a smaller academic school within a school (A1), and several respondents (A7, A10, A16) said DE provided the opportunity to establish an early college within the existing school.

The fourth opportunity described by respondents was that DE presented the ability to offer community members continuing education opportunities. Respondent (A4) discussed the possibility of developing vocational courses that could lead to licensing programs for community members. In addition, respondent (A5) saw an opportunity for the local school to offer access to mini-mesters to the community. Respondents (A5, A6) said that DE allowed for the opportunity to create open house demonstrations that would be of interest to the community members. Respondents (A5, A8, A16, and A17) indicated that DE should be used more for staff development activities in schools in order to reduce time and travel costs. A wider variety of courses that could be offered to students was cited as a real opportunity (A2, A3, A5, A7, A8, A9, A10, A14, A16, and A17).

Another opportunity that could result from the use of DE was for administrators to use DE courses to avoid the overlap of certifications among staff, and thus potentially hire fewer teachers (A3, A16, and A17). Respondent (A5) stated that DE was one of the

only ways to offer courses to "edge kids," students who do not do well in the traditional

classroom, which could allow those students to create their own individualized school

experience by choosing which courses they wanted to take.

Weaknesses

When using the SWOT analysis (Panagiotou, 2003), negative comments were

categorized into weaknesses and threats. Weaknesses described existing problems or

challenges with using DE, while threats exposed potential challenges to using DE.

The only theme that was described by all 17 respondents (A1-A17) as a

weakness of DE was that only self-motivated and self-disciplined students could

generally be expected to be successful in a DE course. While this theme might be

considered subjective, there was consensus amongst all those interviewed that not every

student possesses the self-discipline and the self-motivation needed to be successful. The

general perception of those interviewed was that success is the ability to pass the course.

There was a belief that only high-achieving students would be successful in a DE course.

Some examples of the responses which were coded in this theme include the following:

1) typically, only better students took DE courses (A2), 2) high achieving students were

more driven than low achieving students (A11), 3) high achieving students learned in

spite of the barriers that exist in DE (A13), 4) "the kids in my DE class are going to be

higher level students," (A14) 5) high achieving students were more likely to be self-

starters (A15), 6) DE was not for every student (A8), and 7) DE was not the best

medium for some students (A9). These responses indicated the deep-seated feelings that

administrators have toward the type of student who can be successful in DE.

Another theme that emerged regarding the type of student who would be successful in DE was in relation to the maturity level of students. Respondent (A13) stated that the maturity level of some students was going to be an issue because they were not able to handle the higher frustration level associated with the individualized learning environment that often exists in DE. Respondents (A10 and A12) cited the need for a higher maturity level so that a student will do the extra work required to be successful in a more rigorous DE class. (A14) stated that, with a higher maturity level, a student would not become as easily distracted and is able to focus better on the DE instructor, while (A16) described this as being able to see the difference between an instructor and a television personality and view the instruction with more seriousness and focus. Respondent (A15) believed that DE needed a student with a higher maturity level because the DE environment was more intimidating for such students.

Another theme described by the respondents was that DE does not lend itself to be successful with reluctant students and students with different learning styles. Two respondents (A7 and A9) explained that reluctant students have a harder time being successful in DE because it is easier for them to become lost in the crowd and skirt by with minimal effort. Respondent (A5) described the lack of face to face interaction between DE instructor and students as a hindrance to a reluctant students' success, and two (A10 and A13) stated that the lack of the relationship between the DE teacher and a reluctant student as a contributor to the lack of success in DE courses. Respondents (A9, A10, and A13) cited that DE did not lend itself to accommodate the different learning styles of students due to the nature of DE delivery methods. The methods of delivery in

the DE classroom were often limited, and do not easily allow for movement and highly active lessons. Students who did not succeed in the traditional "sit and get" classroom environment would be less likely to succeed, because so many DE courses are limited to teacher lecture and limited group interaction. Respondents (A9, A11, and A12) believed that students who were more successful in these highly active classes would be less likely to be successful in a DE class because of the rigor of DE courses.

Another theme that emerged under weaknesses was the delivery of instruction. Numerous respondents (A1, A2, A3, A4, A5, A6, A7, A10, and A17) described experiencing difficulty with scheduling classes in their own schools, while other respondents (A3, A4, A17) stated there were difficulties in scheduling classes in conjunction with other schools. One respondent (A5) cited the problem of what to do when the calendars of instructors and students were not the same as a weakness. Connectivity was a challenge for a number of respondents (A2, A4, A8, A13), with three (A2, A5, A7) specifically citing inadequate bandwidth, software, and hardware problems. Numerous respondents (A3, A4, A6, A7, A 9, A10, A11, A12, A13, and A15) cited the expense of hardware, downtime of the Internet, delivering and receiving student assignments and assessments, as well as the teacher not being familiar with the use of technology as other weakness of DE. One respondent (A11) specifically cited as a weakness he did "not having somebody talented enough [to teach DE]," while another (A4) stated he did not have teachers who "know how to use [DE]." Finally, two respondents (A3 and A4) said they did not have anybody qualified to teach a [DE] course.

A further theme identified as a weakness included concerns about the quality of instruction. One respondent (A3) described himself as a big proponent for distance education because of the great high school experience he himself experienced with DE. However, the same respondent was concerned because a student "loses the bond [with the teacher]" through the camera, the classes "lost the human element," and "lost the magic" between teacher and student. The camera was described by respondents (A3, A5, and A7) as a barrier that does not allow the teacher or student to detect the nuance in their voice when answering or asking questions, and hinders the ability to catch body language or facial expressions. Another respondent (A7) stated that it hinders the ability to share personal experience. A third respondent (A13) described this as a loss of spark or the flavor of a person, while yet another (A13) called it "unable to build a caring atmosphere." Respondent (A19) described it as the inability to develop meaningful class discussion, and respondent (A9) described it as "not [being] able to sit at the master's feet." Respondent (A8) noted that there were students who need that "touchy, feely experience," and several (A1, A2, A3) expressed it as a weakness that little or no rapport is established between the teacher and the student.

Another major theme addressed by the respondents was in regards to the quality and consistency of DE courses. One (A2) expressed this concern by personally describing his experience between two DE Spanish courses from differing sources. He described one DE course as "great" while the other was a "disaster." A different respondent (A16) described the quality of a DE Spanish 3 class as a course which simply "did not work." Another (A13) reiterated this sentiment by stating that taking Spanish

via DE was "just not good." The belief amongst two respondents (A5, A7) was that the quality of courses was only as good as the people running it, and the DE was a difficult medium for a teacher to be both engaging and effective with students.

A different theme that emerged was that the administrators had very little input in DE courses. DE courses arrived from remote locations, and administration would not have the opportunity to help DE instructors improve teaching methods (A2, A3, A6, A7, and A10). Numerous respondents (A9, A11, A12, and A13) noted a lack of input and an inability to provide effective evaluation of the teacher due to the fact that DE teachers were often under contract with other institutions outside of their school. Another respondent (A16) explained his lack of input was due to the fact that "the course was not being held in the building, and that they just forgot about it."

Another weakness described by the respondents (A5, A6, and A7) was the lack of control over what or how the content was presented. One respondent (A9) lamented that he had little or no control over what the DE teacher taught, and how the DE teacher taught it. Respondents (A11 and A12) noted that the DE instructor had more of an opportunity to simply do their own thing because the instructor was not an employee of the school. Since the DE instructor was an employee of a different institution, respondents stated that they did not feel that they had effective control over the delivery of content and that it was possible that the DE instructor might not cover curriculum and objectives of the course. Respondents (A10 and A13) believed this lack of control would hinder the ability of the administrator to initiate modifications in "questionable strategies" (A13) employed by the instructor. According to some (A7, A11, A12), DE

instructors were not able to help out in other daily school activities, such as morning duties, lunch duties, extracurricular activities, and/or being sponsors.

A lack of communication between the DE instructor and administration was another weakness that was described by the respondents. Three respondents (A2, A7, A10) who currently have DE courses in their schools stated that administrators had very little control or contact with the DE instructors, while another (A9) described it as "very limited input." Two respondents (A11, A12) were concerned because they felt as if they were putting a kid's fate and the fate of a school's TAKS scores in someone else's hands. Multiple respondents (A13, A14, A16, and A17) felt uncomfortable with the lack of access to be able to communicate daily with the instructor to see how the course was going.

In addition to the belief that there was a lack of communication between administrators and DE teachers, there was a theme of weakness which involved the communication between the DE instructor and the students. One respondent (A1) explained that there is very little communication between teacher and student, and even less with parents, while another (A3) noted that there was no immediate feedback to students and that the only immediate response available was from the aide monitoring the class who is often not able to answer students' questions. One particular respondent (A13) described a class that was held in the spring in which half of the students failed the class. He felt that the failures could have been averted with better communication between the teacher and the students. Several respondents (10) described a lack of communication between teacher and students as a constant issue, while another (A8)

described it as just lack of interaction between the teacher and the students. Respondent (A17) summed up these types of concerns when he stated that students just could not make contact with the instructor.

Another theme cited by the respondents as a weakness was the feedback to students from DE instructor. Lack of feedback was cited by various respondents (A3, A6, A14, and A17). Several respondents had more detailed concerns on feedback to students, such as one respondent (A5) who stated, "the DE model does not lend itself to student feedback." Another respondent (A7) disliked the fact that DE instructors might not be as available to the individual student as a regular classroom teacher. Other respondents (A8, A13) noted the lack of interaction between the instructor and student hindering the success of the students, and they described the lack of feedback as a lack of spontaneity with the teacher as it pertained to possible questions and answers. Finally, respondent (A13) cited the lack of feedback as a hindrance to students because the DE teacher could not redirect students to stay on task.

Another weakness cited by respondents was the concern that no certified teacher would be physically present in the classroom. Some of the respondents' (A1, A2, A3, A14, A17) believed that a DE teacher would not be as good as a teacher in the classroom and that they would only consider a DE teacher if the administrator had prior knowledge of the class and the DE instructor. Many (A11, A12, A14, A17) felt that aides were less likely to help students with questions in the class because aides often lack the knowledge, skills, and motivation to help students be successful. Two respondents (A11,

A12) discounted DE due to the fact that they would still have to pay someone to be in the class.

Another weakness of DE fell under a theme that some schools would only use DE as a last resort. Respondents (A1 and A4) claimed that they would not use DE unless they could not find a regular teacher. Specifically, one respondent (A7) stated that it boils down to the fact that he "does not see many districts using DE unless they cannot find a qualified teacher." Another (A13) stated that he "was going to use a non-certified math person to teach Algebra 1 [only] as a last ditch effort" because of the subject was a core class and he could not justify the risk using a DE instructor to teach a course which would be tested under the accountability system currently in place.

Another theme that was cited by the respondents included the receipt of grades and scheduling classes to accommodate DE courses. A majority of respondents (A1, A2, A4, A5, A6, A7, A10, A11, and A17) described the challenge of building a master schedule for the regular students and DE students. That same majority mentioned that DE course offerings did not correspond with their normal class/bell schedules. Respondents (A5, A6, A7, A10, A12, A14, and A16) expressed the challenges of receiving grades from the institution providing DE courses in a timely fashion, and the challenge of giving weights to those grades due to the usually more difficult and more rigorous content.

The costs associated with DE courses were another theme cited by the respondents. While some (A3, A4, A8) mentioned the availability of funds associated with start up in general, others (A2, A6, A7, A12) spherically noted the costs associated

with hardware acquisition. Still others (A3, A4, A7, A8, A11, A12, A14, A15, A16, and A17) noted additional costs due to upgrading technology, maintaining sufficient connectivity and overall sustainability. Having qualified technical assistance available was a concern for a majority of respondents. One respondent (A7) summarized many of these concerns by saying there was an inadequate support structure for DE.

Another theme associated with costs includes the physical space needed for DE courses. Respondents (A6 and A8) indicated that issues with appropriate facilities to offer DE courses were a challenge and described this weakness as a lack of dedicated facilities to DE courses. The issue of DE classroom size was addressed by two respondents (A11, A12) who stated that a library is not the proper setting to hold DE classes. Others (A9, A13, A14, and A15) illustrated the lack of proper facilities by explaining their poor facilities were due to limited resources and that an improper utilization of resources directly produced inadequate facilities for DE.

A final theme under weakness involved disciplinary concerns. The respondents described numerous concerns with discipline. Responses included that you have to have somebody in the classroom or "trouble would happen" (A1). Another (A2) indicated that "discipline in class could be a problem," and yet another (A6) stated that "monitoring by offsite teachers is not good." Discipline management was cited as a concern by many (A7, A8, A10, A11, A12) of the respondents, and two (A13, A16) noted that constant monitoring of students is a must. Another comment from one of the respondents (A3) indicated that an AP class might be more trustworthy than a normal class with regard to discipline. A second respondent (A2) noted that it would be impractical to allow all

students in a DE class because not all students could learn in a DE environment. One respondent (A4) said that the DE teacher was not able to give students the one-to-one attention that might be required, but another (A6) stated that since "typically better kids are taking [DE]," they would not have as many discipline problems.

Threats

The last major Category in a SWOT analysis (Panagiotou, 2003) was the threats that present themselves as potential challenges. The first theme that emerged was that of inadequate bandwidth. The ever increasing use of technology in the regular classroom could pose a challenge to having enough bandwidth to go around (A4, A5, A7, A11, and A12) and two respondents (A4 and A10) mentioned they would not want one course cannibalize the bandwidth to the detriment of other courses.

Another threat exposed was that if there were too many DE courses offered and taken by the student, that student would miss out on the culture of the school due to the lack of personal touch of the regular staff members (A2). A7 described this as a DE instructor who is not a physical member of the campus and thus would be inclined to be disengaged, impersonal, and not part of the camaraderie that is vital to instilling the campus culture and flavor. A11 and A12 described it as having a lack of spirit or loyalty toward the school while A13 described it as not taking the time to build the caring atmosphere that is essential to a successful school.

