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EXPLORING TECHNOLOGY USAGE BY SCHOOL COUNSELORS: A MIXED METHODS STUDY

By

Nathan S. Grosshandler

A DISSERTATION

Presented to the Faculty of

The Graduate College of the University of Nebraska

In Partial Fulfillment of the Requirements

For the Degree of Doctor of Education

Major: Educational Administration

Under the Supervision of Professor Miles Bryant

Lincoln, Nebraska

December, 2012

EXPLORING TECHNOLOGY USAGE BY SCHOOL COUNSELORS:

A MIXED METHODS STUDY

Nathan Grosshandler, Ed.D.

University of Nebraska, 2012

Adviser: Miles Bryant

School counseling is progressing from the tradition of responsive services to a proactive system linked to school mission (Dahir, 2009, p 4.). This paradigm shift within the profession has drastically increased the responsibility required of school counselors.

This study explored data drawn from a population of school counselors at Recognized American School Counselor Association (ASCA) Model Programs (RAMP). A multi-phase, sequential explanatory mixed methods design was used for this study. The study focused on nine specific technologies: website, e-mail, Internet, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, student database system, social networking platforms, and EZ Analyze. Mean scores, frequency distribution tables, and rankings regarding usage frequencies and purposes were determined and framed within the four quadrants of the ASCA National Model.

In the second qualitative phase of the study, school counselors identified three emerging themes relative to the use of technology in school counseling: communication, inappropriate technology usage, and data collection and anaylsis.

The following five conclusions emerged:

1) Social networking platforms have not been widely accepted by school counselors at RAMP schools.
2) The findings of this study support previous findings which demonstrate increases in the use of technology within the profession of school counseling over time.

3) The types of technologies used by school counselors at RAMP schools in a are consistent from school counselor to school counselor.
4) School counselors at RAMP schools have similar concerns regarding technology integration within the profession.
5) A need exists for increased preparation and professional development for school counselors in regards to technology usage for the purpose of data collection and analysis.

Recommendations for future studies include:

1) Repeat this study with a much larger, multifarious population.
2) Identify the influence age has on the technology usage frequency of school counselors.
3) Research the role of school setting when analyzing technology usage frequencies in regards to school counselors.
4) Studies that examine the continued transition of school counseling programs from responsive to proactive practices.

ACKNOWLEDGEMENTS

My wife, Heather
This journey was as much yours as it was mine. We did it!

My children, Evan and Ava
It is over, let's play!

My mother, Janet
This journey would never have been completed without your lessons of perseverance!

My father, Henry
Your memory has always fueled my desire for success. This one is for you!

My dissertation committee:
Dr. Miles Bryant, Dr. Larry Dlugosh, Dr. Don Uerling & Dr. Guy Tranin
I am grateful for all of your support throughout this entire process

Table of Contents

Chapter 1-Introduction…….. 1

Statement of the Problem……... 1

Purpose of the Study…….. 4

Research Questions…… 5

Definition of Terms…… 6

Delimitations……..……..... 10

Limitations..…….. 11

Significance of the Study……..……..... 12

Chapter 2-Review of Literature……... 15

Introduction……. 15

1980-1989……. 15

1990-1999……. 18

2000-2010……. 22

Summary…… 31

Chapter 3-Methodology and Procedure……. 33

Research Design……. 33

The Four Quadrants of the ASCA National Model as an Organizing

Framework…….……. 37

Phase I-Quantitative…….……..… 38

Target Population and Sample……...…….. 38

Technology Selection……... 39

Data Collection…… 41

Data Analysis..…… 43

Phase II-Qualitative…… 45

Target Population and Sample…… 45

Data Collection…… 45

Data Analysis…….. 47

Verification……. 47

Phase III-Mixed Methods…… 47

Data Interpretation……... 47

Validation……. 48

Chapter 4-Results……..……. 49

Introduction…… 49

Descriptive Statistical Data…… 50

Quantitative Data Analysis…… 52

Sub-question 1……. 52

Sub-question 2……. 53

Sub-question 3……. 55

Sub-question 4……. 67

Qualitative Data Analysis……..…… 68

Theme 1……..……. 68

Theme 2……..……. 70

Theme 3……..……. 72

Mixed Methods……..……..… 73

Chapter 5-Discussion……. 76

Methods and Procedures…….… 76

Discussion and Conclusions…….…….……..… 77

Phase I-Quantitative…….……. 77

Sub-question 1……. 78

Sub-question 2……. 79

Sub-question 3……. 81

Phase II-Qualitative…….……. 85

Theme 1…….……. 86

Theme 2…….……. 87

Theme 3…….……. 88

Recommendations For Future Research.……...…….……..… 89

References……..…….. 91

Appendices……..……. 96

List of Tables

Table 1 Literature Cited – Totals…… 31

Table 2 Literature Cited – Percentage…… 32

Table 3 Survey Responders - Years of Experience…… 49

Table 4 Survey Responders - School Community Type…… 49

Table 5 Usage Frequencies…… 51

Table 6 Non-usage Frequencies…… 52

Table 7 Website Response Count Means…… 54

Table 8 E-mail Response Count Means…… 55

Table 9 Internet Response Count Means…… 56

Table 10 *Microsoft* Word Response Count Means…… 56

Table 11 *Microsoft* Excel Response Count Means…… 57

Table 12 *Microsoft* PowerPoint Response Count Means…… 58

Table 13 Student Database System Response Count Means…… 59

Table 14 Social Networking Platforms Response Count Means…… 60

Table 15 *EZ Analyze* Response Count Means…… 61

Table 16 Foundation Quadrant – Technology Rankings…… 62

Table 17 Delivery Quadrant – Technology Rankings…… 63

Table 18 Management Quadrant – Technology Rankings…… 64

Table 19 Accountability Quadrant – Technology Rankings…… 65

Table 20 Theme 1: Communication – Quadrants and Codes…… 68

Table 21 Theme 2: Data Collection and Analysis – Quadrants and Codes …… 69

Table 22 Theme 3: Inappropriate Technology Usage – Quadrants and Codes …… 70

Table 23 Qualitative Analysis Summary 71

Table 24 Mixed Methods Analysis Summary 74

Table 25 Conclusions Summary 87

List of Figures

Figure 1 Mixed Methods Explanatory Sequential Design…… 36

Figure 2 Questionnaire Abstract…….. 42

Figure 3 Closed-Ended Response Abstract (Survey Items 6-14)……..……...…… 42

Figure 4 Interview Abstract….…….…….... 46

Figure 5 Study Design Visual Summary….…….……..……..……... 77

List of Appendices

Appendix A Visual Model For Mixed Methods Procedures of the Study……..... 96

Appendix B Quadrants of the ASCA National Model.....……. 98

Appendix C Survey Items……..…….…… 100

Appendix D Case Study Interview Abstract ……...……...…….…… 102

Appendix E IRB Approval Letter ……...…….…….…… 103

Appendix F Web-based Survey Consent Text ……..…….……...….……..…… 106

Appendix G Case Study Consent Form ……..……..……...….…… 108

Chapter 1

INTRODUCTION

Statement of the Problem

Technology regularly grows in an exponential manner in our world as we continue to seek methods to accomplish varying tasks more effectively in less time. Today's high tech tools, high speed networks, and fast paced digital exchanges are more an intricate part of the global society than ever before (Friedman, 2005). Current and future school counselors are realizing they must evolve to keep pace with this dynamic and rapidly changing world (Hayden, Poynton, & Sabella, 2008).

Since the late 1990's, school counseling has progressed from the tradition of responsive services focus to a proactive and programmatic system that is inextricably integrated with the mission of schools (Dahir, 2009, p 4.). The American School Counselor Association (ASCA) National Model (2003) is the culmination of years of effort by the school counseling community, defining and organizing the professional role of the school counselor. The development of this model challenged school counselors to migrate their school counseling program from one based on response services to one that utilizes multiple data points for the purpose of delivering a proactive school counseling program to all students.

In addition to increased expectations, typical counselor caseloads far exceed the American School Counselor Association (ASCA) recommendation of a student to school counselor ratio of 250 to 1. The ASCA (2010) reports for the 2008-2009 school year, the national student to school counselor ratio is 457 to 1. This study explored the role of nine specific technologies in assisting school counselors to meet the increasing professional demands set forth by the ASCA. It is essential for school counselors to be aware of and proficient in the

latest trends among technology usage within the school counseling practice to maximize their ability to perform professionally with high levels of efficiency and effectiveness.

The need for this knowledge is becoming increasingly more necessary as the demands of the field regularly increase. Furthermore, knowledge of the progression of technology usage within the practice is valuable for school counselor program leaders and school counselor educators as they continue to support and prepare school counselors to meet the ever-changing needs of the practice.

Limited research exists regarding the application of technology within the practice of school counseling. Additionally, further review of the existing research reveals it does not account for the quality of the school counseling services provided by the school counselors or school counseling programs studied within it. Rainey, McGlothlin, and Miller (2008) studied school counselor attitudes and experiences with technology. The writers published the collected data of their quantitative study, but did not describe the quality of the services offered by the responding participants. Sabella's (2005) informal, qualitative study chronicled information regarding school counselors' technology usage methods. While this report detailed valuable examples of technology usage in school counseling, it did not present evidence of high quality school counseling services being produced by the responders of the survey. Carlson, Portman, and Bartlett (2006) performed a quantitative study that investigated self-reported school counselor computer usage purposes. The study generated beneficial data, but also ignored the need to discuss the quality of the services administered by the participants of the study. The lack of confines regarding programmatic quality in these previous investigations and additional previous studies detailed in the following chapter identified the need for this study, which provides consideration to the value of the school counseling services offered by the participants.