A third theme cited was sustainability. A lack of sustainability in the course could occur due to students not liking the class, enrolling in it, and dropping the class (A3), while A8 stated that if too many people dropped a class, it would lose its cost

effectiveness to the school. A10 and A16 cited the challenge of enrolling an adequate number of students in the class to make it cost effective for the institution delivering the course to offer the course at the school while respondent A5 discussed the challenges of sustainability due to the lack of feeling of personal ownership of the program due to the fractured nature of the DE "a la carte" system because delivery is not from the home school.

A fourth threat that was expressed was that there were no school personnel in the classroom (A3, A4, A16, and A17). Two respondents (A2, A3) thought it required a Spanish speaking aide in order to maintain a successful Spanish DE course, while others (A4, A16, and A17) cited that students might not keep up with assigned work.

A fifth threat cited by the respondents was concern for TEKS/TAKS objectives. Respondent A1 expressed concern on how TEKS were aligned with DE courses, and A13 expressed concern about how DE course syllabi compared to the TEKS for English IV. Respondent A10 discussed the need to review the 11th grade students for the TAKS exams who were taking advanced DE courses, due to the fact that the level of instruction did not address the lower level TAKS questions. A2, A10, A11, and A12 expressed concern on how the students would perform on a TAKS test while taking a corresponding DE course on the same subject.

Another threat expressed was the lack of understanding of how DE courses worked with the parents and community. Administrator responses indicated that the fears of acceptance of DE, as well as the failure to maintain academic standards (A3, A4, A10, A11, and A12), were factors to consider. Administrators who might have

experienced a negative experience with DE (A3, A13), or did not want to hassle with implementing DE at their schools (A3) while A5 stated "people were just lazy and they need to get off their butts" were some of the other comments noted.

Another theme under threats was the lack of DE models to observe. Some respondents stated that they did not know what was out there (A2) or that they did not know where to seek a successful DE program (A8). Respondents A11 and A12 stated there was a lack of knowledge of how DE works. Respondent A8 stated that schools needed to know where to go to observe effective DE programs, while A4 stated that he could not think of a single model to send someone to observe the use of DE. This was reinforced by the statement provided by A13 who said that they have not seen a successful DE class. Respondents (A5, A14, A16, and A17) comments can be summarized by the following statements: 1) There was a lack of knowledge of what was available, 2) there was a lack of knowledge as to what subjects are possible for DE classes, 3) administrators did not know what was truly expected of a DE course, 4) there was a lack of knowledge regarding how many schools used DE. Respondent A7 expressed it as he did not see many districts using DE programs.

Another theme as to why more public schools do not have DE programs was that there is a lack of communication amongst educators. Respondents' answers ranged from the fact that administrators do not realize that DE can work (A2, A8, and A16) to aother who expressed a willingness to use DE if they could find a proven DE course (A2, A3, A13, A10, A17). The respondents also expressed a fear of acceptance by the community, staff, and especially the school board (A1, A4, A8, A11, and A14). Finally one

respondent (A3) said that a lack of communication between administrators in regards to the rigor of the curriculum, which may help explain the reluctance of public schools to use DE.

Another concern expressed as a threat was the unknown potential cost of upgrades pertaining to the hardware and software of DE (A2, A3, A4, A12, A14, A15). Respondents stated they were reluctant to seek additional funds for DE (A8, A17). A8 stated he did not think he could go to his board year after year with money request for improvements or upgrades for DE, while A17 stated that upgrading equipment is very expensive.

Another threat expressed by administrators was the ability to secure a good facilitator for the DE course. Respondents (A6, A8, and A13) described it as you get what you pay for in a facilitator. Respondents (A10, A15, and A16) responded that it is difficult to justify the expense to pay for a good facilitator/teacher to monitor a DE class when that person could be utilized in another classroom and you are already paying for a DE instructor.

Another threat expressed by administrators was that there were too many perceived challenges to maintaining a DE program. Respondents (A5, A8) expressed doubt that administrators would put the time and effort into running a successful program due to these real or perceived challenges. Respondent A8 described the challenges of always having to request money as "change always costs money." Respondent A9 stated it was just the fear of failure and the repercussions to their personal careers if the DE course were not successful as the biggest perceived challenge

to the implementation of DE. Respondents (A11 and A12) described it as the fear of the unknown with the reason for this given as we have a good thing going at our schools, so why mess with it? Respondents (A9, A10, and A16) added that the perceived challenges of adding a DE program might be too intimidating to administrators and teachers.

Another threat that was shared by administrators as a potential barrier was one of competition between the schools. Respondent (A5) described it as being territorial, "this is mine not yours." Respondents (A11 and A12) described it as being competitive and wanting to stay ahead of the others by not sharing the secrets of their success. Respondent A15 stated, "we want what's best for our kids and don't care about the others." Finally, respondent A17 explained the unwillingness to share information about DE as selfishness, saying it was as if the administrator found a better route to take, so why would he make it easier for anyone else.

Another threat expressed by respondents was the lack of time to observe a class that was not a part of their normal course offering. Respondent A9 described it as "he has enough to do with hired personnel without looking for something else," while respondent A11 stated that he does not have time to formally evaluate a DE instructor. A12 described it as "the students tell me whether they liked a teacher or not and consequently have requested to the delivering institution that those teachers not teach that DE classes for their school." Respondents A16 and A17 simply stated that DE courses are not usually located in the mainstream of the school; therefore, they were simply forgotten and not evaluated.

Some of the other comments that the researcher noted were that DE courses were not individualized and tended to be taught "towards the middle" (A5). In addition, A5 gathered that DE would only be considered cost effective by school administration "if you believe kids are individuals, and are entitled to an education that meets their needs." Respondent A9 stated that he thought the use of widespread DE would lower the average GPA of a student, and this would produce a negative view of DE. A9 further stated that the potential cause of this negative view was that would be more difficult to measure a students' acquisition of knowledge in a more rigorous DE course load versus students taking traditional courses. Respondent A13 described another threat to DE when he stated there is no set conference period where the facilitator and the DE instructor could collaborate on the DE course.

Quantitative Findings/Results

Survey Instrument Design

From the comments, quotes, and statements of the 17 individual administrators, a quantitative survey instrument was developed. A series of nine constructs, and one section of demographic information about the respondents, were developed to further examine the "quantified" responses of the qualitative survey. A total of 51 questions were aligned under the nine constructs, with six questions under the demographic section, for a total of 57 items on the survey instrument. A Likert response scale was developed for the questionnaire with a range of scores of 1-10, with 1 being strongly disagree to10 being strongly agree. The exception was the demographic section where choices varied according to the response desired by the researcher. In addition, with the

Likert scale values of 1 to 10, a mean value of 5.5 were interpreted as neutral, a 5.4 or less were interpreted as disagree, and a 5.6 response or more were interpreted as agree. The instrument was included as **Appendix C**.

Reliability of the Findings

A post-hoc test was conducted to determine the scaled reliability of the findings of the quantitative survey instrument. According to Fraenkel and Wallen (2006), reliability score of .70 or higher is desired. For this study, a Cronbach's Alpha score of .957 was calculated for the survey questionnaire overall.

Additionally, a Cronbach's alpha score was calculated for each of the 9 constructs. The first construct had 9 variables—the first 9 questions on the instrument. The Cronbach's Alpha score—also known as scale or construct reliability—for Construct #1 was .891. The second construct had 5 variables with a Cronbach's Alpha score of .634. The third construct had 8 variables and had a scale reliability of .884. The fourth construct had 4 questions and had a scale reliability of .905. The fifth construct had 9 questions and a Cronbach's Alpha score of .868 was calculated.

For Construct #6, there were 4 variables and a Cronbach's alpha score of .569 was calculated. Construct #7 contained three questions and had a Cronbach's Alpha score of .638. The eighth construct had 4 variables and had a Cronbach's Alpha score of .560. Finally, Construct #9 had 5 variables and had a Cronbach's Alpha score of .879. See Table 1.

Table 1
Scale Reliability of the Questionnaire

Construct	# Variables	α
Overall Questionnaire	57	.957
Construct #1 – Programmatic Considerations	9	.891
Construct #2 – Value Consideration	5	.634
Construct #3 – Quality of Instruction	8	.884
Construct #4 – Ability to Establish an Instructional Setting with Students	4	.905
Construct #5 – Institutional Control	9	.868
Construct #6 – Appropriate Topics	4	.569
Construct #7 – Campus, Culture, and Climate	3	.638
Construct #8 – Appropriate Students	4	.560
Construct #9 – Adoption Rate and Knowledge of DE	5	.879

Descriptive Statistics of Constructs

The descriptive statistics for each of the nine constructs in the questionnaire, and the demographic section, were organized below in the order they appeared on the instrument.

The first construct, Programmatic Considerations, contained nine questions. Question 1: DE has allowed our school to offer a greater selection of course offerings; where n = 77, the mean response was 6.83; the median was 7; the mode was 7 (f = 23, 29.9%). Over 2/3 (67.5%) agreed with the statement, selecting 6 or higher. Question 2: DE courses allow my students additional opportunities to individualize their instructional program; where n = 77, the mean response was 6.7; the median was 7; the mode was 10 or strongly agree (f = 18, 23.1%). Over 2/3 (67.5%) agreed with the statement, by selecting 6 or higher. Question 3: DE courses help meet increasing state requirements for specialized courses; where n = 76, the mean response was 6.67; the median was 7; the mode was 7 (f = 17, 22.4%). Almost 3/4 (73.4%) agreed with the

Table 2

Descriptive Statistics of Items in Construct #1

Question	N	Mean	Median	Mode	% Agree
1. *DE has allowed our school to offer a greater selection of course offerings*	77	6.83	7	7	67.5%
2. *DE courses allow my students additional opportunities to individualize their instructional program*	77	6.7	7	10	67.5%
3. *DE courses help meet increasing state requirements for specialized courses*	76	6.67	7	7	73.4%
4. *DE provides an equal education opportunity for students in alternative education (ISS, OCS, AEP)*	76	5.92	7	7	53.9%
5. *DE provides opportunities for summer education*	77	6.55	7	8	66.2%
6. *DE provides my students with opportunities to interact with peers at other schools locally, nationally, and internationally*	77	5.94	6	5,9	57.1%
7. *DE affords students opportunities to gain broader perspectives of the subjects taught*	77	6.25	7	5	57.8%
8. *DE gives opportunities to have students taught by teachers with greater expertise*	77	6.22	6	7	66.7%
9. *DE helps my students to see or be aware of other places and situations*	76	6.25	7	5,7	61.9%

statement, selecting 6 or higher. Question 4: DE provides an equal education

opportunity for students in alternative education (ISS, OCS, AEP); where n = 76, the

mean response was 5.92; the median was 7; the mode was 7 (f = 23, 30.3%). Over half

(53.9%) agree with the statement on selecting 6 or higher. Question 5: DE provides

opportunities for summer education; where n = 77, the mean response was 6.53; the

median was 7; the mode was 8 and 10 (f = 19, 19.5%). Two-thirds (66.2%) agreed with

the statement, selecting 6 or higher. Question 6: DE provides my students with

opportunities to interact with peers at other schools locally, nationally, and

internationally; where n = 77, the mean response was 5.94; the median was 6; the mode

was 5 and 9 (f = 11, 14.3%). Over half (57.1%) agreed with the statement on selecting 6

or higher. Question 7: DE affords students opportunities to gain broader perspectives of

the subjects taught; where n = 77, the mean response was 6.25; the median was 7; the

mode was 5 (f = 16, 20.8%). Over half (57.8%) agreed with the statement on selecting 6

or higher. Question 8: DE gives opportunities to have students taught by teachers with

greater expertise; where n = 77, the mean response was 6.22; the median was 6; the

mode was 7 (f = 12, 15.6%). Two-thirds agreed with the statement on selecting 6 or

higher. Question 9: DE helps my students to see or be aware of other places and

situations; where n = 76, the mean response was 6.25; the median was 7; the mode was 5

and 7 (f = 13, 17.1%). Almost two-thirds (61.9%) agreed with the statement on selecting

6 or higher. See Table 2.

The second construct, Value Considerations, contained five questions. Question

10: DE courses can be effectively used to meet the need for required courses with low

numbers; where n = 75, the mean response was 7.52; the median was 8; the mode was 10

(f = 18, 24%), strongly agreed. Over 3/4 (82%) agreed with the statement by selecting 6

or higher. Question 11: I have found DE courses to be less expensive; where n = 74, the

mean response was 5.26; the median was 5; the mode was 5 (f = 20, 27%). Over half

(56.8%) disagreed with the statement, selecting 5 or lower. Question 12: DE courses are

Table 3
Descriptive Statistics of Items in Construct #2

Question	N	Mean	Median	Mode	% Agree
10. *DE courses can be effectively used to meet the need for required courses with low numbers*	75	7.52	8	10	82%
11. *I have found DE courses to be less expensive*	74	5.26	5	5	43.2%
12. *DE courses are my only option to fill some curriculum areas*	75	5.15	5	1	45.3%
13. *I can save money by utilizing DE courses and employing fewer teachers*	75	4.89	5	5	38.6%
14. *I would rather have an average instructor in a traditional classroom than a DE course*	74	5.31	5	5	41.9%

my only option to fill some curriculum areas; where n = 75, the mean response was 5.15; the median was 5; the mode was 1 (f = 15, 20%), strongly disagreed. Over half (54.7%) disagreed with the statement on selecting 5 or lower. Question 13: I can save money by utilizing DE courses and employing fewer teachers; where n = 75, the mean response was 4.89; the median was 5; the mode was 5 (f = 18, 24%). Over half (61.4%) disagreed with the statement on selecting 5 or lower. Question 14: I would rather have an average instructor in a traditional classroom than a DE course; where n = 74, the mean response was 5.31; the median was 5; the mode was 5 (f = 16, 21.6%). Over half (58.1%) disagreed with the statement on selecting 5 or lower. See Table 3

Experience correlation with construct # 2 titled Value Considerations contained 5 questions. These variables were significantly related (a = .01). However, Experience was negatively related to construct #2 (r = -.248), so as Experience increased, the average scores on the 5 questions included in Value Considerations decreased.