Until recently, school counseling has lacked a consistent identity from state to state, district to district, and even school to school (ASCA, 2003). The *ASCA National Model* (2003) was designed to end the confusion towards school counselor expectations and to provide a uniform framework of school counseling. The goal of this model is to allow school counselors to answer an important question: "How are students different because of what school counselors do?"

ASCA has established a system of recognition for the purpose of promoting exemplary school counseling programs (ASCA, 2011). School counseling programs can voluntarily apply to become a Recognized ASCA National Model Program (RAMP) by submitting documentation and narratives that satisfy the requirements identified in the RAMP scoring rubric.

This dissertation ensures the data gathered regarding school counselor technology usage is derived from school counselors providing high quality services by solely utilizing participants who are school counselors or school counseling leaders at RAMP schools. By using RAMP membership to identify possible participants, this study fills the void in the existing research regarding technology usage in the field of school counseling. The use of RAMP members also allows the outcomes of the study to be framed within the four quadrants of the ASCA National Model, as displayed in Appendix B.

Nine specific technologies were identified by the researcher for the purpose of conducting this study based on reviewed literature and personal experience. The use of a website, e-mail, the internet, *Microsoft* Word, *Microsof*t Excel, *Microsoft* PowerPoint, a student database system, social networking platforms, and EZ Analyze by school counselors at RAMP schools, framed within the four quadrants of the ASCA National Model, proffers data of interest

for school counselors seeking methodologies to successfully incorporate technology at a professional level.

In addition, the cited research produced data sets collected through single method studies only. According to Creswell and Plano Clark (2011):

> Qualitative research and quantitative research provide different pictures, or perspectives, and each has its limitations. When researchers study a few individuals qualitatively, the ability to generalize the results to many is lost. When researchers quantitatively examine many individuals, the understanding of one individual is diminished. (p. 8)

The limits of single methodology research determine the need for a mixed methods study examining technology usage in high quality school counseling programs.

This dissertation valuably adds to the existing research by providing consideration for the quality of school counseling services produced and an increased understanding of the reported implementation of technology within the school counseling program. The data collected in both phases of the study has been merged and framed within the four quadrants of the ASCA National Model, providing a greater understanding of the role technology plays within the ASCA National Model.

Purpose of the Study

The purpose of this multi-phase, sequential explanatory mixed methods study was to explore the impact of technology on school counseling services provided at RAMP schools. In the first phase, quantitative research questions addressed usage frequencies and purposes among RAMP schools related to nine specific technologies and identified a purposeful sample for the second phase of this study. In the second, qualitative, phase, three case study interviews were used to probe significantly high technology usage frequencies among RAMP counseling

programs by exploring aspects of technology usage with school counselors or school counseling leaders at RAMP schools. The reason for following up with qualitative research in the second phase was to better understand and explain the role of technology at RAMP schools with high technology usage frequencies.

Research Questions

For the first quantitative phase of this study the guiding research question was:

- How are school counselors in Recognized ASCA Model Programs (RAMP) using technology?

The specific research sub-questions for phase 1 were:

1. What are the usage frequencies for specific forms of technology by school counselors at RAMP schools?
2. What are the non-usage frequencies for specific forms of technology by school counselors at RAMP schools?
3. How is technology being used at RAMP schools to satisfy the four quadrants of the ASCA National Model?
4. What RAMP schools report utilizing technology at high frequencies?

For the second, qualitative phase of this study the central question was:

- How do school counselors at RAMP schools with high levels of technology usage, describe their experiences in regards to technology usage for professional purposes?

Definitions and Terms

Accountability is one of the four components of the ASCA National Model. Accountability refers to the methods used to demonstrate the effectiveness of the school counseling programs (ASCA, 2003).

Action Plans identifies the desired competencies and results, through a plan outlining how the desired result will be achieved (ASCA, 2003).

Advisory Council is a group of people appointed to review counseling program results and to make recommendations (ASCA, 2003).

American School Counselor Association (ASCA) is a national organization consisting of 28,000 school counselors, school counselor leaders, and school counselor educators. The mission of the ASCA is to represent professional school counselors and promote professionalism and ethical practices (ASCA, 2010).

ASCA National Model is the written framework for a comprehensive, data-driven, school counseling program. It was developed by the American School Counselor Association.

ASCA National Model Quadrants refers to the four components of the ASCA National Model. The four components are: Foundation, Delivery System, Management and Accountability.

Beliefs and Philosophy refers to a set of principles guiding the program development, implementation and evaluation. All personnel involved in managing and implementing the program should reach consensus on each belief or guiding principal contained in the philosophy (ASCA,2003).

Delivery System is one of the four components of the ASCA National Model. The Delivery System describes the activities, interactions, and methods necessary to deliver the school counseling program (ASCA, 2003).

E-Mail is the abbreviation for Electronic Mail. It is a communication system for transferring messages and information from one person to another person.

EZ Analyze provides free, Excel-based tools designed to enhance the data-driven work educators engage in. While Professional School Counselors are the target audience for EZAnalyze products, professionals and students in other disciplines also find these tools useful.

Frequency refers to the number of times an event has occurred, as recorded in a frequency table (Daintith & Clark, 1999).

Foundation is one of the four components of the ASCA National Model. The Foundation determines how every student will benefit from the school counseling program (ASCA, 2003).

Guidance Curriculum consists of structured developmental lessons designed to assist students in achieving the desired competencies and to provide all students with the knowledge and skills appropriate for their developmental level. The guidance curriculum is infused throughout the school's overall curriculum and is presented systematically through K-12 classroom and group activities (ASCA 2003).

Individual Student Planning refers to ongoing systematic activities designed to assist students individually in establishing personal goals and developing future plans (ASCA, 2003).

Management agreements ensure effective implementation of the delivery system to meet students' needs (ASCA, 2003).

Management System is one of the four components of the ASCA National Model. Management system refers to the organizational processes and tools that exist to ensure the program is organized, concrete, clearly delineated, and reflective of the school's needs (ASCA, 2003).

Microsoft Excel is a popular spreadsheet application program that uses a table format to analyze and manipulate data.

Microsoft Powerpoint refers to a computer software program used to create and display presentations.

Microsoft Word is a popular word processor distributed as computer software.

Mission Statement describes the program's purpose and goals. A school counseling program mission statement aligns with and is a subset of the school and district's mission (ASCA, 2003).

Program Audit is the collecting information for the purpose of guiding future action within the program and to improve future results for students (ASCA, 2003).

Recognized ASCA Model Program (RAMP) refers to school counseling programs recognized by the ASCA for delivering "a comprehensive data-driven school counseling program" (ASCA, 2011).

Responsive Services are activities designed to meet students' immediate needs and concerns. Responsive services may include counseling in individual or small-group settings or crisis response (ASCA, 2003).

Results Reports references documentation that includes process, perception and results data, ensure programs are carried out, analyzed for effectiveness and modified as needed. Sharing these reports with stakeholders serves to advocate for the students and the program. Immediate, intermediate, and long-range results are collected and analyzed for program improvement (ASCA, 2003).

School Counselor refers to individuals who work at the elementary, middle, and secondary school levels providing support in the areas of academic development, personal/social development, and career development.

School Counselor Educator refers to higher education professionals who train and prepare school counselors within graduate level programs.

School Counseling Leader refers to individuals who supervise school counseling programs at the school or district levels.

School Counselor Performance Standards references a performance evaluation that contains basic standards of practice expected of school counselors implementing a school counseling program. These performance standards should serve as both a basis for counselor evaluation and as a means for counselor self-evaluation (ASCA,2003).

Student Database refers to student information systems relied upon by schools for the purpose of collecting and storing data on individual students.

Social Networking Technology refers to specific technologies that allow users to communicate quickly through the use of the technology.

Systems Support refers to the administration and management necessary to establish, maintain and enhance the total counseling program (ASCA, 2003).

Technology is the application of scientific knowledge for practical purposes. (Stevenson & Lindberg, 2010).

Use of Calendars refers to the need for school counselors to determine the amount of time necessary in each area of the delivery system, and develop weekly calendars to keep students, parents, teachers and administrators informed (ASCA, 2003).

Use of Data is based on the idea that a comprehensive school counseling program is data-driven. The use of data to effect change within the school system is integral to ensuring every student receives the benefits of the school counseling program (ASCA, 2003).

Use of Time references the ASCA's National Model recommendation that school counselors spend 80 percent of their time in direct service (contact) with students. The ASCA national Model provides a guide to school counselors and administrators for determining the amount of time their program should devote to each of the four components of the delivery system (ASCA, 2003).

Web-based survey is a research tool that collects data through the administration of survey items through the use of the internet.

Website is a collection of content presented on a webpage or collection of webpages, accessed through the Internet.

Delimitations

Delimitations of the study included:

1) This study was confined to RAMP schools as identified by the ASCA.