The third construct, Quality of Instruction, contained eight questions. Question 15: The quality of my DE courses is as good as or better than, my traditional courses; where n = 75, the mean response was 4.49; the median was 5; the mode was 5 (f = 19, 25.3%). Almost 3/4 (70.7%) disagreed with the statement on selecting 5 or lower. Question 16: The quality of my DE courses is more consistent than my traditional courses; where n = 75, the mean response was 4.11; the median was 4; the mode was 3 and 5 (f = 15, 20%). Almost 3/4 (74.6%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 8. Question 17: DE courses are more organized than my traditional courses; where n = 74, the mean response was 4.28; the median was 4.5; the mode was 5 (f = 18, 24.3%). Almost 3/4 (74.3%) disagreed with the statement on selecting 5 or lower. Question 18: I have experienced more variability in the quality of DE courses than in my traditional courses; where n = 75, the mean response was 5.03; the median was 5; the mode was 5 (f = 20, 26.7%). Over half (57.3%) disagreed with the statement on selecting 5 or lower. Question 19: DE provides opportunities for students to learn with teachers who possess greater expertise; where n = 70, the mean response was 5.56; the median was 6; the mode was 7 (f = 16, 22.9%). Over half (57.2%) agreed with the statement on selecting 6 or higher. Question 20: DE instructors are highly skilled, master teachers; where n = 70, the mean response was 5.01; the median was 5; the mode was 5 (f = 17, 24.3%). Over half (57.1%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 9. Question 21: DE instructors require less supervision; where n = 69, the mean response was 4.68; the median was 4; the mode was 4 (f = 16, 23.2%). Over 2/3 (68.1%) disagreed with the

Table 4

Descriptive Statistics of Items in Construct #3

Question	N	Mean	Median	Mode	% Agree
15. *The quality of my DE courses is as good as or better than, my traditional courses*	75	4.49	5	5	29.3%
16. *The quality of my DE courses is more consistent than my traditional courses*	75	4.11	4	3,5	25.4%
17. *DE courses are more organized than my traditional courses*	74	4.28	4.5	5	25.7%
18. *I have experienced more variability in the quality of DE courses than in my traditional courses*	75	5.03	5	5	42.7%
19. *DE provides opportunities for students to learn with teachers who possess greater expertise*	70	5.56	6	7	42.8%
20. *DE instructors are highly skilled, master teachers*	70	5.01	5	5	42.9%
21. *DE instructors require less supervision*	69	4.68	4	4	31.9%
22. *DE instructors are, on average, as good as or better than my on-campus staff*	70	4.70	5	5	30%

statement on selecting 5 or lower. Question 22: DE instructors are, on average, as good as or better than my on-campus staff; where n = 70, the mean response was 4.70; the median was 5; the mode was 5 (f = 23, 32.9%). Over 2/3 (70%) disagreed with the statement and selected a response score of 5 or lower. See Table 4.

The fourth construct, Ability to Establish an Instructional Setting with Students, contained four questions. Question 23: The physical separation or absence of the DE instructor does not harm the learning experience; where n = 70, the mean response was 4.24; the median was 4; the mode was 3 (f = 16, 22.9%). Almost 3/4 (74.3%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 9. Question

Table 5

Descriptive Statistics of Items in Construct #3

Question	N	Mean	Median	Mode	% Agree
23. *The physical separation or absence of the DE instructor does not harm the learning experience*	70	4.24	4	3	25.7%
24. *Students of DE courses have the ability to develop a rapport with the instructor*	70	4.73	5	5	34.3%
25. *DE instructors are able to get to know their students well enough to teach effectively*	70	4.89	5	5	40%
26. *Students in DE courses feel that the teachers are attentive to their needs*	70	5.03	5	5	35.7%

24: Students of DE courses have the ability to develop a rapport with the instructor; where n = 70, the mean response was 4.73; the median was 5; the mode was 5 (f = 16, 22.9%). Almost 2/3 (65.7%) disagreed with the statement by selecting 5 or lower with a Likert scale range of 1 to 9. Question 25: DE instructors are able to get to know their students well enough to teach effectively; where n = 70, the mean response was 4.89; the median was 5; the mode was 5 (f = 21, 30%). Almost 2/3 (60%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 9. Question 26: Students in DE courses feel that the teachers are attentive to their needs; where n = 70, the mean response was 5.03; the median was 5; the mode was 5 (f = 23, 32.9%). Almost 2/3 (64.3%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 9. See Table 5.

The fifth construct, Institutional Control, contained nine questions. Question 27: DE teachers are able to monitor students in DE classes; where n = 65, the mean response was 4.46; the median was 5; the mode was 3 and 6 (f = 13, 20%). Two-thirds (66.2%)

disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 8.

Question 28: DE instructors are able to effectively manage classroom discipline; where n = 65, the mean response was 3.98; the median was 4; the mode was 4 (f = 15, 23.1%). Over 3/4 (84.6%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 8. Question 29: I have fewer disciplinary referrals of students from DE courses than from my on-campus classrooms; where n = 66, the mean response was 5.30; the median was 5; the mode was 5 (f = 22, 33.3%). Almost 2/3 (62.1%) disagreed with the statement on selecting 5 or lower. Question 30: I am able to adequately supervise and evaluate instructors in DE courses; where n = 65, the mean response was 4.65; the median was 5; the mode was 5 (f = 18, 27.7%). Over 2/3 (69.2%) disagreed with the statement on selecting 5 or lower. Question 31: I have good communication with the instructors of DE courses; where n = 66, the mean response was 4.70; the median was 5; the mode was 5 and 6 (f = 12, 18.2%). Over 2/3 (65.3%) disagreed with the statement on selecting 5 or lower. Question 32: Instructors of DE courses are receptive to teaching evaluations; where n = 66, the mean response was 4.32; the median was 5; the mode was 5 (f = 22, 33.3%). Over 3/4 (77.2%) disagreed with the statement on selecting 5 or lower with a Likert scale range of 1 to 9. Question 33: I have control over DE course content; where n = 66, the mean response was 3.68; the median was 4; the mode was 1 (f = 16, 24.2%), strongly disagreed. Over 3/4 (81.1%) disagreed with the statement on selecting 5 or lower. Question 34: I am aware of the curriculum being taught in my DE courses; where n = 66, the mean response was 5.77;

Table 6

Descriptive Statistics of Items in Construct #5

Question	N	Mean	Median	Mode	% Agree
27. *DE teachers are able to monitor students in DE classes*	65	4.46	5	3,6	33.8%
28. *DE instructors are able to effectively manage classroom discipline*	65	3.98	4	4	15.4%
29. *I have fewer disciplinary referrals of students from DE courses than from my on-campus classrooms*	66	5.3	5	5	37.9%
30. *I am able to adequately supervise and evaluate instructors in DE courses*	65	4.65	5	5	30.8%
31. *I have good communication with the instructors of DE courses*	66	4.7	5	5,6	34.7%
32. *Instructors of DE courses are receptive to teaching evaluations*	66	4.32	5	5	22.8%
33. *I have control over DE course content*	66	6.68	4	1	18.9%
34. *I am aware of the curriculum being taught in my DE courses*	66	5.77	6	6	62.2%
35. *The curriculum being taught in my DE courses meets with my approval*	66	6.8	7	6,8	68.2%

the median was 6; the mode was 6 (f = 14, 21.2%). Almost 2/3 (62.2%) agreed with the

statement on selecting 6 or higher. Question 35: The curriculum being taught in my DE

courses meets with my approval; where n = 66, the mean response was 6.80; the median

was 7; the mode was 6 and 8 (f = 8, 24.2%). Over 2/3 (68.2%) agreed with the statement

on selecting 6 or higher. See Table 6.

The sixth construct, Appropriate Topics, contained four questions. Question 36:

DE courses are appropriate for all students in all subjects; where n = 65, the mean

response was 2.92; the median was 2; the mode was 1 (f = 28, 43.1%), strongly

disagreed. Over 3/4 (84.7%) disagreed with the statement on selecting 5 or lower with a

Table 7

Descriptive Statistics of Items in Construct #6

Question	N	Mean	Median	Mode	% Agree
36. *DE courses are appropriate for all students in all subjects*	65	2.92	2	1	15.3%
37. *DE courses are appropriate for foreign language instruction*	65	5.25	5	7	49.2%
38. *DE courses are appropriate for students in intermediate classes (e.g. Math Models, Geometry)*	65	4.95	5	5	39.8%
39. *DE courses are more appropriate for Capstone and higher level classes (e.g. Calculus, Dual Credit, etc.)*	65	7.03	7	7	64.6%

Likert scale range of 1 to 9. Question 37: DE courses are appropriate for foreign language instruction; where n = 65, the mean response was 5.25; the median was 5; the mode was 7 (f = 15, 23.1%). Slightly over half (50.8%) disagreed with the statement on selecting 5 or lower. Question 38: DE courses are appropriate for students in intermediate classes (e.g. Math Models, Geometry); where n = 65, the mean response was 4.95; the median was 5; the mode was 5 (f = 17, 26.2%). Almost 2/3 (60.2%) disagreed with the statement on selecting 5 or lower with a Likert scale of 1 to 9. Question 39: DE courses are more appropriate for Capstone and higher level classes (e.g. Calculus, Dual Credit, etc.); where n = 65, the mean response was 7.03; the median was 7; the mode was 7 (f = 12, 18.5%). Almost 2/3 (64.6%) agreed with the statement on selecting 6 or higher. See Table 7.

Wealth correlation with construct #6 contained 4 questions. These variables were significantly related (a = .01), and wealth was positively related to construct #6 (r=.254). The Pearson's r score denoted that wealth had a medium effect size on the correlation.

Table 8

Descriptive Statistics of Items in Construct #7

Question	N	Mean	Median	Mode	% Agree
40. *DE instructors fit into my campus culture*	65	5.35	5	5	41.5%
41. *DE classes have the same feel as those on campus*	65	3.58	4	4	12.3%
42. *Instructors of DE classes effectively implement our school policies (grading, attendance, discipline, etc.)*	64	4.50	5	5	24.9%

as Wealth went from poor to rich, the average scores on the 4 questions included in

Appropriate Topics increased.

The seventh construct, Campus, Culture, and Climate, contained three questions.

Question 40: DE instructors fit into my campus culture; where n = 65, the mean response

was 5.35; the median was 5; the mode was 5 (f = 17, 26.2%). Almost 2/3 (58.5%)

disagreed with the statement on selecting 5 or lower. Question 41: DE classes have the

same feel as those on campus; where n = 65, the mean response was 3.58; the median

was 4; the mode was 4 (f = 17, 26.2%). Over 3/4 (87.7%) disagreed with the statement

on selecting 5 or lower. Question 42: Instructors of DE classes effectively implement

our school policies (grading, attendance, discipline, etc.); where n = 64, the mean

response was 4.50; the median was 5; the mode was 5 (f = 20, 31.3%). Over 3/4 (75.1%)

disagreed with the statement on selecting 5 or lower. See Table 8.

The eighth construct, Appropriate Students, contained four questions. Question

43: Self-disciplined students are the only candidates for DE classes; where n = 65, the

mean response was 6.32; the median was 7; the mode was 7 (f = 16, 24.6%). Almost 3/4

Table 9

Descriptive Statistics of Items in Construct #8

Question	N	Mean	Median	Mode	% Agree
43. *Self-disciplined students are the only candidates for DE classes*	65	6.32	7	7	72.3%
44. *My average student can do well in DE classes*	65	5.05	5	6	46.1%
45. *DE courses can be utilized with my lower level students*	65	3.51	3	3	13.9%
46. *It is more important that students in DE courses be self-motivated and self-disciplined*	65	7.75	8	10	86.1%

(72.3%) agreed with the statement on selecting 6 or higher. Question 44: My average

student can do well in DE classes; where n = 65, the mean response was 5.05; the

median was 5; the mode was 6 (f = 15, 23.1%). Over half (53.9%) disagreed with the

statement on selecting 5 or lower. Question 45: DE courses can be utilized with my

lower level students; where n = 65, the mean response was 3.51; the median was 3; the

mode was 3 (f = 21, 32.3%). Over 3/4 (86.1%) disagreed with the statement on selecting

5 or lower with a Likert scale range of 1 to 8. Question 46: It is more important that

students in DE courses be self-motivated and self-disciplined; where n = 65, the mean

response was 7.75; the median was 8; the mode was 10 (f = 17, 26.2%), strongly agreed.

Over 3/4 (86.1%) agreed with the statement on selecting 6 or higher. See Table 9.

The ninth construct, Adoption Rate and Knowledge of DE, contained five

questions. Question 47: My colleagues freely share their experiences in using DE

(successful strategies, challenges, models); where n = 64, the mean response was 5.22;

the median was 5; the mode was 5 (f = 21, 32.8%). Almost 2/3 (60.9%) disagreed with

the statement on selecting 5 or lower. Question 48: I am very confident in my ability to

Table 10

Descriptive Statistics of Items in Construct #9

Question	N	Mean	Median	Mode	% Agree
47. *My colleagues freely share their experiences in using DE (successful strategies, challenges, models)*	64	5.22	5	5	39.1%
48. *I am very confident in my ability to use DE in my school as needed*	64	6.59	7	8	67.1%
49. *I would recommend using DE courses to other administrators*	65	6.35	7	8	66.1%
50. *DE programs are relatively easy to start in a school*	65	5.75	6	5,6	53.9%
51. *My school board is very supportive of using DE when appropriate*	65	6.82	7	10	72.2%

use DE in my school as needed; where n = 64, the mean response was 6.59; the median

was 7; the mode was 8 (f = 13, 20.3%). Over 2/3 (67.1 %) agreed with the statement on

selecting 6 or higher. Question 49: I would recommend using DE courses to other

administrators; where n = 65, the mean response was 6.35; the median was 7; the mode

was 8 (f = 16, 24.6%). Almost 2/3 (66.1%) agreed with the statement on selecting 6 or

higher. Question 50: DE programs are relatively easy to start in a school; where n = 65,

the mean response was 5.75; the median was 6; the mode was 5 and 6 (f = 14, 21.5%).

Over half (53.9%) agreed with the statement on selecting 6 or higher. Question 51: My

school board is very supportive of using DE when appropriate; where n = 65, the mean

response was 6.82; the median was 7; the mode was 10 (f = 11, 16.9%), strongly agreed.

Almost 3/4 (72.2%) agreed with the statement on selecting 6 or higher. See Table 10.

The final section of the survey included the questions on demographics. Of the

respondents, 57.8% (n = 37) indicated that they were high school principals while 42.2%
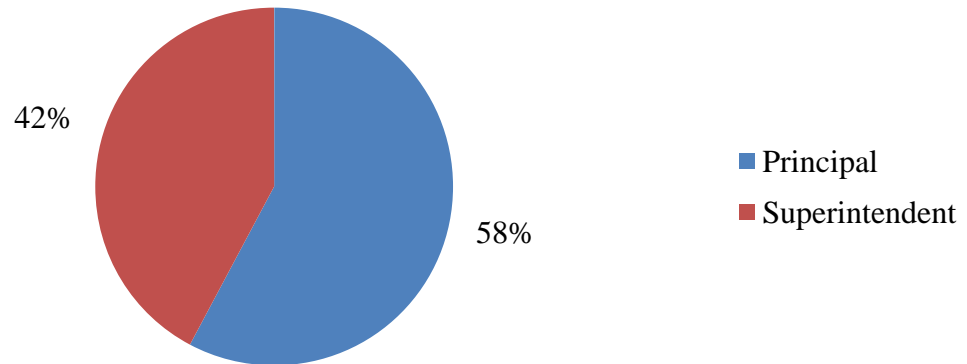
Figure 2: Position Held

(n = 27) were superintendents. See Figure 2. Respondents self-identified as being from mainly rural (n=59, 92.2%) districts while the remainder identified their district as being urban (n=5, 7.8%). See Figure 3. The experience range of respondents varied; however,
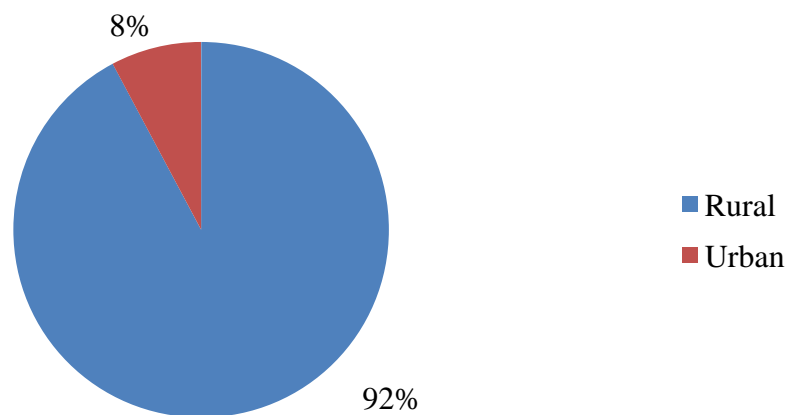
Figure 3: School Location
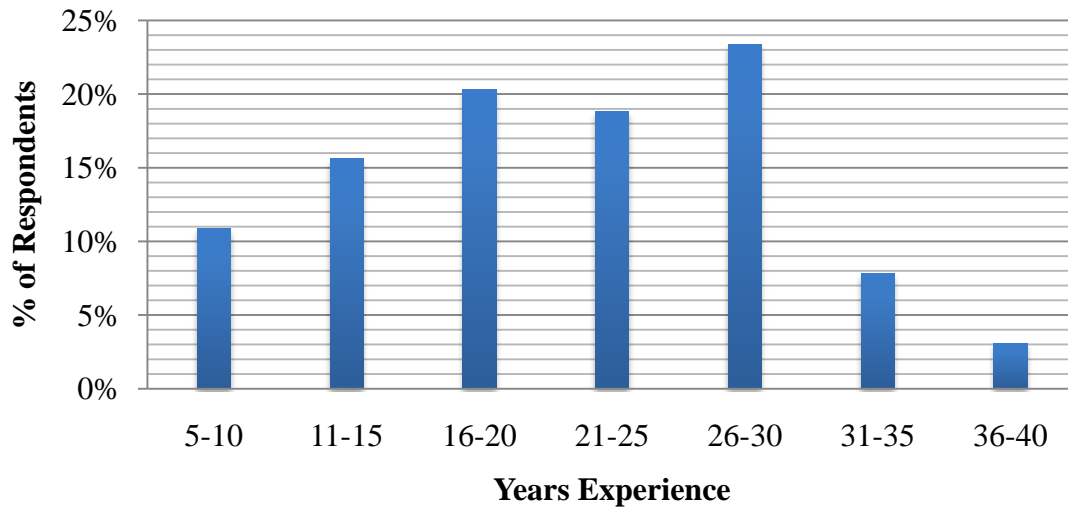
Figure 4: Years of Experience

the largest group (23.4%) of respondents indicated that they had been in education for 26-30 years. See Figure 4. The graduation year of respondents also varied, with the years 1986 to 1990 having the largest percentage (21.9%) of respondents. See Figure 5 The
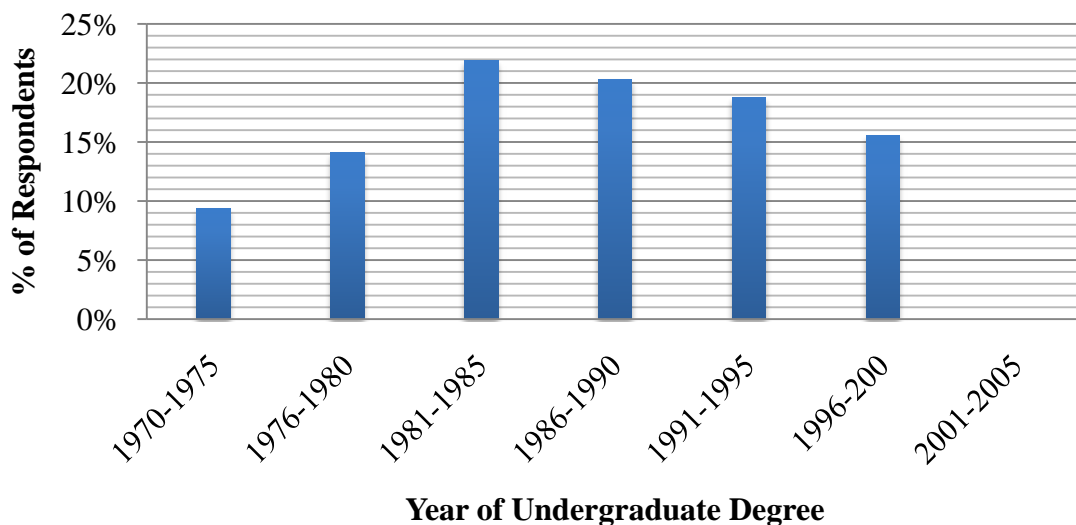
Figure 5: Undergraduate Graduation Date

Table 11

Perceptions of Respondents Toward Distance Education

Question	N	Mean	Median	Mode	% Approve
56. *Please rank your perception of the resources available for your school to implement instructional programs*	64	7.33	7.50	7	85.9%
57. *What is your overall perception of distance education?*	64	6.86	7	8	79.7%

demographic section also asked a series of questions. Question 56: Please rank your

perception of the resources available for your school to implement instructional

programs; where n = 64 and a Likert scale range of 1 to 10; with 1 being very few

resources and 10 being readily available resources; where the mean was 7.33; the

median was 7.50; the mode was 7 (f = 15, 23.4%). Over 3/4 (85.9%) believed that

resources for DE were available by selecting 6 or higher with a Likert scale range of 2 to

10. Question 57: What is your overall perception of distance education; where n = 64

and a Likert scale range of 1 to 10; with 1 being a very poor perception of DE and 10

being an excellent way to deliver instruction; where the mean was 6.86; the median

was7; the mode was 8 (f = 17, 26.6%). Over 3/4 (79.7%) indicated they have a positive

perception of DE by selecting 6 or higher with a Likert scale range of 2 to 10. See Table

11.

It was found that there was a correlation between the roles of being Principal or

Superintendent in relation with being Rural or Urban School. The variables were

statistically significant (a = .01) and had a negatively related (r = -.249). The Pearson r

score indicated a medium effect size (Cohen, 1988) on the correlation. When rural

moved to urban, the number of superintendents decreased.

Board Support Correlations

Board support was a single item used to measure the amount of support the

administrators perceived among the school board members. This single item was

significantly correlated with all nine constructs at the p > .05 level, and with eight of the

nine at the p > .01 level. These data are summarized in Table 12.

Board support was related to Construct #1 – Programmatic Considerations.

Board support was significantly (p < .001), and positively related to Construct #1. The

Pearson r of .434 indicated that board support had a large effect size (Cohen, 1988) on

the relationship. In other words, as board support went from low to high (1 to 10), the

average scores on the nine questions included in Programmatic Considerations also

increased.

Board support was related to Construct #2 – Value Considerations. Board

support was significantly (p < .001), and positively related to Construct #2. The

Pearson's r score of .459) indicated a large effect (Cohen, 1988) on the correlation of the

two. As board support went from low to high (1-10), the average scores on the five

questions included in Value Considerations increased.

Board support was correlated with Construct #3 – Quality of Instruction

containing eight questions. The correlation was statistically significant (p = .007), and

board support was positively related to Construct #3. The Pearson's r score of .334

suggested a medium effect size (Cohen, 1988) for the correlation. As board support went

Table 12
Board Support Correlations by Construct

Construct	*p*	Pearson's r value
Construct #1 – Programmatic Considerations	< .001	.434
Construct #2 – Value Consideration	< .001	.459
Construct #3 – Quality of Instruction	.007	.334
Construct #4 – Ability to Establish an Instructional Setting with Students	.001	.432
Construct #5 – Institutional Control	< .001	.432
Construct #6 – Appropriate Topics	.042	.253
Construct #7 – Campus, Culture, and Climate	.001	.393
Construct #8 – Appropriate Students	< .001	.456
Construct #9 – Adoption Rate and Knowledge of DE	< .001	.707

Note: Values are statistically significant at p < .05 level

from low to high (1 to 10), the average scores on the 8 questions included in Quality of Construction increased.

Board support was related to Construct #4 – Ability to Establish an Instructional Setting with Students containing four questions. The correlation was statistically significant (p = .001). Board support was positively related to construct #4. The Pearson r score of .402 suggested a large effect size (Cohen, 1988) of the correlation. As board support went from low to high (1 to 10) the average scores on the four questions included in Ability to Establish an Instructional Setting With Students increased.

Board support correlated with Construct #5 – Institutional Control containing nine questions. The correlation was statistically significantly (p < .001). Board support was positively related to construct #5. The Pearson's r score of .432 signified a large effect size (Cohen, 1988) of the correlation. As board support went from low to high (1 to 10), the average scores on the nine questions in Institutional Control increased.

Board support was correlated with Construct #6 – Appropriate Topics, containing four questions. These variables were significantly (p = .042), and positively related. The Pearson's r score of .253 showed that board support had a medium effect size (Cohen, 1988) on the construct. As board support went from low to high (1 to 10), the average scores on the four questions included in Appropriate Topics increased.

Board support was correlated with Construct #7 – Campus, Culture, and Climate, containing three questions. Board support was significantly (p = .001), and positively related to Construct #7. The Pearson's r score of .393 showed that board support had a large effect size (Cohen, 1988) on these variables. As board support went from low to high (1 to 10), the average scores on the three questions included in Campus, Culture, and Climate increased.

Board support was correlated with Construct #8 – Appropriate Topics containing four questions. These variables were related at a statistically significant level (p < .001) were positively related. The Pearson's r score of .456 signified a large effect size (Cohen, 1988) between the two variables. As board support went from low to high (1 to 10), the average scores on the four questions included in Appropriate Students increased.

Board support was related to Construct #9 – Adoption Rate and Knowledge of DE containing five questions. These variables were significantly (p < .001) and positively related to Construct #9. The Pearson's r score of .707 indicated that board support had a large effect size (Cohen, 1988) on the correlation. As board support went from low to high (1 to 10), the average score on the five questions included in Adoption Rate and Knowledge of DE increased.

The findings of this study, both qualitative and quantitative, are summarized in the following chapter.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND

RECOMMENDATIONS

Introduction

The findings of this study are summarized in this chapter. The results of the

qualitative portion of the research are presented with a summary of the interview

responses. Conclusions were drawn based on the interviews, and the results of the survey

are discussed. At the end of the interpretation of the interview responses, the researcher

summarized the findings in a bullet list format consisting of eight conclusions. Next, the

researcher interpreted the statistics and frequency of individual survey questions in each

of the nine constructs and the demographic section. There was also an overall

interpretation for each of the nine constructs. At the end of the survey summary, there

was an overall summary of the administrator perceptions that produced barriers to fully

implementing distance education in secondary school settings. At the end of Chapter 5,

the researcher has provided implications to practice, and recommendations on how to

alleviate administrator perceptions, as well as final conclusions.

Summary of Qualitative Research

After recalling the interviews, reviewing the interviews, and transcribing notes to

report the data in Chapter 4, it was determined that respondents held a generally positive

attitude toward DE. Most of the responses, however, described what the respondents

expected DE to deliver to a student or school, and not what they had actually witnessed

or experienced. Because many these responses addressed the potential of DE, these

responses were coded as opportunities rather than strengths. Of the 19 strengths or opportunities cited by the respondents, only six were positively identified as actually having been experienced or observed by the respondents. A significant number of respondents had not actually witnessed DE in a real-life setting.

Strengths and Opportunities

Respondents who had experiences with DE, either as students themselves or as education leaders, were most likely to respond positively to DE. Those experienced with DE were more likely to cite the strengths and opportunities in DE than those who had little or no experience with DE. This tendency to respond more positively about DE implied that the more knowledge and experience educational leaders had with DE the more likely it is that they are willing to see its value in the school.