2) The nine technologies included within this study were limited to those identified by the researcher for the purpose of conducting this study.
3) Participant responses in both stages of the study were confined to one member per school counseling program.
4) The study only represented first person, self-reported responses to the guiding research question in the first, quantitative phase, and the central question during the second, qualitative phase.

Limitations

Limitations of the study included:

1) The first, quantitative phase of the study provided the risk of a non-response error due to the use of a web-based survey. Non-response error occurs when the people selected for the survey who do not respond are different from those who do respond in a way that is important to the study (Dillman, Smyth, & Christian, 2009, p. 17).
2) In the first, quantitative phase, the variables identified as specific technologies, were generated by the researcher based on the researcher's previous research, experience, and expertise.
3) The second, qualitative phase of this study required a purposeful sample, constraining the follow up data collection to participants who only represented specific quantitative results obtained in the first, quantitative phase of the study (Creswell & Plano Clark, 2010). Therefore, the researcher could not determine with confidence the sample was representative of the entire population invited to participate in the study during the first phase (Creswell, 2008).

4) The qualitative data produced from the second phase of the study may contain results easily influenced by the researcher's personal bias and idiosyncrasies (Johnson & Christensen, 2008, p. 430).

Significance of the Study

This study proffers data significant in its addition to the lagging body of research in the area of technology usage in the field of school counseling. Furthermore, the body of knowledge collected throughout this study ministers a foundation vital to the development of future studies in the same or similar arena as this study.

This study is paramount when compared to previous studies on the same topic. The use of both quantitative and qualitative stages actualized a study that benefits from identified advantages of each method. By mixing the data collected in this study, the researcher was able to provide a better understanding of the problem than if the dataset had been used alone (Tashakkori & Teddlie, 2003). In addition, it is the first time a study on technology usage in school counseling reported on data collected from the same sample by means of quantitative and qualitative research. Finally, the study adds to the growing body of mixed methods investigations.

The outcome of this research is especially significant to practicing schools counselors. It is suggested that effective and efficient uses of technology among school counseling professionals are necessary for making guidance and counseling programs more comprehensive and an integral part of our schools (Carlson, Portman & Bartlett, 2006; Sabella, 2000; Sabella & Booker, 2003). The data, collected through quantitative and qualitative phases of this study, provides current school counselors with information exploring the role technology plays within high quality school counseling programs by

determining how nine specific technologies are used to satisfy the four quadrants of the ASCA National Model.

School counseling leaders benefit from this study as it provides valuable data to help them develop school counseling programs that include research driven technology usage, thus increasing the level of services provided by the school counseling program. The quantitative data, collected in the first stage of the study, presents technology usage data in high quality school counseling programs. School counseling leaders are able to use this data for the purpose of guiding program appraisals. The qualitative data reported in this study will help school counseling leaders integrate technology into school counseling programs successfully.

If the full impact of the transformation of the school counseling profession is to be enacted, it is incumbent upon school counselor educators to model the same skills and professional mindset that are expected of practicing school counselors (McMahon, Mason, & Paisley, 2009, p. 116). This study generates data beneficial to school counselor educators, because it allows school counselor educators to remain abreast of the latest successful methods of technology integration within the field of school counseling. Remaining current in regards to trending issues within the profession is essential to a school counselor educator's ability to prepare future school counselors with the skills needed to advance the profession successfully.

Professional school counseling organizations at the national, state and local levels supply school counselors with publications, conferences, presentations, websites, professional development, and guidance in the many aspects of the practice. This study contributes in a significant manner to the research that aides these organizations as they continue to seek

organization. Furthermore, the resulting data of the study provides a foundation for professional development opportunities at the many presentations and conferences offered by professional school counseling organizations.

The reported data, developed as a result of this study, provides compelling knowledge in the area of technology usage in all areas of education. Technology usage that is present in the profession of school counseling can be duplicated for beneficial purposes in and out of the classroom. Educational leaders and instructors at the primary, secondary, and post-secondary levels benefit from this research. This study presents them with information of value towards improving education of all kinds, at all levels.

Finally, this study confers information to the many private businesses that produce technological products for the educational world. Educational institutions at all levels use technology for multiple and varying functions in their day-to-day operations. It is crucial for these businesses to tailor the produced technologies to the needs of the educators from which they draw business. A review of this study will provide them with knowledge of value towards creating successful products.

Chapter 2

REVIEW OF LITERATURE

Introduction

This review of literature "identifies and describes the scholarly studies that others have done about the topic of this dissertation" (Bryant, 2004. p. 62). The focus of this study is technology usage in the field of school counseling. Therefore, the literature review will present "a written summary of journal articles, books, and other documents that describe the past and current state of information" and will "document a need for the study" (Creswell, 2008, p. 89).

The past thirty years have produced advances in technology, revolutionizing the manner in which we socialize, amuse ourselves, and complete personal and professional tasks. The field of school counseling has not escaped the exponential increase of technological implementations. This review of literature is framed chronologically, highlighting the emergence of the topic of this study over a period time (Roberts, 2010, p. 103). The chapter illustrates the growth of technology in school counseling during the past thirty years and demonstrates a lack of documentation relating technology usage within the field to the quality of the services provided. Furthermore, the augmentation of the body of literature relating to the topic of this study demonstrates the increased need for such a study to take place.

1980-1989

As dusk fell on the 1970's, the 1980's brought on the dawn of acceptance in regards to the role technology was to play in the future of the school counseling profession. It was predicted that knowledge of computer use would become a basic part of work in counseling, human development, and the helping professions (Ekstrom & Johnson, 1984; Sabella 1996).

Inbody (1984), labeled technology as one of the six basic premises that were critical to the future of school counseling (Dahir, 2009, p. 3). The writer identifies technology as a "powerful tool for school counselors", but also levied the responsibility of technology integration onto the shoulders of school counselors.

Walz and Bluer (1984) documented six presentations from a summer workshop focused on the implementation of computer usage in school counseling. The six presentations discussed the use of computers to expand upon the limits of school counseling services and the use of computers to deliver school counseling services.

Robinson (1986) conducted an intervention study that used computers to coach children in the use of social negotiating skills. The study was conducted using 30 fourth and fifth grade children and concluded the computer-coached children progressed the most when compared to those coached by adult humans.

The positive and negative attributes of technology usage in school counseling were discussed, in detail, by Walz (1987). The writer labeled "computers in counseling" as one of the four critical issues that existed within the field of school counseling within the 1980's. Concerns listed by the author regarding the integration of computers within school counseling include the lack of professional-to-client personal connections and possible breaches in confidentiality. "Uniformity, availability, the capacity to store and retrieve large amounts of information, and the possibility for direct student and computer interaction on topics of need and interest to the student" are identified as advantages of "computer-managed guidance"(p.3). Supporting the need for future growth in computer usage within the field of school counseling, specifically career planning, the composer of the document states:

> A review of the research warrants the following conclusions: (a) students react very positively to using them (computers); (b) knowledge of self and the world of work is expanded; (c) students develop more specific career and educational plans; (d) students express greater confidence in their ability to make career decisions; and (e) students are more motivated to use additional career planning resources to assist them in making further decisions. (p. 4)

Blum and Kishner (1988) studied the concerns and attitudes towards computer usage of 130 school counselors. The results of the study recognized school counselors of the time were uncomfortable applying computers within the profession, but over 85% of the participants reported they would like to learn how to use computers in assisting their students. In fact, over 80% of the responders did not agree that computers should play a large role within any school counseling program. However, when asked if there was concern regarding breeches in confidentiality due to computer usage for data storage, a majority of the participants were unconcerned.

Stone, Thompson, and LaCount (1989) studied school counselors' general attitudes towards computer usage within the field of school counseling during this time period. The reported data opposed Blum and Kishner's (1988) data, as 62% of the responders reported a level of confidence when using computers to complete daily professional tasks. Further disseminated data described high computer usage rates among school counselors surveyed at this time: 79% used computers to research career planning information, 68% tracked attendance through computer usage, and 62% responded in an affirmative manner when asked if computers were used throughout the scheduling process. However, only 22% of the participants declared computers were used to manage student records.

1990-1999

The decade of the 1990's could be viewed as the "Age of Exploration" in regards to technology. Technology conquered many facets of human existence and revealed new frontiers, providing opportunities for further triumphs within the technological community. In 1994, computer sales surpassed television sales for the first time (Casey, 1995, p. 26) and an estimated 5.8 million computers had been installed in America's K-12 schools (Sabella, 1996, p. 83). It was also during this decade that technological terms such as "e-mail", "internet", and "search engine" all became commonplace within our daily personal and professional conversations.

Gerler, et al (1990) provided further evidence of the growth of technology usage in school counseling by compiling an entire chapter on the topic. Statements such as "The computer has the potential to affect significantly the role of the counselor" (p. 197) and "Counselors should view the computer and its associated technology as partners in helping students and clients achieve their counseling goals" (p. 207) expose the emerging discussion on the value of technology usage in the field of school counseling.

Hardesty and Utesch (1994) detailed the results of 70 completed surveys by school counselors in Indiana. The purpose of the survey was to identify how school counselors of the time period were using computers for professional purposes. A majority of those surveyed responded they had interest in having a computer within their office. In addition, a majority of the survey participants claimed they were not concerned regarding breeches in confidentiality due to computer usage. This response is consistent with previous studies addressing possible confidentiality issues.