Some of the strengths cited by these educational leaders were the opportunity to offer specialized courses to students. This strength received the largest number of remarks and was followed closely by the opportunity to offer a wider variety of courses in a school's curriculum. Another positive response was that DE would allow greater flexibility in meeting the 4x4 legislative mandate. Additionally, there was an economic advantage with the use of DE because schools do not have to pay or hire a teacher with specialized certificates. Instead of hiring a full-time educator with the corresponding certificate, school districts could use DE to hire teachers/courses a la carte—meaning schools could pay for specific courses or for specific sections and would not have to pay for the full teacher and their accompanying benefits. There was a general feeling of fear or trepidation toward fulfilling the 4x4 mandate, but the flexibility of DE was one of the

strengths noted by respondents that could help their school district meet its needs. This sentiment echoed that of Evans and Nations (1992) who showed that DE allows schools in rural areas to offer courses which might not be otherwise available to students due to the limited number of teachers willing to live and work in such communities.

There were a large number of responses that addressed the opportunities which DE could provide. One of the opportunities most often mentioned by respondents was the offering of dual credit courses in which a student can receive credit toward both high school graduation and college coursework. Offering dual credit courses through DE was mentioned as potentially lower the cost of students going to college by lowering the cost of transporting students to an on-site college. Additionally, the safety and security of students would be increased because students were now able to remain on campus, were able to be actively monitored by school staff, and the potential for truancy was reduced by being in a high school environment as opposed to a college campus. Most importantly, students in DE dual credit courses received a preview of what collegiate work is going to be. Students were able to take college coursework. They were able to experience the rigor of college, previewed the amount of time required to be successful in college, and gained a sense of the independence that comes along with being a college student. In many ways, the dual credit experience lessened the fears of potential college students and prepared them better for post-secondary education. DE was a useful resource to facilitate this process.

In addition to dual credit courses, the opportunity to offer foreign language courses was also frequently referenced by respondents. Foreign language courses,

specifically Spanish, have been offered in the DE format for some time. However, not all schools take advantage of using DE to offer foreign language courses. With the budget shortfall in public education, it is likely that the need for foreign language courses to be offered through DE will increase in the near future.

Several other positive opportunities cited by the respondents were the ability for students to experience virtual field trips, allowing students to gain worldwide perspectives, and the training to be lifelong learners. There was an overall feeling that virtual field trips would give the students a more enjoyable school experience. These types of experiences, though generally not measureable, were the types of activities that students tend to remember and will help make the school experience more satisfying.

Threats and Weaknesses

In the discussion of the weaknesses and threats, the researcher received a more pronounced and distinct tone of the disadvantages of DE. While the strengths and opportunities were coded into 19 different themes, the categories of weaknesses and threats were coded into 51 different themes; respondents were very succinct in their criticism of DE and their listing of disadvantages of DE. There was one response that was given by all 17 interviewees. This response was that only self-disciplined, self-motivated students would be successful in DE courses. This finding reiterated Maguire's (2005) findings that educators' believed that DE is successful only with students of a certain age who have gained the maturity and self-discipline necessary to be successful in DE. All respondents were direct in their assessment with some giving additional anecdotal information as to who would generally succeed in DE courses.

Another theme which received great consideration was the funding DE. Similar to the observations of Evans and Nations (1992) and Galusha (1997), educators found the cost of DE, as it pertained to maintaining, using, and upgrading technology, one of the main barriers to the implementation of DE. Funding of DE included hardware, software, and obtaining adequate bandwidth. Cost of facilities was also included under this umbrella. Cost or funding was a major concern in every school system, because anytime a program was initiated that is not the norm, a different budget line item was added to a budget, and scrutinized more closely by the entities not directly involved in the day to day operations of school systems.

Scheduling of classes manifested itself as a great concern with the respondents. College courses did not generally fall in line with the daily schedule of a school. College courses have a tendency to be scheduled on the hour and last either an hour or an hour-and-a-half. K-12 public schools do not necessarily run on the same schedule. Many schools have unusual start/stop time, i.e. 1st period from 8:00 a.m. to 8:47 a.m. When attempting to schedule students to receive the maximum amount of classroom instruction, there was often an overlap in college class time and high school class time that inhibited the ability of schools to schedule students in those classes. Students often had "down time" between classes when neither a college dual credit class, nor a traditional high school course, was available. Another aspect of scheduling down time is the fact that most college semesters finished before the K-12 public school semester. Students in dual credit courses were left with weeks of time when they have completed their college course, but they had to attend their high school for attendance purposes.

Students had to be monitored at these times. The monitoring of these students during this "down time" was a source of concern for administrators and created a level of trepidation from respondents regarding how to supervise these students. These fears were similar to those noted by McHenry (2009) and Galusha (1997) who both discussed the possibility of the loss of control in the classroom and the requirement of having an adult present at all times to monitor discipline. In addition, the conflict in scheduling often created a distraction for students because bells often rang during their dual credit class, announcements occurred, and class changes by students not taking dual enrollment occurred.

Another source of anxiety noted by administrators is the assigning of grades in dual credit courses. To begin, dual credit courses did not follow the typical 6-week or 9-week grading cycles used by most K-12 public schools. Often times, dual credit courses did not even give mid-term grades as a progress report to show students and the K-12 public school dual credit facilitator how students were progressing in their dual credit classes. Schools were often left in the dark until after the semester in regard to how students were doing. Because of the Federal Education Rights to Privacy Act (FERPA), students in dual credit only voluntarily allowed access to their grades prior to the end of the semester. K-12 public schools found out until too late that a student has failed a dual credit class, which meant that the students did not get the high school credit for the course either. A loss of high school credit has caused the student to not graduate, to not graduate on time, or to have to attend summer school to complete a credit recovery class in order to receive their high school diploma. Since students in dual credit courses were

taking upper level courses, it was often difficult for school administrators to staff a summer school program with teachers who were qualified to teach upper level coursework. Students who were juniors and failed to receive credit in dual credit courses become even more difficult to schedule as seniors because they had to make up for the loss of credits they had as juniors.

A number of responses—cited by at least half of the respondents—were categorized under one large umbrella theme simply labeled "lack of control." The components of lack of control were: delivery of instruction, quality and consistency of course, speaking content, flexibility of use of staff, communication between students and administration, administration input and evaluation, quality of instructional content, and discipline concerns. These 12 individual items were cited by the respondents and were individually reported by the researcher in Chapter 4. Administrators feared what they believed would be a lack of control in DE courses. Instructors, sometimes hundreds if not thousands of miles away, were responsible for the instruction in the classroom. Often these instructors were not employees of the district, so there was a high level of anxiety from administrators that there was a lack of "control" of these instructors. Unlike the traditional school setting where administrators can closely monitor the behavior of the staff, many administrators felt that they have the same supervisory control with DE instructors. As can be expected, this lack of control created a level of anxiety in administrators that did not occur with traditional instruction.

However, if one looks closely at these responses, they were all activities that could and should fall under administrator's supervisory duties. If a supervising

administrator was doing his or her job adequately and sees a problem with any of the aforementioned responses, there should be the opportunity to make corrections, adjustments, or changes. Whether real or perceived, the responses from the respondents make the researcher felt that the administrators have lost some degree of control on one or more of these items and are very uncomfortable as a result. DE increased the risk to the local administrator, the potential for failure increased, and they lacked of ability to control the outcome.

Two other themes falling under the threat category were mentioned by respondents. The first of these two themes was that there were few models of successful DE programs for prospective teachers to observe in order to prepare themselves for DE courses. In their study, Murphrey and Dooley (2000) found that there was a lack of teacher support due to the lack of available professional development for teacher who taught a DE course. There were 13 respondents out of the 17 who stated that either they had never been in a system with DE or that they had never observed a successful DE program. The second response, mentioned by 12 out of 17 respondents, was that there was a lack of communication with other administrators on how one could begin a DE program or how a DE program works. The researcher was startled to the point of disbelief that this many respondents cited these two responses. The researcher believed this to be the inherent competition between schools. If an administrator had something that is working or is successful, that administrator wanted to keep this a secret so he or she could stay ahead of the other schools. This thought was expressed by only 2 of the

interviewees, yet it seemed to be the unspoken thought of the majority of the other interviewers.

Conclusion

From the summary of qualitative interviews, eight conclusions were drawn. Administrators believed that:

1. DE has great potential

2. DE allows for a greater variety of courses

3. DE allows a school to deliver educational activities that would otherwise not be possible.

4. They lack control of DE programs.

5. DE is not for every student

6. If their job security is not threatened, administrators will use DE more.

7. Generally, administrators lack experience with, and knowledge of, DE.

8. DE courses are not as good as traditional courses.

The first three conclusions represented what administers believed are the strengths and opportunities of distance education. The last 5 conclusions are the weaknesses and threats to distance education as perceived by administrators. These conclusions were used as a framework in the construction of the quantitative survey questions.

Summary of Quantitative Research

The findings of the qualitative interviews were used to formulate and refine items included on the survey instrument. The findings were coded into 9 major constructs which were drawn from the emerging themes recorded during the interviews. Using the

methodology proscribed by Schwarz (1996), the number of questions in the survey instrument was reduced from 71 to 57 questions. In examining the descriptive statistics of individual survey questions, as well as examining the constructs against the variable that were placed in the demographic section, the researcher identified some findings that contradicted the findings of the qualitative interviews completed at the beginning of this study. Although there were some contradictory findings, the quantitative data supported the qualitative responses in most instances. One specific example of the contradictory findings was in the support of DE by administrators in relation to the support of DE from the School Board. While the qualitative research indicated that administrators believed that DE was a good thing, and has potential for future use, the number of obstacles to overcome was too great to fully implement DE. However, the quantitative research indicated that administrator perception of these obstacles was reduced if the administrator had support from the School Board. These apparently contradictory findings can be interpreted, and will be discussed in greater detail later.

Summary of 9 Constructs

The 57 questions contained in the 9 constructs covered all areas of concern that were traditionally associated with a school system. Those concerns included instructional, social, and overall value of distance education. The first construct named Programmatic Considerations was developed on the how, why, and where one would or could use DE. Programmatic Considerations contained 9 questions, and every question earned a positive score., Question #4 earned the lowest favorable rating (53.9%) while question #3, which dealt with helping to meet the state requirement pertained to 4x4,

earned the highest favorable rating (73.4%). Overall the respondents agreed that DE could potentially provide a positive impact for their students. This positive impact to the school can be identified by a greater number of course offerings, a wider variety of course offerings, or by allowing students to experience different activities not normally found in traditional courses.

The second construct was named Value Considerations and contained 5 questions. This construct was developed to consider cost saving. In 4 of the 5 questions, the respondents disagreed with the statement that DE produced cost savings. This finding closely followed the findings of Evans and Nations (1992) and Galusha (1997) which both found that DE is cost prohibitive for school. However, one received overwhelming support (82%) with 24% of the respondents who strongly agreed that DE courses were used to effectively meet the need for required courses with low students' numbers. These results suggested that the respondents recognize they could provide a required course to low student population classes, but do not know if they can save money, because they have not tried with other classes.

When attempting to find the correlation between the demographic variables and construct #2, one significant finding emerged. As the age of administrators increased, their view of the value of DE decreased. This result was interpreted that more experienced administrators have had less experience with DE, as well as having a longer track record with the traditional instructional techniques, and therefore they saw less value to DE.

The third construct was named Quality of Instruction and contained 8 questions. This construct was the how, what, and where of disseminating knowledge from the instructor to the student. Questions in this construct were designed to measure administrator perceptions with regards to how a DE instructor compared to a tradition classroom teacher in his/her expertise, lesson presentation, and ability to transfer their knowledge to students. In this construct, administrators disagreed with 7 out of 8 questions vigorously with more than 2 to 1 in disagreement. The only agreement, which was weak at 57.2%, was question #19 which asked whether DE provided opportunities for students to learn with a teacher who possessed greater expertise. However, this can be considered as being cancelled out by question #20, which asked if DE instructors were highly skilled master teachers. There was 57.1% disagreement with this statement. Overall, administrators seemed to feel that traditional teachers, and traditional teaching methods, were as good if not better than the quality of instruction in a DE classroom. This result is similar to the findings of Galsha (1997) who observed that teachers are reluctant to change their teaching styles, and would likely revert to traditional teaching methods, even in a DE course. Murphrey and Dooley (2000) had similar findings when they noted that DE teachers will often become distracted by the technology, and Blum (2005) who noted that on-site teachers provide better feedback which allowed students to feel they are part of the school environment. This also supported the research of Berge and Mrozowski (1999), who observed that respondents felt that the computer applications in a DE class were nothing more than overblown video games, and only minimal learning was taking place in the classroom.

The fourth construct titled Ability to Establish an Instructional Setting with Students contained 4 questions. The construct was about the teacher/student interaction. Again, the administrators indicated what they perceived as a lack of teacher/student interaction with all four questions receiving a 60% or more disagreement in their responses. The responses in both construct 3 and 4 indicated that administrators do not think that DE courses and DE instructors were as good as traditional courses in both their ability to share knowledge (teaching) and their ability to create a relationship with students. Blum (2005) noted that DE students tend of have a feeling of isolation which negatively affected their achievement in the DE classroom due to the lack of student-teacher interaction. This finding also supported the findings of Galusha (1997) and Maguire (2005) who found that the separation between the teacher and students removed a vital link of communication, and reduced student achievement.

The fifth construct, Institutional Control, contained nine questions. This construct was developed to measure the administrators' perception of their level of ability to control DE classes. In seven of the nine questions, administrators disagreed with the questions. Two of the questions showed overwhelming disagreement in that over 80% of respondents disagreed with the questions. The two questions recording high disagreement rates were question 28, which stated "DE instructors are able to effectively manage classroom discipline" (84.6%), and question 33 "I have control of DE course content" (81.1%). 16 administrators, or 24.2%, selected strongly disagree with those two statements. The two questions with positive responses from administrators had to do with the administrators giving their approval to teach DE in their school, and since they

gave their approval, they felt in control. When administrators gained or possessed control of the courses, they felt most comfortable.