By the midpoint of this decade, technological progress was occurring in an expeditious manner. Rapid technological advances were presenting new tools to assist school counselors in

developing successful comprehensive and developmental guidance programs (Casey, 1995). Included among these tools was the internet. During this time period the materialization of the internet as a communication tool presented school counselors with increased networking opportunities. The International Counselor Network (ICN) supplied a platform for "scores of counselors" to exchange ideas around the world at "lightning speed" (Rust, 1995, p. 16). The ICN used the internet to bring together counselors from around the world to discuss current issues of the time, theory, application, and the latest research (Gerler, 1995).

Throughout this decade, school counselors used technology as a method to engage students within lessons and activities delivered by them. Computing systems provided a large number of software tools for working with various media. Multimedia was seen as the future for assisting in the delivery of school counseling services (Gerler, 1995). Casey (1995) also noted a similar opinion when he discussed how computer-based multimedia had created a myriad of opportunities for school counselors "striving to achieve peak effectiveness."

Sabella (1996) discussed the ability of technology to magnify effective practices within the school counseling profession:

> School counselors can take advantage of rapid communication and networking with individuals and groups; gathering and processing information; managing time, data, people, and contacts; analyzing data; and presenting information via multimedia formats. The potential that computer technology has for the roles, responsibilities, and effectiveness of school counselors has only begun to be explored (p. 284).

The author also noted the use of computers to compile databases full of individual student interests and pertinent information in aiding the school counselor and student in the identification of possible future career paths. Furthermore, Sabella (1996) examined the role of technology in

assisting school counselors in completing administrative attributes of the occupation in faster and more organized fashion. The writer does warn that school counselors should be cautious of impending increased administrative expectations by their superiors due to the advantages of technology and clearly explains the increased time should not be spent on increased administrative tasks, but instead on an increase of service delivery.

The culminating years of the decade commenced with Coy and Minor (1997) authoring an informational for school counselors on the topic of technology. The paper listed information in seven areas concerning technology and the profession: definition of terms, peer assistants, software programs, the internet, popular tools for searching the web, the price of technology, and references that relate to technology and school counseling.

Hartman (1998) recognized technology usage in school counseling was here to stay and its importance within the field would continue to grow. The author identified the following technological competencies that educational leaders of the time should have expected their school counselors to posses:

- Basic Computer Literacy
- Remain Current on the Emerging State of Technology in Education
- Comprehend and Employ All Major Internet Components in Guidance Activities
- Articulate the Implications and Opportunities of Technology
- Act as an Educated and Objective Consumer of Technology
- Grasp the Ethical and Legal Implications of Technology
- Construct Group and Virtual Guidance Activities Using Technology
- Use Relational Databases to Monitor and Articulate Student Progress
- Contribute to the Development of Their Schools' or Districts' Technology Plans

- Identify National, State, and Private Funding For Technology

Owen and Weikel (1999) studied computer usage among school counselors in the state of Kentucky. The project produced 92 completed surveys, which demonstrated the growth of computer usage within the profession of school counseling during this decade. Only 2% of the participants reported a computer was not available for their use, providing evidence of technology growth as previous studies cited identified typical computer usage rates in the mid 60%. School counselors reported computers allowed for an enhancement in productivity, but 68% indicated they had not yet integrated computers into their work as much as they would have liked to. Finally, school counselors were beginning to realize there was a lack of computer training within the field, likely attributing to the reported lack of computer implementation.

Stone and Turba (1999) were the first to investigate using technology to advocate for students and concluded:

> Through efficient, effective use of technology, school counselors are in a better position to provide administrators, teachers, parents, and students appropriate timely information needed to help all students to set ambitious goals and to realize their goals. Analyzing and interpreting data is a critical consulting skill around which a proactive guidance program can be developed. If counselors can analyze data from their particular student body, they can implement changes which are tailor made for their school and their students. The counselor as a leader, using computer generated data, can help the school community explore the current status of students' curriculum enrollment patterns and success in the curriculum. Armed with a clear understanding of the achievement of the student body, educators can develop high-leverage strategies to raise student achievement and use data to drive and document change. The counselor/advocate with computer technology skills

can develop high aspirations rather than just attending to aspirations as they emerge (p. 1).

2000-2010

As we progressed into the new millennium, technology in the field of school counseling was no longer simply new and intriguing. Technology in education and, more specifically, school counseling was widely accepted as the future. School counselors, as in most professional occupations had no choice but to become part of the technological revolution (Eichenholtz, 2001). Experts in the field were realizing counselors who resisted the new tools of this century would find it increasingly more difficult to do so (Sabella, 2000). Technology was here to stay, and school counselors began to identify ways to use this technology to increase professional efficiency.

Information retrieval, communication, collaboration, accountability, and intervention delivery are all typical functions of a school counselor that saw increased effectiveness and efficiency due to technology (Sabella, 2000). In addition, Sabella (2000, p. 340) identified emerging conveniences within the profession as a result of technology implementation:

- Using computer conferencing, electronic mail, and voice mail applications, counselors can communicate with each other and other stakeholders at any time and any place. This allows a new freedom of discussion, collaboration, and professional development no matter the size or location of one's work place.
- Interactive multimedia instructional software allow counselors to better control learning segments and explore new segments at a depth and pace appropriate to their students' own learning needs during psycho-educational groups.

- Electronic links can help extend the counselor and school to community partners such as health centers, community counseling centers, business and industry, government and non-profit agencies, cultural facilities, and vast library resources.
- Information databases that are available for counselors and others to access and update, as authorized, allow for more convenient and efficient services, such as off-site college registration, financial aid and admissions processing, student career counseling profiles, full-text databases of scholarly publications, student progress data, and more.
- Networking technologies and software tools affect the way decisions are made by expediting the availability and distribution of data throughout a counselor's school. Cross-institutional work groups and an appropriate balance between distributed and centralized technical support will make possible collaborative planning and resource management.

Technology, at the time, caused the writer to view the early part of this decade as the "edge of the electronic frontier" (p. 350), and school counselors were beginning to use technology to maximize their ability to execute the professional expectations of the practice.

The growth of technology usage within the field of school counseling became more obvious following a study by Eichenholtz (2001). According to the author, 77% of respondents reported access to computers and 95% reported access to the internet. Almost 80% of counselors who participated declared a website existed for their school counseling department. These data, reported by Eichenholtz demonstrated impressive growth in the use of technology in the field of school counseling when compared to the study performed by Blum and Kishner thirteen years earlier. It was during that study in which 80% of the participants reported they did not believe technology would play a large role in the delivery of school counseling services.

Despite the growing acceptance of the implementation of technology within the practice, the early part of this decade saw continued discussions regarding the need for school counselors to integrate technology within the delivery of services. Van Horn and Myrick (2001, p. 124) argued "school counselors need to be more actively involved in implementing technology." The writers identified the areas in which technology could boost the level of services provided by school counselors as "information retrieval and dissemination, distance learning, college and career exploration, counseling interventions, networking and support systems, and training and supervision" (p. 124). Once again, the greatest limitation discussed by these authors is the potential lack of confidentiality; "Technological advances such as list-serves, e-mail, the Internet, and video conferencing can create environments where privacy is not necessarily guaranteed" (p. 126).

Creamer (2001) surveyed 145 school counselors from 11 different states, located in various national regions regarding their use of technology for professional purposes. All school counselors surveyed during this study reported having access to their own computer and all but one school counselor reported access to the internet from their computers. Communication was the highest rated use of technology by the participants. The study reported many school counselors felt a need for technology training.

Consideration began to grow in regards of the use of technology in the field of school counseling from a programmatic perspective. Black (2002) argued, "There is little research devoted to developing a technology enhanced school counseling program" (p. 18) The writer conducted a case study exploring processes related to the implementation of technology on a programmatic level by examining two separate schools that were "models of best practice." Bowers (2002) reviewed the technology implementation process for the school counseling

program within a large urban school district in the western part of the country. Identified benefits of the added technology were communication through e-mail, the use of the internet to obtain professional resources, direct work with students, collaboration with other district staff, out of district communication, individual professional support, program support, and planning. Sabella and Booker (2003) contended technology could be used within the profession to promote school counseling programs. The authors argued there was a need to create presentations because "the visibility of a comprehensive school counseling program may give others professionals a clearer conceptualization of the goals and of a counseling program within the school environment" (p. 206). Cited benefits of regular dissemination of information were:

- Gaining administrative support
- Fostering understanding and respect for how school counselors advance students' personal, social, career, and academic competencies.
- Helping parents and teachers identify appropriate referral needs
- Networking and collaboration
- Inform school counselor educators of the latest trends and issues within the field
- Assist professionals in related fields
- Communicate guidance and counseling activities as they are implemented as one form of an evaluative tool for administrators and other counselors.

The writers concluded the article by presenting the reader with step by step instructions for creating such presentations.

Dear (2002) and Hines (2002) were the first to argue technology literacy and skills were now needed to function as a successful school counselor education program. Dear (2002, p 211) listed "computer skills and other skills in the use of technology" as an item within a list of skills

that were not sufficiently required in most school counselor education programs. Hines (2002) reported on a school counselor education program which developed technology competencies as part of their program. She used the following chart to explain Indiana State University's integration of technology skills within the school counselor education program:

Basic Technology Skill	Documentation
Word Processing/Desktop Publishing	
Use word processing to create printed documents.	Students submit a word processing document that contains: a variety of fonts, font styles, and colors; a page border; WordArt; various wrapping styles; page numbers; headers and footers; a variety of margins; landscape and portrait printing; various line spacing and alignments; numbered and bulleted text; columns; and, a table.
Create a newsletter that is visually appealing, effectively uses graphics, and is well written and organized, and is interesting and informative.	Students submit a two page newsletter which contains stories, pictures, clip art, digital photos, and something they have scanned.
Cut and paste information from an electronic source into a personal document complete with proper citation.	
Upload and use computer generated graphics and digital photos in various print and electronic presentations.	
Scan document and import into word processing software.	
Create mail merge documents.	The assignment for this competency is combined with the database competency (see below).
Database and Spreadsheet	
Use database management software to create original databases.	Students submit a disk containing a database with a table of at least 10 fields and 10 records, 1 database query, 1 report, and a set of labels. The disk must also contain a mail merge document which merges at least five different fields, and the resulting merged document.
Use spreadsheet software to create spreadsheets, charts, and graphs.	Students submit a disk containing a spreadsheet workbook with at least two worksheets. One worksheet must contain a table which is at least 10 rows by five columns. There must be at least two rows or columns which contain elementary formulas. The second worksheet should contain two different types of graphs based upon the data contained on the first worksheet. The graphs should be labeled appropriately.

Multimedia Presentation	
Use presentation software to create electronic slide shows and to generate overheads.	For these three competencies, students must present a presentation which contains at least 15 slides upon which there are a variety of graphics, animation, charts, sounds, and pictures.
Import graphics, charts, and pictures into presentations.	
Connect and operate technology needed for presentations.	
Electronic and Internet Resources	
Able to send and receive email messages and attachments.	Students send an email containing an attachment.
Able to subscribe, participate in, and search electronic discussion lists.	The students submit evidence of subscribing to and participating in ICN and Indiana's counselor discussion list, Counselor Talk. Students also submit evidence of searching the ICN archives on a specific topic.
Able to search the Internet, analyze, filter and appropriately reject non-relevant electronic information in relation to the desired outcome.	Students submit the results of an "advanced" Internet search on topic which contains less than 100 "hits."
Properly cite electronic sources of information.	Students submit an annotated review of five web sites on a particular subject. The cite must be properly cited, using APA style, and the annotation must contain a general review of the site and a critique/rating which includes a description of the site's content, ease of navigation, aesthetics, and organization.
Able to objectively review and informatively annotate web sites.	
View, download, decompress, and open documents and programs from Internet sites, while demonstrating an understanding of appropriate protocols to protect the computer from viruses.	Students are required to download an instant messaging program and describe the anti-virus software that they have on their computer.
Able to effectively use electronic library search technology.	Students must submit documentation of "advanced" search conducted on the ISU library electronic catalog, LUIS; ERIC, both from the ISU library web site and through an Internet site; and, full text databases on ISU's library Internet site which include Proquest and Inspire/EBSCO Host.
Able to join and participate in chat rooms.	Students participate in ISU course-related chat rooms and participate in Instant Message-type chatting.

Copied from Hines (2002)

Furthermore, Schayot (2008, p. xi) found that technology skills were identified as an area of need among school counselor education programs by stating, "Professional school counselors perceived themselves to need additional preparation in using technology."

Sabella and Halverson (2004) revisited the issue of school counselor virtual communities. The authors labeled the Internet as a "global medium that brings people together in a shared environment to exchange ideas, learn, and engage in collaborative decision making" (p. 2) and discussed how school counselors could use the Internet for these purposes by creating virtual communities. The authors listed advantages of virtual communities of the time:

- It is a place where people and information can be accessed anytime throughout the day or night, no matter what day of the year.
- Participants and experts from throughout the world can connect to orchestrate "brainstorming" sessions.
- They are free, therefore cost effective. (p.4)

The number of school counselor virtual communities grew rapidly during this decade. A majority of the communities were directly attributed to local, state, and national school counselor associations.

Sabella continued to explore the role of technology within school counseling in his informal study "What are School Counselors Doing with Technology" (2005). The qualitative study polled school counselors throughout the nation by way of a survey administered through Dr. Sabella's website www.schoolcounselor.com. While the results of the study are important, more importance can be focused on the logistics of the study. This piece of research was conducted by polling subscribers to an online newsletter. The participants responded by way of e-mail and the study's findings were published through a website. The study posed a question to about 18,000 school counselors; "How do you use technology in ways that make you more effective, efficient, or just makes your work more fun?" Many responders cited the use of e-mail and websites for communication purposes while also including the use of databases for various

purposes. Some participants reported the use of self-developed technology to enhance their individual and programmatic effectiveness.

Carlson, Portman, and Bartlett (2006) administered surveys to 381 school counselors for their quantitative study regarding school counselors' approaches to technology. Almost all of the participants reported they were either "very comfortable" or "somewhat comfortable" in reference to computer usage. In fact, only 9.6% responded they were "somewhat anxious" or "very anxious". 96% of the participants indicated computer usage at work and Microsoft Word was reported as the most commonly used computer application. Once again, training in the area of technology was chronicled as greatly needed among school counselors. Of those surveyed 82.7% revealed they had never received any formal training in technology.

Milson and Bryant (2006) examined content from 456 school counseling program websites. They found that a "majority of the sites did not contain information pertaining to school counselor roles, programs, or any other current trends in the area of school counseling" (p. 210). The authors argued school counseling program websites can be used for individual and programmatic advocacy, yet found many do not. A total of 456 websites were reviewed and only 38% contained information identifying the role of the school counselor(s). Only 14% contained information pertaining to a program mission statement and 11% referenced components of a comprehensive school counseling program.

Reynolds and Kitchens (2007) continued the discussion regarding school counseling program websites. The authors examined the creation of a website evaluation tool to be used by school counseling students as they prepare to enter the profession of school counseling. The completed "Website Evaluation Tool" was designed to aid school counselor educators develop technology skills applicable to the practice.

The use of technology by school counselors continued to be studied and reported throughout the second half of this decade. Davis (2007) conducted research to determine "if high school counselors are using computer technology, how they are using technology, how frequently they are using technology, and how proficient they were in using technology." Her quantitative dissertation study was conducted by administering a 10-item survey to 78 high school counselors within the metro-Atlanta area, with 72 responding. Of the survey respondents 99% reported using the internet as a professional resource for themselves and 100% answered they used the internet as a resource for students. Only 6% indicated they don't use computers when generating student academic plans, and 1% reported never using computers to generate student career plans. For the first time, the use of the Internet for the submission of post-secondary applications appears as a point of discussion when Davis reported, "53% of the respondents indicated they frequently use the internet" to download applications. Adding to this research Rainey, McGlothlin, and Miller (2008) surveyed 640 school counselors on the "Computer Attitude Scale and another instrument measuring perceived competence and experience with various forms of technology." The authors reported, "Overall, the attitudes of school counselors were positive towards the use of computers" (p. 1).

A specific, focused study on technology usage within the field of school counseling was conducted by Hayden, Poynton, and Sabella (2008). The study investigated the use of technology within the ASCA National Model's Delivery System. The responses of 49 school counselors to open ended questions were analyzed and coded into one of the four delivery systems defined by the ASCA. The results of this study demonstrated 70% of the respondents reported technology was infused within the "School Guidance Curriculum" and 42% reported the same when "Individual Student Planning" was referenced. Technology was used to enhance

"System Support" 67% of the time while participant responses only included references to "Responsive Services" 8% of the time (p.7).

School counselors, school counseling students, supervisors, and counselor educators were asked to provide feedback regarding their perceived importance of technology competencies for a study conducted by Sabella, Poynton and Issacs (2010). A total of 497 responders found the most important technology competencies related to the ability to maintain confidentiality, send file attachments, and protect students (p.613). Additionally the least familiar competencies were related to data management and analysis (p. 614).

Summary

The use of technology within the field of school counseling has increased greatly from 1980 to 2010. Literature and research written about the topic has also increased, and is reflective within this chapter.

Table 1

Literature Cited- Totals

Period of Time	Literature Cited
1980-1989	7
1990-1999	10
2000-2010	19

Table 2

Literature Cited - Percentage

Period of Time	Literature Cited Percentage
1980-1989	19.4%
1990-1999	27.7%
2000-2010	52.8%

This review of literature qualifies the need for this study, in that it demonstrates the topic continues to manifest an important area of research within the profession, while past studies have neglected to account for the quality of services delivered within school counseling programs investigated.

Chapter 3

Methodology and Procedure

Research Design

A mixed methods design has been used to collect and analyze data obtained throughout the process of conducting this study. Creswell & Plano Clark (2011) defined mixed methods research as "research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry" (p. 15). Punch (2009) comparably identified mixed methods research as "empirical research that involves the collection and analysis of both qualitative and quantitative data" (p. 288).

The goal of this study was to produce beneficial research for the many facets of the school counseling community that will inform and guide the successful implementation of technology in school counseling programs by referencing technology usage and benefits within accomplished school counseling programs. The boundaries of single methodology research require the combination of quantitative and qualitative research methodologies within this single study for the purpose of accomplishing such an objective. Furthermore, the ability to combine the strengths of quantitative research with the strengths of qualitative research while compensating for the weaknesses of each method (Punch, 2009) provides adequate rational for the use of such a research methodology.