The sixth construct, Appropriate Topics, contained four questions. The construct was developed to identify administrator perception on what courses were appropriate for DE. Three of the four questions met with disagreement. For Question #36, "DE courses are appropriate for all students in all subjects," 84.7% of respondents disagreed, and 28 respondents (43.1%) strongly disagreed. The question with which respondents agreed was question #39, "DE courses are more appropriate for captive and higher level classes (e.g., Calculus, Dual Credit, etc.)." This received a 64.6% or almost 2/3 agreement rate. While this was not as high as the 84.7% disagreement rate for question #36, it does represent a substantial number of respondents in agreement. Incidentally, the 84.7% disagreement value for question #36 represents the second highest value recorded for either strongly agreed or strongly disagreed with a statement. The high rate of disagreement was interpreted to mean that administrators believed that only students capable of achieving success in higher-level courses should be allowed in DE.

When applying the demographic variables to construct 6, one finding of significance revealed itself as a positive correlation. As the perceived wealth of the district by administrators increased, the view of appropriate topics increased. As the wealth of a district increased, more discretionary money was available to try or experiment with increased DE courses, which in turn increased the administrators' perceptions that more topics would be appropriate to be delivered by DE.

The seventh construct, titled Campus Culture and Climate, contained three questions. This construct was developed to measure the administrators' perception on the creation or the replication of DE to a traditional classroom atmosphere. While the seventh construct contained only three questions, the construct had the highest disagreement rate of all. Question #41, "DE classes have the same feel as those on campus," garnered the highest individual disagreement rate (87.7%). Although a high percentage of respondents disagreed with this particular question, there were few respondents who indicated that they "strongly agree" with the statement. This indicated that though there is an overall disagreement that DE courses are reflective of campus culture when compared to traditional courses, administrators perceived that they did not radically change the overall campus climate.

The eighth construct, Appropriate Students, contained four questions. This construct was developed to see which student's administrators perceived should take DE courses. Of the four questions in this construct, two garnered agreement, and two garnered disagreement. Two questions, number 45, "DE courses can be utilized with my lower level students," received an 86.1% disagreement rate. Question 46, "It is more important that students in DE courses be self-motivated and self-disciplined," received a 86.1% agreement rate, with 26.2% strongly agreeing, that only self-motivated and self-disciplined students should take DE courses. If one rereads the questions closely, even though the results seem to be on opposite ends of the range, they really said the same thing. Administrators almost unanimously believed that DE course offerings should be offered only to high-achieving, self-motivated, self-disciplined students.

The ninth construct, Adoption Rate and Knowledge of DE, contained five questions. This construct was developed to measure administrators' perception of their knowledge, ability to duplicate, and their willingness to share experiences on DE. This construct contained some contradictory results. Question 47, "My colleagues freely share their experiences in using DE (successful strategies, challenges, models)," received a (60.9%) disagreement rate, yet question 49, "I would recommend using DE courses to other administrators," received a (66.1%) agreement rate. Almost 2/3 of administrators said no one will tell them about their DE experiences, while 2/3 of administrators also agreed they would recommend DE to other administrators. It appeared that administrators will tell you DE is good but will not tell you how to make it work for you. Therefore, it is by chance that an administrator would get to experience or observe a good-working DE program. This finding was considered to be the disconnect point in Rogers (1983) diffusion of innovation. Rogers stated that diffusion is a process where and innovation was diffused through communication. The lack of communication noted by respondents caused a breakdown of the diffusion process. Educators who more readily shared or who had colleagues who readily shared their success with DE would be more likely to use DE in their schools.

The last question, number 51, "My school board is very supportive of using DE when appropriate," received almost 3/4 (72.2%) agreement, which included (16.9%) strongly agreed with the statement. This question and its accompanying results seemed innocuous at first glance, yet this one question, when used in a correlation with the constructs, produced the most significant results of the testing used on the statistics. A

more detailed interpretation explained question 51's significance when correlated to the

nine constructs. In addition, these correlations served as the foundation of the

interpretations, implications, and recommendation of this study.

Summary of Demographics

When discussing the statistics of the demographic section, the information was

summarized in the following way: the responses to the survey are almost equal between

principals and superintendents. The respondents were generally 50 years of age and

received their undergraduate degree in the early 1980s. The respondents stated

overwhelmingly (85.9%) that they had adequate funds to implement instructional

programs, and 79.2% of the respondents indicated that they had a favorable perception

of DE. Question 53, "I would consider my school to be located in the following area,"

had a response that surprised to the researcher. The overwhelming majority (92.2%)

stated that they were from a rural area. One reason for this seeming disparity among

rural/urban was the exclusion of Austin ISD which had their own IRB approval

processes and was therefore not included in the survey. In addition, this fact might have

contributed to the almost equal representation of the principals'/superintendents'

response rate to the survey.

As stated earlier in this section, question 51, "My school board is very supportive

of using DE when appropriate," was part of construct #9 titled Adoption Rate and

Knowledge of DE. The researcher felt it was a valid and reliable question to be used in

the survey. However, it was felt by the researcher that the question did not quite fit into

the construct #9 scenario, but the researcher knew it definitely did not fit in the

demographic section. Consequently, the researcher used question 51 as a separate variable and ran an analysis against the nine constructs. The results were dramatic. When comparing question 51 with Construct #9, a Pearson's r correlation of .702 indeed proved its validity to be placed in the ninth construct. In addition, when the analysis was run with the other 1-8 constructs, a very high Pearson's r correlation appeared with the Pearson's r correlations ranging from a Pearson's r = .253 to a Pearson's r = .459, all with positive significance greater than .05 level. These findings show what Cohen (1988) described as medium to large effect sizes of the relationships. These results clearly showed that when administrators' perceived approval by the school board, they were more likely to use, implement, and embraced DE.

Conclusions of Quantitative Research

The data from the quantitative survey indicated administrators generally perceived DE to be a positive thing for their school. They also generally believed that DE did improve their course selection to their students. Administrators generally believed that distance education was a good thing and had great potential.

On the other hand, administrators perceived many barriers to fully implementing DE in their respective schools. Most of the barriers described by administrators are the same challenges they encounter in their schools now. These barriers included hiring quality personnel, who were able to exhibit high quality instruction, and maintain discipline in the classroom. Other barriers faced by traditional brick-and-mortar administrators are curricular issues, such as rigor in the classroom, and being able to cover the entire curriculum. The frequently cited barrier, that DE was not for all

students, was also a common problem in the traditional classroom setting. However, not all students are as successful as educators want them to be, and the traditional classroom setting presented a challenge to these students as well. While administrators perceived the barriers were limited to DE, the truth is, that many of their perceived barriers were present in traditional, every day classrooms.

The researcher was able to identify the lack of first-hand experience, the lack of communication among administrators, and the lack of adequate knowledge of DE, as the three most important barriers to the full implementation of DE. With the completion of this study, the researcher believed the main barrier to the more widespread use of DE was the job security of the administrator. As expressed earlier, most barriers or challenges were the same as those experienced in the traditional school setting. If a course is not successful, the administrator can intercede, and try to change the situation with responses ranging from a growth plan to termination of the teacher. The administrator can demonstrate that they were on top of the situation, tried to make it successful, and that it was the other person who failed. With DE, and the administrators' perceived lack of control over its implementation, and there was no one to blame for a lack of success except the administrators who implemented the DE course or program.

As demonstrated by the Board Support Correlations, the more support given by school boards, the more likely the administrator will be to take the risk, or the perceived risk, and DE will be implemented more rapidly. There is risk in any change, and if DE fails, or is not as successful as anticipated, the administrator can remind the school board that they pushed to get DE into the school.

Implications

From the conclusions of this study, several implications for administrators investigating the use of distance education were drawn. First and foremost, this research clearly demonstrated that an administrator must seek the approval and support of the local school board before attempting to implement and/or expand distance education on their campus(es). It will never truly be known if there can be positive effects of distance education on our current school system unless the risk these administrators perceive to their job security can be reduced. Most administrators will not implement or experiment with distance education unless they feel they have board support. Using Rogers (1983) theory of diffusion of innovation, it becomes necessary that administrators, who could be considered the innovators, take the necessary amount of time and energy to communicate with their respective school boards the possible benefits of DE. These school boards would then take on the role of early adopters who both encourage and further disseminate the information gained and the success of their DE programs. As Rogers's noted, early adopters serve as opinion leaders within a system and can help persuade others who might resist the adoption of technology. Therefore, school administrators must do what they can do to gather support from board members.

A further implication from this study is that school board members must be educated about the opportunities and benefits of distance education. Support by the school board is vital to the implementation of DE. School boards help set the vision for the district and approve expenditures for the district. Any costs associated with implementing distance education, fiscal or political, including the possible loss of

personnel, must have board approval. As school board members become more educated about the instructional and economic benefits of distance education, they will be more likely to support its use. Not only will they be able to show support through the approval of financial expenditures, school board members often play a vital role in communicating with the constituents of the district. If school board members are able to communicate the positive aspects of distance education, it is more likely that the use of distance education will gain support from the community.

Another implication of the study is the impact distance education has on a student's knowledge and comfort with technology. As the global market becomes more digitized, a certain level of comfort with technology becomes a necessity for those applying for jobs. Beyond jobs, many governmental services, both Federal and state, are moving online to reduce the number of government employees and increase its efficiency. It is likely that within the next 10-15 years, many governmental services (i.e. tax returns, certifications, licenses) will be serviced only online. One example of this trend is the Federal Application for Financial Student Aid (FAFSA). Students are no longer able to submit hard copies of their FAFSA application. They must submit their application online. Distance education courses encourage students to use technology in a way that will allow them to be more comfortable and familiar with the terrain of a digitized world. Therefore, distance education will be of greater benefit for students in future years.

Recommendations for Practice

Based on the qualitative and quantitative conclusions of this study, several recommendations for practice were developed for those at the state level, for those in higher education, and for those in public school K-12 districts, as well as recommendations about technology used in distance education. The Texas Education Agency (TEA) should develop policies to ensure that distance education courses meet the standard that traditional classrooms must meet. For example, TEA should develop minimum certification levels for those instructing distance education. Much like the state does for special education, gifted and talented education, or English as a second language, the state should require a distance education endorsement for any teacher wishing to teach a distance education course. This endorsement would ensure that the teachers have received adequate training to teach a distance education course.

In addition, the state should develop a set of minimum standards for a distance education classroom. Distance classes should not longer be relegated to a converted closet. Much like the state did when it mandated minimum standards for science labs; distance education labs should have minimum standards for things like size, lighting, and equipment. This would ensure that students taking distance education classed receive the best opportunity to be successful, achieve, and progress to the next level.

Finally, the state should set out to identify successful distance education programs to use as models for instruction. One of the main issues regarding the diffusion of innovation with distance education is the fact that the success of distance education is not often communicated. Administrators interviewed and surveyed

revealed that they had rarely, if ever, seen a successful distance education program. By identifying and acknowledging successful distance programs, the state could serve a vital role in aiding the communication between districts about distance education.

Recommendations for higher education include the development of courses which will inform education majors about distance education and how one might teach, utilize, and implement distance education courses. These courses should be included for educators who intend to teach in the K-12 setting as well as those who plan to teach in higher education. Though distance education courses are taken by many college students, those courses are generally done at the graduate level. Distance education courses should be provided and included in undergraduate courses as well. By developing this knowledge early in a prospective teacher's career, it is more likely that these future teachers will implement distance education in the future. Familiarity with distance education will also alleviate the lack of first-hand knowledge and experience with distance education, which were listed as two of the biggest barriers to the implementation of distance education. In addition, this will likely increase the communication between educators about the benefits of distance education and help facilitate the diffusion of innovation.

The researcher recommends that K-12 districts' efforts to increase the use of distance education begin with the adequate training of school board members regarding the benefits of distance education. This training can be given by local administrators and education service center personnel, as well as the continuing education provided through the Texas Association of School Boards. Again, the biggest factor for the

increased use of distance education is the support of the local school board. School boards who receive training on distance education are more likely to support its implementation. Therefore, it is necessary for local school boards to receive this training on a regular basis.

Local school districts who wish to implement distance education programs should to begin the implementation of distance education application with students at the elementary level. Such applications might include the use of online guest speakers, virtual field trips, and other interactive activities. As elementary students become familiar with distance education, they are more likely to take distance education courses in the future. One of the main concerns cited by administrators is that distance education courses are only appropriate for students who are self-motivated and self-disciplined. Early knowledge of distance education for all students will allow all students to learn, understand, and appreciate how distance education can be a valuable tool in their education and future success. For that reason, distance education in the elementary setting is vital.

A final recommendation for K-12 students would be to require all students in high school to take a distance education course. Distance education courses might be required on a yearly basis or simply limited to juniors and seniors; however, it is important that all high school students, regardless of their perceived self-motivation, take distance education courses in order to become more familiar with the digitized world which is inevitably coming. These courses can serve as a critical link between learning in school and life beyond school in being a productive citizen.

Finally, the author recommends that there be some minimum technology requirements for schools which provide distance education. These recommendations include the use of emergent technologies, including the use of virtual student/instructor interactions. In virtual students/instructor interactions, the instructor is physically separated from the student, yet the instructor can view students' responses and actions in real time. Instructors may be hundreds or thousands of miles away, but they are able to see what the student is doing in the class and can make instant corrections to the student. Examples of this technology might include the use of interactive white boards where the teacher can instantly evaluate and monitor student progress, or the use of interactive tablets which show the instructor exactly how the students are responding to problems. This type of real time response is important for students because they will be able to see that the instructor is properly monitoring them and will increase the likelihood that students are active and on task in the distance education classroom.

Recommendations for Additional Research

Due to the high correlation between school board support and the implementation of distance education, it would be beneficial to research school districts which have school boards that are highly supportive of distance education. A researcher must first be able to find districts that have a school board that supports distance education. Then the researcher could replicate this study specifically in school districts in which school boards support distance education. By studying school districts which have high support from the board, one would be able to compare the perceptions which could lead to barriers to fully implementing distance education in schools. Another aspect of the

additional research would be to ask school board members why they support distance education. Did these school board members receive better communication about the innovation—as described by Rogers (1983)—compared to other school board members? Did these board members have better communication channels? Are they innovators and early adopters? Did they receive special training? All of these questions would be important to know if one were to more fully implement a distance education program.