Quantitative studies involve the gathering of data about or from human subjects (Bryant, 2004). Data is gathered from a population or a sample of the population and processed through various statistical formulas. Quantitative research relies heavily on hypothesis testing, cause and effect relationships, and statistical analysis (Lichtman, 2010, p. 7). Two distinctive, research

designs, exist in the field of quantitative research. Non-experimental or descriptive quantitative studies require single measurements of the studied subjects. Single occurrence measurements are used because the situation cannot be manipulated since the change in the independent variable has already occurred (Hoy, 2010). Experimental research involves the study of variables which are manipulated by the researcher. This method of quantitative research is "systematic empirical inquiry in which the researcher introduces changes, notes effects, and has full control over the design of the study" (Hoy, 2010, p.17).

Qualitative research uncovers and describes how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences (Merriam, 2009). According to Holloway (1997, p.5), qualitative research retains seven standard elements:

- Researchers focus on the everyday life of people in natural settings.
- The data have primacy; theoretical framework is not predetermined but derives directly from the data.
- Qualitative research is context bound. This means that researchers have to be sensitive to the context of the research and immerse themselves in the setting and situation.
- Qualitative researchers focus on the emic perspective, the views of the people involved in the research and their perceptions, meanings and interpretations.
- Qualitative researchers describe in detail; they analyze and interpret.
- The relationship between the researcher and the researched is close and based on a position of equality as human beings.
- Data collection and data analysis general proceed together and interact.

Five distinct approaches, or research designs, exist within the field of qualitative research. Creswell (2007) identifies these five approaches as Narrative Research, Phenomenology, Grounded Theory, Ethnography, and Case Study.

In comparison, quantitative studies rely heavily on linear attributes, measurements, and statistical analysis and qualitative research relies primarily on human perception and understanding (Stake, 2010). Both methodologies retain respectability in many areas of research, especially educational research.

In mixed methods research, qualitative and quantitative methods and data are mixed or combined in some way (Punch, 2009). Researchers who utilize a mixed method design are looking for a convergence of the data collected by all methods in a study to enhance the credibility of the research findings (Hesse-Biber, 2010). Creswell and Plano Clark (2011) identified the following design methods that exist within the mixed methods design paradigm:

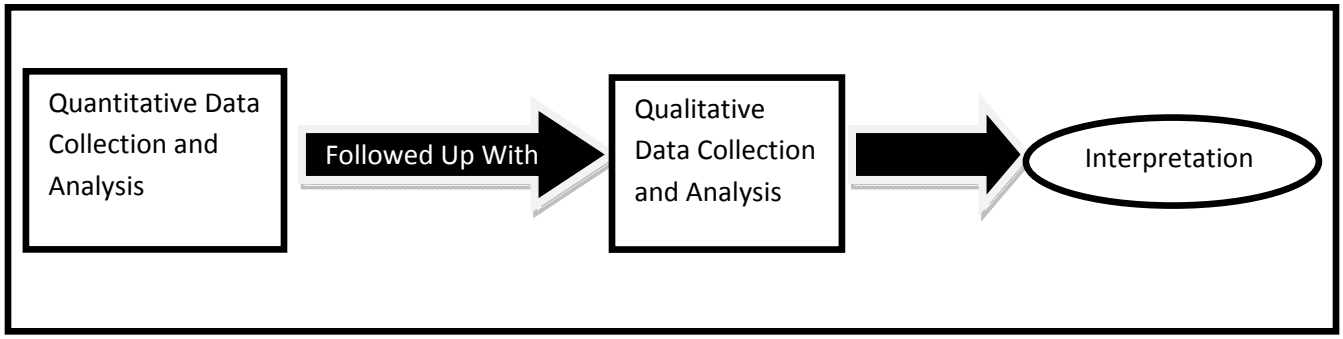
- The Convergent Parallel Design
- The Explanatory Sequential Design
- The Exploratory Sequential Design
- The Embedded Design
- The Transformative Design
- The Multiphase Design

These design methods define the sequence and manner in which data is collected and analyzed. The choice of design in a mixed methods study should be governed by the inherit logic of the research project, by the way the research problem is framed and set up for research, and especially by the way the research questions are asked and framed (Punch, 2009).

This study utilizes the explanatory sequential mixed methods design. Creswell and Plano Clark (2011, p. 71) explained:

> The explanatory sequential design occurs in two distinct interactive phases. This design starts with the collection and analysis of quantitative data, which has priority for addressing the study's questions. The first phase is followed by the subsequent collection and analysis of qualitative data. The second qualitative phase of the study is designed so that it follows from the results of the first quantitative phase. The researcher interprets how the qualitative results help explain the initial quantitative results.

Figure 1 – Mixed-Methods Explanatory Sequential Design



The use of the explanatory sequential design allows the researcher to use qualitative data "to help explain, or build upon, initial quantitative results", such as "where qualitative data are needed to explain significant (quantitative) results" (Punch, 2009, p. 167).

The initial phase of this study consisted of non-experimental quantitative data collection facilitated through the use of a cross-sectional web-based survey. The first goal of this phase was to gather data related to the four research sub-questions identified in the first chapter of this report, which represent the quantitative guiding research question: "How are school counselors in Recognized ASCA Model Programs (RAMP) using technology?" The second goal

of this phase was to identify RAMP school counseling programs with high technology usage frequencies, thus producing participants for the second phase of the study.

The second, qualitative, phase of the study was produced through the case study approach to qualitative research. Case study refers to qualitative research that describes one or more cases in depth and addresses the research question (Patton, 2002). Data were collected in this phase through individual, semi-structured interviews to provide further analysis of technology usage in RAMP school counseling programs with high technology usage frequencies.

The rational for this multi-phase, explanatory sequential mixed methods study relied on the idea that quantitative research lacks the ability to produce an understanding of one or a few individuals, while qualitative research leaves the researcher without the ability to generalize the results to many (Creswell & Plano Clark, 2011). The general, quantitative data collected in the first phase of this study does provide the researcher with the ability to trace trends and relationships and formalize comparisons regarding technology usage in RAMP school counseling programs. However, the in depth analysis of technology usage within RAMP school counseling programs with high frequencies of technology usage could only occur through the use of qualitative methods.

The Four Quadrants of the ASCA National Model as an Organizing Framework

The ASCA's *National Model: A Framework for School Counseling Programs* (2003) supported school counselors in the area of programmatic development. The document's focal point was to empower school counselors in the area of demonstrating how students are different as a result of the actions of school counselors.

The ASCA National Model is "composed of four interdependent" quadrants, representative of the model framework: Foundation, Delivery, Management, and Accountability

(Hayden, Poynton, & Sabella, 2005). The four quadrants were used in each phase of this study as an organizational framework, allowing the researcher to report the quantitative and qualitative findings consistently. Furthermore, the use of the four quadrants as an organizing framework provided common points of reference and familiar language for the varying roles of those within the professional school counseling community.

The Foundation Quadrant is the base from where the school counseling program is built upon. "Based on the school's goals for student achievement, the foundation determines how every student will benefit from the school counseling program." The Delivery Quadrant builds upon the Foundation Quadrant, describing the "activities, interactions and methods necessary to deliver the program." The Management Quadrant is "intertwined" with the Delivery Quadrant and "incorporates organizational processes and tools to ensure the program is organized, concrete, clearly delineated, and reflective of the school's needs." Finally, the Accountability Quadrant assists school counselors in "demonstrating the effectiveness of the school counseling program" (ASCA, 2003).

Phase I – Quantitative

Target Population and Sample

The target population for this study was school counselors at Recognized ASCA Model Programs (RAMP) that have gained this recognition during or after 2008. A list of all RAMP schools and contact information was obtained from the ASCA. This database contained contact information for RAMP schools that gained this recognition during 2004 through 2010. The ASCA requires RAMP schools to re-apply for this award every three years. The creation of a sample frame cleaned of non-renewed RAMP schools increased the likelihood that the contact information for each corresponding school was current and correct, thus decreasing the potential

rate of item non-response error and coverage error. Item non-response error occurs when "respondents skip questions or fail to complete a questionnaire" (Spitz, Niles & Adler, 2010, p. 28). Coverage error results from every unit in the survey population not having a "known, nonzero chance of being included in the sample" (Dillman, Smyth, & Christian, 2009, p. 17).

A random sample was drawn from the identified sample frame. The sample frame was not stratified in any manner, allowing it to maintain its status as a true random sample. Random sampling provided every element in the population with an equal chance of being selected (Salkind, 2010), thus decreasing the probability of sampling error. Sampling error is the result of collecting data from only a subset, rather than all members of the sampling frame (Dillman, Smyth & Christian, 2009).

There are 221 schools that received the RAMP award during the years of 2008 through 2010. This survey, conservatively, set the expected variation at 50% and the confidence interval was designated at .03. The random sample confidence level was set at 95%, creating a corresponding z-score of 1.96. The resulting sample size was 184.

The random sample was chosen by listing all RAMP schools in alphabetical order. The "Random Number Generation" function of *Microsoft Excel* was then used to assign each RAMP school with an identifying number. RAMP schools with the lowest 184 identifying numbers were selected as members of the random sample.

Technology Selection

A total of nine specific technologies were emphasized as the focus of this study: website, e-mail, Internet, *Microsoft* Word, *Microsoft* Excel, *Microsoft* PowerPoint, student database system, social networking platforms, and EZ Analyze. Reviewed literature combined with

personal experience in the field of school counseling and a level of expertise in the area of technology was relied upon as the researcher selected the specific technologies.

Sabella (2005) conducted an e-mail based qualitative study. During this study, Sabella asked practicing school counselors, "How do you use technology in ways that makes you more effective, efficient, or just makes your work more fun?" An examination of the published 49 responses found multiple responses containing references to the use of a departmental website, e-mail, the internet, *Microsoft* Word, *Microsoft* PowerPoint, *Microsoft* Excel, and student database systems.

A 2008 study by Hayden, Poynton, and Sabella, built upon Sabella's (2005) previous study. This study coded the qualitative responses from the earlier study and classified the coded data within the framework of a single quadrant of the ASCA National Model. Supporting statements were documented within the study's report. These statements included references to the previously mentioned technologies.

Sabella, Poynton, and Isaccs' (2010) study, "School Counselors Perceived Importance of counseling Technology Competencies", reported on the responses of practicing school counselors to the previously developed *School Counselors and Technology Survey*. Eight survey subscales were created by the authors and identified as: Website Development, Multimedia, Operating Systems, Communication and Collaboration, World Wide Web, Word Processing, Data Management, and Ethics. Eight of the nine technologies discussed within this dissertation were classified throughout the eight survey subscales by the authors.

Finally, the use of social networking technologies was included within this study due to the considerable growth of this technology recently. Additionally, Sabella (1996) documented school counselors' use of technology for professional networking purposes. Although social

networking platforms such as *Twitter* and *Facebook* are relatively new, it's purposes are similar to the networking technologies reviewed within Sabella's (1996) study.

Data Collection

The initial, quantitative phase of this study was aligned to the guiding research question: How are school counselors at RAMP schools using technology? Data aligned to the guiding research question were collected through the administration of a self-developed web-based, cross-sectional survey. Cross-sectional surveys require data to be collected at one point in time (Fink, 2008).

The reliability of the survey was tested through the calculations of test, re-test correlations. A total of four practicing school counselors provided responses on identical surveys, administered at least 14 days apart. The analyzed responses provided a correlation coefficient, or r value, or .84. "In general, r values are considered good if they equal or exceed .70" (Litwin, 1995, p.8) Survey validity testing occurred through individual reviews by at least one, well-established, post-secondary professor in school counseling.

The web-based survey was administered through the use of e-mail addresses provided by the ASCA. The first five survey items gathered demographic data, followed by nine, closed-ended, survey items regarding specific technologies. Each of the nine survey items identified a single technology and asked the responder to determine the use(s) of each technology by checking off at least one of the 14 prepared usages. Each closed-ended response is aligned to a specific quadrant of the ASCA national model, providing the researcher with the opportunity to link technology usage to usage purpose. The closed-ended responses are standard for all nine survey items, because they are used to link each, specific, technology to one of the four quadrants of the ASCA National Model.

Figure 2 – Questionnaire Abstract

Survey Item(s)	**Variable**	**Item Format**	**Research Sub-question(s)**
1-5	Demographic Information	Multiple Choice, Open-Ended	N/A
6	Website	Closed-Ended	1, 2, 3, 4
7	E-Mail	Closed-Ended	1, 2, 3, 4
8	Internet	Closed-Ended	1, 2, 3, 4
9	*Microsoft* Word	Closed-Ended	1, 2, 3, 4
10	*Microsoft* Excel	Closed-Ended	1, 2, 3, 4
11	*Microsoft* PowerPoint	Closed-Ended	1, 2, 3, 4
12	Student Database System	Closed-Ended	1, 2, 3, 4
13	Social Networking Platforms	Closed-Ended	1, 2, 3, 4
14	*EZ Analyze*	Closed-Ended	1, 2, 3, 4

Figure 3 – Closed-Ended Response Abstract (Survey Items 6-14)

Code	Description	ASCA Model Quadrant
A	Develop, Communicate, or Identify The School Counseling Program's Beliefs and Philosophy	Foundation
B	Develop, Communicate, or Identify The School Counseling Program's Mission Statement	Foundation
C	Develop, Communicate, or Identify The School Counseling Program's Curriculum	Delivery
D	Assist Students Individually in Establishing Personal Goals and Developing Future Plans	Delivery
E	Provide Responsive Services	Delivery
F	Maintain and Enhance the Total School Counseling Program	Delivery
G	Develop, Communicate, or Identify Yearly Management Agreements	Management
H	Develop, Communicate, or Identify The School Counseling Program's Advisory Council	Management
I	Collect or Analyze Data	Management
J	Develop, Communicate, or Identify Weekly Calendars	Management
K	Develop, Communicate, or Identify Results Reports	Accountability
L	Develop, Communicate, or Identify The School Counseling Performance Standards	Accountability
M	Develop, Communicate, or Identify A School Counseling Program Audit	Accountability
N	I am NOT using this technology for any of the responses above.	N/A

The total number of survey items was 14, allowing the responder to complete the survey in approximately 10 minutes. Minimizing the time needed to complete the survey allowed the researcher to minimize the rate of non-response error.

Data Analysis

Data collected within the four specific research sub-questions was used to answer the guiding research question during the first phase of this study:

Sub-question 1: *What are the usage frequencies for specific forms of technology by school counselors at RAMP schools?*

The data collected for this sub-question was the usage frequency rates for nine specific forms of technologies by school counselors at RAMP schools. Multiple choice, closed-ended questions within the web-based survey allowed respondents to identify if each form of technology is utilized in a professional capacity. Analysis occurred by calculating the total and mean identified uses for each specific technology. This analysis was processed by summing the total responses that identified the closed-ended responses coded A through M as a usage for the identified technology. Additional analysis occurred through calculating the mean of this sum. A frequency distribution table was created for the purpose of charting usage frequencies for each specific technology. Finally, each specific technology was ranked according to the corresponding frequencies.

Sub-question 2: *What are the non-usage frequencies for specific forms of technology by school counselors at RAMP schools?*

Data collected for this sub-question relied on one specific provided response for each of the nine multiple choice, closed ended questions. Each of these questions refered to a specific form of technology identified by the researcher. Analysis for this sub-question took place by

summing the total responses of, “I am NOT using this technology for any of the responses provided above” (response N). Additionally, the percentage of occurrences for this response was calculated by dividing the number of occurrences by the total amount of responders for each of survey items 6 through 14. Finally, each specific technology was ranked according to the corresponding non-usage frequencies.

Sub-question 3: *How is technology being used at RAMP schools to satisfy the four quadrants of the ASCA National Model*?

The data collected for this sub-question relied on respondent replies to survey items 6 through 14, which were related to each of the nine specific forms of technology included within this study. The closed-ended responses, coded A through M, reflected a corresponding quadrant of the ASCA model. An unequal amount of possible responses correspond to each quadrant. Therefore, mean scores were required for this analysis. The mean scores were charted within a distribution table, providing an explanation for the importance each technology holds in satisfying each of the four quadrants of the ASCA National Model.

Sub-question 4: *What RAMP schools report utilizing technology high frequencies?*

This final sub-question was used to identify a purposeful sample for the second, qualitative, phase of this study. A series of steps were required to accomplish this analysis. First, the completed survey responses for survey items 6 through 14 were exported in numerical form, providing a value for each closed-ended response. Next, this data was cleaned of all responses representing the closed-ended response coded “N”. Subsequently, the total cells which contained numbers were summed per responder, representing usage frequencies. Finally these sums were sorted and ranked from high to low. A total of three school counselors with high

frequencies of technology usage represented the purposeful sample for the case study design of the second, qualitative, phase of this study.

Phase II - Qualitative

Target Population and Sample

The second, qualitative phase of this study focused on a sample drawn from the same population used during the first, quantitative, phase of this study. A purposeful sample, or a one in which the researcher has "intentionally selected participants who have experienced the key concepts explored" (Creswell & Plano Clark, 2011, p. 112), was used to gather data during this phase of the project. An extreme-case sample, meaning a "sample drawn from extreme cases of a distribution" (Morra-Imas & Rist, 2009, p. 133) of three school counselors, with high reported usage frequencies of technology, was identified through the fourth sub-question examined in the first, quantitative, phase of the study.

Data Collection

Purposeful sampling was used to allow the researcher to collect qualitative data to explain significant quantitative results (Creswell & Plano Clark, 2011). The researcher used the case study approach to qualitative research to examine the central question of this phase of the study: How do school counselors at RAMP schools with high levels of technology usage describe their experiences in regards to technology usage for professional purposes? According to Creswell (2007), a case study is a good approach when the researcher has "clearly identifiable cases with boundaries and seeks to provide an in depth understanding of the cases" (p. 74). The sample used in the second, qualitative phase of this study possessed such boundaries; therefore the case study approach was appropriate.