Another type of additional research might be to study the perceptions of administrators about the different types of distance education. This study limited itself to "distance education." However, there are a variety of types of distance education. There is online distance education where interaction is strictly limited to online communication. There is two-way interactive distance education where there is an off-site instructor and a separate class of students. There are also hybrid courses where it is a combination of face-to-face, two-way interactive, or online. While this research studied the perceptions of administrators on distance education as a whole, it was not specific to one type of distance education. Administrator perceptions may be different when comparing online distance education to two-way interactive distance education. By focusing interviews and a survey instrument to one type of distance education, it would be easier to make more detailed recommendations for each type of distance education.

Final Conclusions

The use of distance education as an instructional option to deliver required course material was found in numerous schools across Texas. Most administrators had heard about DE, but most do not know much about it, and most had an unfavorable

opinion about DE. Currently, if distance education is used, it is used out of necessity, not because school districts wanted to use distance education. Administrators were reluctant to use DE because of their lack of knowledge, or their lack of control over DE. However, from their responses to the survey, it seemed clear that their real reluctance to implementation, or at least experimentation, was that DE was not the traditional method of delivery of instruction, and if it fails, they might lose their jobs. The survey showed that if there was school board support, administrators' perceptions of the barriers to implementing or using DE diminished. In other words, if administrators believed they had support from the school board, administrators were more likely use DE. If the local community wants to see greater usage of DE, or if administrators want to use DE more, then their respective school boards will need to be educated more on DE. If this happens, there will be more use of DE in secondary schools. Respondents were quick to give numerous reasons as to why they did not use DE in their schools. However, there was an overall feeling that respondents did not want to be held accountable for the failure of DE and that this fear was the ultimate guiding force behind the lack of implementation of DE.

REFERENCES

Almenda, M. B. (1988). Speaking personally with Gale B. Childs. *American Journal of Distance Education*, *2*(2), 68-74.

Beck, R. H. (2009). *The three R's plus: what today's schools are trying to do and why*. Minneapolis, MN: University of Minnesota Press.

Berge, Z. L., & Mrozowski, S. (1999). *Barriers to online teaching in elementary, secondary, and teacher education*. Retrieved September 17, 2007, from http://www.emoderators.com/barriers/barrwire.shtml

Blum, R. W. (2005) A case for school connectedness. *Educational Leadership, 62*(7), 16-20.

Carl, I. M. (1984). Finding—and keeping—good math and science teachers. *Clinic, E-81*. (ERIC No. ED251329)

Childs, G. B. (1973). *Correspondence study: concepts and comments*, *Paper published at the meeting of the National University Extension Association*. Omaha, NE.

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

Demiray, U., & McIsaac, M. S. (1993). Ten Years of Distance Education in Turkey; In B. Scriven, R. Lundin, & Y. Ryan, (Eds.) *Distance education for the twenty-first century, .* Oslo, Norway: International Council for Distance Education.

Dillman, D. (2007). *Mail and Internet surveys: The tailored design method.* Hoboken, NJ: John Wiley & Sons, Inc.

Equity Center. (2010). Money does matter! Investing in Texas children and our future. Retrieved June 27, 2011, from http://www.dfpe.org/pdf/FINAL_MoneyMatters-101910.pdf

Evans, T., & Nation, D. (1992). Teachers experience of teaching by *telematics*: some preliminary research findings. Retrieved September 17, 2007, from http://www.aare.edu.au/92pap/evant92428.txt

Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education.* New York, NY: McGraw Hill Publishing.

Friedman, T. L. (2005). *The world is flat: a brief history of the Twenty-first Century*. New York: Farrar, Straus, and Giroux Publishers.

Galusha, J. M. (1997). Barriers to learning in distance education. Retrieved September 17, 2007, from http://www.infrastruction.com/barriers.htm

Gay, L. R., & Airasian, P. (2003). *Educational research:competencies for analysis and applications.* Columbus, OH: Merrill Prentice Hall.

Hacker, H. K. (2006, July 16). State to require more of grads: 4th year of math, science could cut into electives, hurt middling students. *Dallas Morning News*. Retrieved from http://www.dallasnews.com/cgi-bin/gold_print.cgi

House Bill 1, 79th Legislature, 3rd Called Session, 2005. (2006)

Jeffries, M. (n.d.). The history of distance education. Retrieved April 26, 2011, from http://www.digitalschool.net/edu/DL_history_mJeffries.html

Knowles, M. S. (1977). *The adult education movement in the United States* (Revised Edition). Malabar, FL: Krieger.

Lewis, E. (2009). *An examination of perceptions, attitudes, and levels of job satisfaction of faculty teaching in a distance education environment*. (Unpublished doctoral dissertation). Auburn University, Auburn, AL.

Lincoln, Y., & Guba, E. G. (1985). *Naturalist inquiry*. Newbury Park, CA: Sage Publications.

Linder, J. R., Murphy, T. H., & Briers, G. H. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education*, 42 (4), 43–53.

Maguire, L. L. (2005). *Literature review- faculty participation in online distance education: Barriers and motivators*. Retrieved September 17, 2007, from http://www.westga.edu/distance/ojdla/spring81/maguire81.htm

Martin, N. (2007). *Doc @distance agricultural program reaches out*. Retrieved March 17, 2009, from http://www.depts.ttu.edu/communications/news/stories/07-02-doc-distance.php

McIsaac, M. S., & Gunawardena, C. N. (1996). Distance education; In D. H. Jonassen, (Ed.) *Handbook of Research for Educational Communications and Technology: A Project of the Association for Educational Communications and Technology*. New York: Simon & Schuster Macmillan.

Mupinga, D. M. 2005). Distance education in high schools: Benefits, challenges, and suggestions. *The Clearing House, 78 (3),* 105-108.

Murphrey, T. P. & Dooley, K. E. (2000). Perceived strengths, weaknesses, opportunities, and threats impacting the diffusion of distance education technologies for

colleges of agriculture in land grant institutions. J*ournal of Agricultural Education*, 41(4), 39-50.

Nasseh, B. (1997) A Brief history of distance education. *Senior Net . Adult Education in the News*. Retrieved April 26, 2011, from

http://www.bsu.edu/classes/nasseh/test200/start.html

No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).

O'Donoghue, T., & Punch, K. (2003). *Qualitative educational research in action: doing and reflecting.* New York: Routledge.

Open University. (2011). *History of OU*. Retrieved June 6, 2001, from

http://www8.open.ac.uk/about/main/the-ou-explained/history-the-ou

Ozark Technical Community College. (2007). *Frequently asked questions & answers.* Retrieved July 25, 2011, from

http://springfieldpublicschoolsmo.org/choice/documents/middle-college-faq.pdf

Panagiotou, G. (2003) Bringing SWOT into focus. *Business Strategy Review, 14(2),* 8-10.

Pittman, V. (1991). Rivalry for respectability: Collegiate and proprietary correspondence programs. *Proceedings of the Second American Symposium on Research in Distance Education.* University Park: Pennsylvania State University.

Rangel, E. (2007). *Math, science teacher shortages has no easy answer*. Retrieved January 27, 2009, from

http://www.lubbockonline.com/stories/121607/edu_121607041.shtml

Reiser, R.A. (1987). Instructional technology: A history; In R.M. Gagné (Ed.),

    Instructional Technology Foundations. Hillsdale, NJ: Lawrence Erlbaum

    Associates.

Rice, K. L. (2006). A comprehensive look at distance education in the K-12 context.

    Journal of Research on Technology in Education, 38(4), 425-448.

Rodriguez, B. & Gerrow, R. (2003). *Tackling the Texas teacher shortage*. Retrieved

    January 27, 2009, from http://www.utexas.edu/features/archive/2003/uteach.html

Rogers, E. M. (2003). *Diffusion of innovation* (5th ed.) New York: Free Press.

Schwarz, N. (1996). *Cognitive and communication: Judgmental biases, research*

    methods, and the logic of conversation. Mahweh, NJ: Lawrence Erlbaum

    Associates.

Scott, T.P. (2006). Math and science (MASS) program: A model program for the

    recruitment and retention of preservice mathematics and science teachers.

    Journal of Science Teacher Education, 17, 389-411.

Siegle, D. (2002). *Qualitative research.* Retrieved March 23, 2011, from

    http://www.gifted.uconn.edu/siegle/research/Qualitative/qualitativeInstructorNot

    es.html

TASB (2007). San Antonio leaders seek solutions to math, science teacher shortages.

    Retrieved January 27, 2009, from

    http://www.tasb.org/services/hr_services/hrx/vol14/no01/san_antonio...

Texas Education Agency (2011). Student Assessment Division. Retrieved August 24,

    2011, from http://www.tea.state.tx.us/student.assessment/

Texas Educ. Code, ch. 8, § .002, (1997).

Williamson, J. (2009*). The history of distance education*. Retrieved July 25, 2011, from

http://www.distance-education.org/Articles/The-History-of-Distance-Education-

113.html

Wolcott, L. L. (2003) Dynamics of faculty participation in distance education:

Motivations, incentives and rewards; In M. G. Moore and W. G. Anderson (Eds.)

Handbook of Distance Education. Mahway, NJ: Lawrence Erlbaum Associates

Publishers.

Yanow, D., and Schwartz-Shea, P. (2006). *Interpretation and method: Empirical*

research methods and the interpretive turn, M.E. Sharpe, Inc.: New York.

Zigerell, J. (1984). *Distance education: An information age approach to adult education.*

Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational

Education, The Ohio State University, 1984. (ERIC Document Reproduction

Service No. ED 246 311).

Zinth, K. (2006). Science and Mathematics. (Report No. ED490986). Office of

Education Commission of the States (ERIC Document Reproduction Service No.

ED490986).

APPENDIX A

RECRUITMENT SCRIPT FOR QUALITATIVE INTERVIEWS

Recruitment Script
Administrative Barriers to the use of Distance Education and Cooperative
Arrangements to Deliver Instruction in Texas Public Schools

Hello, this is Ray Rabroker. I would like to ask you to participate in a research study about the barriers to using distance education and cooperative arrangements to deliver instruction in Texas public schools. You were selected to be a possible participant because you are an administrator in a Texas public school. A total of approximately 25 people have been asked to participate in this study. The purpose of this study is to identify and describe the barriers to using distance education and cooperative arrangements to deliver instruction.

If you agree to be in this study, you will answer a series of interview questions. This study will take no more than 60 minutes. There are no risks associated with this study. There are no benefits of participation.

You will receive no compensation for participation in the study.

This study is confidential, your responses will be coded, and your name will not be used. With your consent, this interview may be recorded. If a recording is made, it will be erased or destroyed within one year. All records of this study will be kept private. No identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely and only Mr. Ray Rabroker and Dr. Tim Murphy will have access to the records. Your decision whether or not to participate in this study will not affect you in any way. If you decide to participate, you are free to refuse to answer any of the questions that may make you uncomfortable. You can withdraw from this study at any time. You can contact Mr. Ray Rabroker at (254) 546-1223, rrabroker@chiltonisd.org; or Dr. Tim Murphy at (979) 862-3419, tmurphy@tamu.edu with any questions about this study.

This research study has been reviewed by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, (979) 458-4067, mcilhaney@tamu.edu.

If you agree to this request I would like to establish a time and place to interview you. I would also add that should you decide not to participate this will not affect our relationship in any way. Thanks.

Sincerely,
Ray Rabroker

Institutional Review Board   irb@tamu.edu   (979)458-4067   Office of Research Compliance

APPENDIX B

QUALITATIVE INTERVIEW CONSENT FORM

CONSENT FORM

Administrative Barriers to the use of Distance Education and Cooperative Arrangements to Deliver Instruction in Texas Public Schools

You have been asked to participate in a research study about the barriers to using distance education and cooperative arrangements to deliver instruction in Texas public schools. You were selected to be a possible participant because you are an administrator in a Texas public school. A total of approximately 25 people have been asked to participate in this study. The purpose of this study is identify and describe the barriers to using distance education and cooperative arrangements to deliver instruction.

If you agree to be in this study, you will answer a series of interview questions. This study will take no more than 60 minutes. There are no risks associated with this study. There are no benefits of participation.

You will receive no compensation for participation in the study.

This study is confidential, your responses will be coded, and your name will not be used. With your consent, this interview may be recorded. If a recording is made, it will be erased or destroyed within one year. All records of this study will be kept private. No identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely and only Mr. Ray Rabroker and Dr. Tim Murphy will have access to the records. Your decision whether or not to participate in this study will not affect you in any way. If you decide to participate, you are free to refuse to answer any of the questions that may make you uncomfortable. You can withdraw from this study at any time. You can contact Mr. Ray Rabroker at (254) 546-1223, rrabroker@chiltonisd.org; or Dr. Tim Murphy at (979) 862-3419, tmurphy@tamu.edu with any questions about this study.

This research study has been reviewed by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, (979) 458-4067, mcilhaney@tamu.edu.

Please be sure you have read the above information, asked questions and received answers to your satisfaction. You will be given a copy of the consent form for your records. By signing this document, you consent to participate in the study.

May I record this interview?   YES   NO

Signature of Participant: _____   Date: _____

APPENDIX C

DATA GATHERING GUIDE

DATA GATHERING GUIDE

The following series of questions guided the researcher in gathering data for the qualitative portion of the mixed method research technique:

1. How long have you been in education?

2. How long have you been at your present school?

3. When did you receive your undergraduate degree?

4. What is the highest degree that you have obtained thus far?

5. What does distance education mean to you?

6. Describe your familiarity with distance education?

7. Do you know of, or are you familiar with any distance education programs in your school or other schools?

8. What have you heard from administrators about their distance education programs?

9. What have you heard from administrators on why they did not have distance education programs?

10. What types of distance education programs did the administrators from other schools tell you they used? (Internet, interactive, hybrid)

11. What were some of the challenges they expressed with implementing their distance education programs?

12. What were some of the advantages of having a distance education program at their school?

13. What were some of the challenges with sustaining distance education programs?

14. From their challenges or objections what did you see that you would have changed?

15. Can you think about the advantages of having distance education programs?

16. Can you think about the disadvantages of having distance education programs?

17. Have you ever taken a distance education course?

18. What did you like about the course?

19. What did you least like about the course?

20. How often do you email? Little? Moderately? Most of the time? All the time?

21. Have you used power point presentations for your faculty meetings?

22. Do you develop your own power point presentations?

23. Can you think of any alternatives to distance education when trying to help insure

that your students have highly qualified teachers in every subject?

APPENDIX D

SURVEY INSTRUMENT

1. Administrative Perceptions of the use of Distance Education in Texas Public...

Hello, my name is Ray Rabroker, Jr. and I am the principal at Chilton ISD. I am a doctoral candidate in the Doc-at-a-Distance Program, a collaborative arrangement between Texas A&M and Texas Tech Universities. I would like to invite you to participate in this survey.

My record of study will examine the perceptions of distance education held by high school principals and superintendents of Texas public high schools in Regions 12, 13, and 15. You have been identified as a superintendent or a high school principal in one of these regions. We believe that you directly influence decisions on curricula, facilities, finances, and delivery of instruction for students in your community. Your opinions, thoughts, and feelings on Distance Education could be very beneficial in determining the direction of Distance Education. Completing the survey should only take 15 to 20 minutes of your valuable time. You may also be interested in their responses. To receive a copy of the results, email me at rrabroker@chiltonisd.org.

This study is confidential. Your email address will be automatically recorded by the online survey service to facilitate contacting those who have not responded. Your email address will be removed before the data are analyzed. No identifiers linking you to the study will be stored. All records of this study will be kept private. The research records will be stored securely, and only Mr. Ray Rabroker Jr. and Dr. Tim Murphy will have access to the records. Your decision to participate or not in this study will not affect you in any way. If you decide to participate, you may withdraw from the study at any time simply by closing your web browser. During the survey, you are free to skip any question that may make you feel uncomfortable. You can contact Mr. Ray Rabroker Jr. at 254-546-1223, rrabroker@chiltonisd.org; or Dr. Tim Murphy at 979-862-3419, tmurphy@tamu.edu with any questions about this study.

This research study has been approved by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, 979-458-4067, mcilhaney@tamu.edu.

Thank you in advance for your time and effort in advancing what we know about Distance Education in Texas public schools.

Distance Education

2. Default Section

1. DE has allowed our school to offer a greater selection of course offerings.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
selection	○	○	○	○	○	○	○	○	○	○

2. DE courses allow my students additional opportunities to individualize their instructional program.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

3. DE courses help meet increasing state requirements for specialized courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

4. DE provides an equal education opportunity for students in alternative education (ISS, OCS, AEP).

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

5. DE provides opportunities for summer education.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

Distance Education

6. DE provides my students with opportunities to interact with peers at other schools locally, nationally, and internationally.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

7. DE affords students opportunities to gain broader perspectives of the subjects taught.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

8. DE gives opportunities to have students taught by teachers with greater expertise.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

9. DE helps my students to see or be aware of other places and situations.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

3.

10. DE courses can be effectively used to meet the need for required courses with low numbers.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

11. I have found DE courses to be less expensive.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

12. DE courses are my only option to fill some curriculum areas.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

13. I can save money by utilizing DE courses and employing fewer teachers.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

14. I would rather have an average instructor in a traditional classroom than a DE course.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

15. The quality of my DE courses is as good as, or better than, my traditional courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

Distance Education

16. The quality of my DE courses is more consistent than my traditional courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

17. DE courses are more organized than my traditional courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

18. I have experienced more variability in the quality of DE courses than in my traditional courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

4.

19. DE provides opportunities for students to learn with teachers who possess greater expertise.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

20. DE instructors are highly skilled, master teachers.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

21. DE instructors require less supervision.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

22. DE instructors are, on average, as good or better than my on-campus staff.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

23. The physical separation or absence of the DE instructor does not harm the learning experience.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

24. Students of DE courses have the ability to develop a rapport with the instructor.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

25. DE instructors are able to get to know their students well enough to teach effectively.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

26. Students in DE courses feel that the teachers are attentive to their needs.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

5.

27. DE teachers are able to monitor students in DE classes.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

28. DE instructors are able to effectively manage classroom discipline.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

29. I have fewer disciplinary referrals of students from DE courses than from my on-campus classrooms.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

30. I am able to adequately supervise and evaluate instructors in DE courses.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

31. I have good communication with the instructors of DE courses.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

32. Instructors of DE courses are receptive to teaching evaluations.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

33. I have control over DE course content.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

34. I am aware of the curriculum being taught in my DE courses.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

35. The curriculum being taught in my DE courses meets with my approval.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

6.

36. DE courses are appropriate for all students in all subjects.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

37. DE courses are appropriate for foreign language instruction.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

38. DE courses are appropriate for students in intermediate classes (e.g. Math Models, Geometry).

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

39. DE courses are more appropriate for Capston and higher level classes (e.g. Calculus, Dual Credit, etc.).

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

40. DE instructors fit into my campus culture.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

41. DE classes have the same feel as those on campus.

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

Distance Education

42. Instructors of DE classes effectively implement our school policies (grading, attendance, discipline, etc.).

	1 strongly disagree	2	3	4	5	6	7	8	9	10 strongly agree
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

Distance Education

43. Self-disciplined students are the only candidates for DE classes.

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

44. My average students can do well in DE classes.

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

45. DE courses can be utilized with my lower level students.

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

46. It is more important that students in DE courses be self-motivated and self-disciplined.

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

47. My colleagues freely share their experiences in using DE (successful strategies, challenges, models).

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

48. I am very confident in my ability to use DE in my school as needed.

```
        1                                      10
     strongly  2   3   4   5   6   7   8   9  strongly
     disagree                                  agree
Selection  ○     ○   ○   ○   ○   ○   ○   ○   ○    ○
```

Distance Education

49. I would recommend using DE courses to other administrators.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

50. DE programs are relatively easy to start in a school.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

51. My school board is very supportive of using DE when appropriate.

	1									10
	strongly disagree	2	3	4	5	6	7	8	9	strongly agree
Selection	○	○	○	○	○	○	○	○	○	○

Distance Education

8.

52. Which is your current position?

	High School Principal	Superintendent
Selection	◯	◯

53. I would consider my school to be located in the following area...

	Rural	Urban
Selection	◯	◯

54. How many years have you been in public education?

	5-10	11-15	16-20	21-25	26-30	31-35	36-40
Selection	◯	◯	◯	◯	◯	◯	◯

55. Date of undergraduate degree.

	01-05	96-00	91-95	86-90	81-85	76-80	70-75
Selection	◯	◯	◯	◯	◯	◯	◯

56. Please rank your perception of the resources available for your school to implement instructional programs.

	1 very few	2	3	4	5	6	7	8	9	10 readily available
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

57. What is your overall perception of distance education?

	1 very poor	2	3	4	5	6	7	8	9	10 excellent way to deliver instruction
Selection	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯

APPENDIX E

INVITATION TO PARTICIPATE IN THE SURVEY LETTER

Invitation To Participate In a Study of
Administrator Perceptions of Distance Education

Hello, my name is Ray Rabroker, Jr. and I am a principal at Chilton ISD. I am a doctorial candidate in the Doc-at-a-Distance Program, a collaborative arrangement between Texas A&M and Tech Universities. I would like to invite you to participate in this survey.

My record of study will examine the perceptions of distance of education held by high school principals and superintendents of Texas public high schools in Regions 12, 13, and 15. You have been identified as a superintendent or high school principal in one of these regions. We believe that you directly influence decisions on the curriculum, facilities, finances, and delivery of instruction for students in your community. In a week you will be sent a link to a survey through Surveymonkey.com. Completing the survey should only take 15 to 20 minutes of your valuable time.

With the passage of Texas Virtual School network, I feel the legislature is increasing emphasis on Distance Education methods of delivery. You, as fellow administrators, know more than anyone how Distance Education works and how you can best utilize this technology in your schools. Your opinions, thoughts, and feelings on Distance Education could be very valuable in determining the direction of Distance Education. I am very interested in collecting and reporting the opinions of you and your colleagues. You may be interested in their responses as well. I would be happy to provide you with a copy of the results.

This study is confidential. Your email address will be automatically recorded by the online survey service to facilitate contacting those who have not responded. Your email address will be removed before the data are analyzed. No identifiers linking you to the study will be stored. All records of this study will be kept private. The Research records will be stored securely, and only Mr. Ray Rabroker Jr. and Dr. Tim Murphy will have access to the records. Your decision to participate or not in this study will not affect you in any way. If you decide to participate, you may withdraw from the study at any time simply by closing your web browser. During the survey, you are free skip any question that may make you feel uncomfortable. You can contact Mr. Ray Rabroker Jr. at 254-546-1223, rrabroker@chiltonisd.org; or Dr. Tim Murphy at 979-862-3419, tmurphy@tamu.edu with any questions about this study.

This research study has been reviewed by the Institutional Review Board- Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you can contact the Institutional Review Board through Ms. Melissa McIlhaney, IRB Program Coordinator, Office of Research Compliance, 979-458-4067, mcilhaney@tamu.edu.

Thank you in advance for your time and effort in advancing what we know Distance Education in Texas Public Schools.

APPENDIX F

FOLLOW-UP LETTER TO PROSPECTIVE RESPONDENTS

FOLLOW-UP LETTER TO PROSPECTIVE RESPONDENTS

Dear fellow administrator,

I have sent you an e-mail, respectfully requesting that you participate in a survey on administrator perceptions on distance education and I have not heard back from you. I believe there is a high probability that this email ended up in your junk mail. I know that I barely have time to check my email much less junk mail that might have valuable information in it.

Below I have a new URL that will take you to the survey site:

www.surveymonkey.com/s/distance

I hope that you will be able to find the time to complete and I thank you in advance for your response.

Sincerely,

Ray Rabroker, Jr.
Chilton High School Principal

APPENDIX G

IRB APPROVAL DOCUMENTATION AND AMENDMENT

TEXAS A&M UNIVERSITY
DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE

1186 TAMU, General Services Complex   979.458.1467
College Station, TX 77843-1186   FAX 979.862.3176
750 Agronomy Road, #3500   http://researchcompliance.tamu.edu

---

Human Subjects Protection Program   Institutional Review Board

---

DATE:	09-Apr-2010
MEMORANDUM	
TO:	TANKERSLEY, JENNY 77843-3578
FROM:	Office of Research Compliance Institutional Review Board
SUBJECT:	Initial Review

Protocol Number:	2009-0258
Title:	Administrative Barriers to the Use of Distance Education and Cooperative Arrangements to Deliver Instruction in Texas Public Schools
Review Category:	Exempt from IRB Review

It has been determined that the referenced protocol application meets the criteria for exemption and no further review is required. However, any amendment or modification to the protocol must be reported to the IRB and reviewed before being implemented to ensure the protocol still meets the criteria for exemption.

This determination was based on the following Code of Federal Regulations:
(http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm)

45 CFR 46.101(b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior, unless: (a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Provisions:

This electronic document provides notification of the review results by the Institutional Review Board.

TEXAS A&M UNIVERSITY
DIVISION OF RESEARCH AND GRADUATE STUDIES - OFFICE OF RESEARCH COMPLIANCE

1186 TAMU, General Services Complex
College Station, TX 77843-1186
750 Agronomy Road, #3500

979.458.1467
FAX 979.862.3176
http://researchcompliance.tamu.edu

Human Subjects Protection Program

Institutional Review Board

MEMORANDUM

DATE:	11-Dec-2009
TO:	RABROKER, RAY 77843-3578
FROM:	Office of Research Compliance Institutional Review Board
SUBJECT:	Amendment
Protocol Number:	2009-0258
Title:	Administrative Barriers to the use of Distance Education and Cooperative Arrangements to Deliver Instruction in Texas Public Schools
Review Category:	Expedited
Approval Period:	11-Dec-2009 **To** 10-Dec-2010

Approval determination was based on the following Code of Federal Regulations:

45 CFR 46.110(b)(1) - Some or all of the research appearing on the list and found by the reviewer (s) to involve no more than minimal risk.
----

45 CFR 46.110(b)(2) - Minor changes in previously approved research during the period of (one year or less) for which approval is authorized.
----

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation or quality assurance methodologies.

(Note: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b) (3). This listing refers only to research that is not exempt.)

Provisions:	New survey added. As the nature of the survey is confidential and not anonymous, the review category has changed.

This research project has been approved for one (1) year. As principal investigator, you assume the following responsibilities

1. **Continuing Review:** The protocol must be renewed each year in order to continue with the research project. A Continuing Review along with required documents must be submitted 30 days before the end of the approval period. Failure to do so may result in processing delays and/or non-renewal.
2. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the IRB Office.
3. **Adverse Events:** Adverse events must be reported to the IRB Office immediately.
4. **Amendments:** Changes to the protocol must be requested by submitting an Amendment to the IRB Office for review. The Amendment must be approved by the IRB before being implemented.
5. **Informed Consent:** Information must be presented to enable persons to voluntarily decide whether or not to participate in the research project.

This electronic document provides notification of the review results by the Institutional Review Board.

VITA

Raymond Bernard Rabroker, Jr. is a graduate of Texas A&M University with a Bachelor of Science in Agricultural Education in 1979. He received a Master of Education in Education Administration from Tarleton State University in 2004. He received his Doctorate of Education from Texas A&M University in 2011. He has 31 years of experience in education as a teacher and administrator. He began working as an agriculture teacher and served as the Vocational Agricultural Teacher Association of Texas President from 1999-2000. As an administrator, he became the Principal of Chilton High School in 2003 and was responsible for the planning and oversight of the distance education courses at his school. During his tenure as principal, there have been over 130 students who have participated in distance education courses, which accounts for nearly 30 percent of students at Chilton High School.

Dr. Rabroker can be reached at Chilton High School, P.O. Box 488, Chilton, TX 76632. His email address is rrabroker@chiltonisd.org.