A total of three interviews took place for the purpose of data collection. The interviews followed an established protocol and were semi-structured in design, in that it contained a small number of open ended questions that permit the participants to answer from their point of view (Creswell, 2008). Anderson (1998) explains:

> Interviews for research purposes must follow a plan related to the objectives one wants to achieve in the data collection. It is not sufficient to merely meet with people and conduct and informal chat. One should plan the interview in great detail and write down the questions in modified questionnaire form. This type of data collection tool is called an interview protocol. (p. 183)

The researcher developed the interview protocol. Each interview was designed to encompass a minimum time frame of 30 minutes and a maximum time frame of 45 minutes. Participant consent was secured prior to the scheduling of the interview. The interview was recorded and later transcribed.

Figure 4 – Interview Abstract

Question	ASCA Quadrant
What are some positive aspects of utilizing technology to enhance the “Foundation” of your school counseling program?	Foundation
What are some negative aspects of utilizing technology to enhance the “Foundation” of your school counseling program?	Foundation
What are some positive aspects of utilizing technology to enhance the “Delivery” of your school counseling program	Delivery
What are some negative aspects of utilizing technology to enhance the “Delivery” of your school counseling program	Delivery
What are some positive aspects of utilizing technology to enhance the “Management” of your school counseling program	Management
What are some negative aspects of utilizing technology to enhance the “Management” of your school counseling program	Management
What are some positive aspects of utilizing technology to enhance “Accountability” within your school counseling program	Accountability
What are some negative aspects of utilizing technology to enhance “Accountability” within your school counseling program	Accountability

The researcher began the interview process by introducing himself to the participant and then clearly explaining the purpose of the interview, along with the interview subject's role in the study, as a whole. The researcher probed specific areas within participant replies to the interview questions, for the purpose of gaining a deeper understanding.

Data Analysis

The researcher utilized the transcribed interviews for the purpose coding, or sorting all data sets according to topics, themes, and issues important to the study (Stake, 2010). The researcher then analyzed the codes and identified common emerging themes. Triangulation of the different evidence from the participant interviews allowed the researcher to build a justification of the identified themes (Creswell, 2003). The identified themes were framed within the four quadrants of the ASCA National Model and used to further explain the results of the first, quantitative, phase of this study.

Verification

Case study participants were asked to review interview transcripts for accuracy. This review process, also known as "member checking" (Creswell, 2008, p. 92), verified the qualitative data, thus ensuring the accuracy of the qualitative findings.

Phase III – Mixed Methods

Data Interpretation

Data gathered and analyzed through the first two phases of this study were interpreted and connected based on the suggestions of Creswell and Plano Clark (2011). The quantitative and qualitative results were summarized separately. The researcher, then, provides a discussion regarding the extent and manner in which the qualitative results help to explain the quantitative results.

Validation

Validity in mixed methods research is defined as the process of "employing strategies that address potential issues in data collection, data analysis, and the interpenetrations that might compromise the merging or connecting of the quantitative and qualitative strands of the study and the conclusions drawn from the combination" (Creswell & Plano Clark, 2011, p. 238). Securing the validity of this study was accomplished through multiple avenues. For the purpose of ensuring inappropriate individuals were not selected for the quantitative and qualitative data collection, the samples were drawn from the same population, making the data comparable. The same topic of questions was addressed in the quantitative and qualitative phases, allowing for the study to remain focused in a consistent manner throughout its entirety. The collected data was analyzed though multiple approaches and qualitative data were matched to quantitative data. Finally, the data interpretation methodology utilized results from both phases equally (Creswell & Plano Clark, 2011).

Chapter 4

RESULTS

Introduction

The role of the professional school counselor is continually changing, altering itself to meet the always growing needs of the students and schools that are served by the profession. School counselors of today and tomorrow must effectively navigate the changing and growing demands of our educational system by demonstrating how "the complement of academic rigor and affective development is the formula to student success" (Dahir, 2009, p 3.).

The integration of technology within the practice of school counseling unceasingly amplifies as professional school counselors identify ways it can enhance the practice and improve the service that can be provided. This researcher's goal was to conduct a study which provided a clear perception of the role of technology within the profession of school counseling, specifically within RAMP school counseling programs. Data for this study were gathered from school counselors within established, effective school counseling programs and framed within the four quadrants of the American School Counselor Association's (ASCA) National Model for the purpose of data analysis.

The purpose of this multi-phase, sequential explanatory mixed methods study was to demonstrate the impact of technology on school counseling services at RAMP schools. Data were collected in two phases. The first phase of data collection comprised of the gathering of quantitative data through the administration of a self-designed and tested survey. The survey data were analyzed, procuring mean scores, frequency distribution tables, and rankings. Additionally, quantitative results of the administered survey were used to identify a purposeful sample for the second phase of the study.

The second phase of this study consisted of the capturing of qualitative data. A purposeful sample was determined during the first phase of the study. A total of three case study interviews took place during this phase of the research. The interviews were conducted over the phone and were semi-structured in nature. An interview protocol was followed. The length of the three interviews varied from a minimum time frame of 18 minutes to a maximum time of 42 minutes. The interviews were recorded and transcribed. The transcribed interviews were coded and emerging themes were identified. The qualitative data were then used to further explain the results of the first, quantitative, phase of the study.

Descriptive Statistical Data

A total of 184 school counselors at RAMP schools were invited to participate in the cross-sectional, web-based survey. E-mail invitations were sent to all members of the sample. This contact information was provided to the researcher by the ASCA. Two separate survey invitation reminders were sent over a four-week period for the purpose of increasing the overall response rate. A total of 65 school counselors at RAMP schools completed the survey, representing a response rate of 35.33%. Demographic information for each responder was collected within the survey and is represented in tables 2 and 3.

Of the 65 surveys completed, the highest rate of response was found within school counselors with an experience level ranging between 10 and 15 years. Twenty-two (33.8%) of the responders represented this demographic characteristic, while 15 (23.1%) had between 5 and 10 years of experience, and 14 (21.5%) had more than 20 years of experience. Finally, experience levels that fell between one through five years and 15 through 20 years each comprised 7 (10.85) responders, respectively.

Table 3

Survey Responders: Years of Experience

Experience	Number of Responders	Percentage
1-5 Years	7	10.8%
5-10 Years	15	23.1%
10-15 Years	22	33.8%
15-20 Years	7	10.8%
More Than 20 Years	14	21.5%

Additionally, responding school counselors were asked to characterize the community that is served by the school they currently work in as urban, suburban, or rural. Thirty-five (53.8%) of the responders identified their school as suburban, with 18 (27.7%) identifying with urban and 12 (18.5%) identified a reply of rural.

Table 4

Survey Responders: School Community Type

Community Type	Number of Responders	Percentage
Urban	18	27.7%
Suburban	35	53.8%
Rural	12	18.5%

Quantitative Data Analysis

The guiding research question for the first quantitative phase of this study was "How are school counselors in Recognized ASCA Model Programs (RAMP) using technology. For the purpose of answering this question, data were collected and analyzed within four specific sub-questions.

Sub-question 1: *What are the usage frequencies for specific forms of technology by school counselors at RAMP schools?*

The data were collected and analyzed for this sub-question based on compiled responses to nine multiple choice, closed-ended questions within the web-based survey. The data were analyzed through the calculation of total and mean identified usage frequencies for each of the nine technologies. A frequency distribution table was created for the purpose of charting usage frequencies for each specific technology. Finally, each specific technology was ranked according to the corresponding usage frequencies.

The analyzed responses identified the use of *Microsoft Word* as the most prevalent. A total of 669 determined uses for this technology calculated to a mean of 51.46. Responders cited a sum of 424 uses for use of the Internet, with a mean of 32.62, ranking second out of the nine technologies. E-mail is the technology that rounded out the top three as responders cited a total of 402 usage purposes with a mean of 30.92. The usage frequency for *Microsoft* PowerPoint ranked fourth, with a tally of 370 identified uses and a mean score of 28.46. A ranking of fifth was allocated to the use of a website by the responders. A total of 330 uses were identified by school counselors who responded to the web-based survey for this specific technology. The use of a Student Database System had a total of 274 distinct uses and a mean of 21.08, ranking this technology as sixth. *Microsoft* Excel ranked seventh with a total

Table 5

Usage Frequencies

Technology	Usage Frequency Total	Usage Frequency Mean	Rank
Microsoft Word	669	51.46	1
Internet	424	32.62	2
E-mail	402	30.92	3
Microsoft PowerPoint	370	28.46	4
Website	330	25.38	5
Student Database System	274	21.08	6
Microsoft Excel	254	19.54	7
Social Networking Platforms	86	6.62	8
EZ Analyze	73	5.62	9

usage frequency of 254 and mean score of 19.54. The technologies with the two lowest ranked usage frequencies were social networking platforms and EZ Analyze, with total scores of 86 and 73, along with mean scores of 6.62 and 5.62, respectfully.

Sub-question 2: *What are the non-usage frequencies for specific forms of technology by school counselors at RAMP schools?*

The web-based survey utilized for the collection of quantitative data for this study, provided responders with a multiple choice response that established the non-use of the specific technology referenced within survey items six through fourteen. Answer N allowed the participant to respond, “I am NOT using this technology for any of the responses provided

above". The amounts of these responses were tallied for each of the stated survey items and these sums were then, also, divided by total responses per survey item (65). Finally, each specific technology was ranked according to the corresponding non-usage frequencies.

Two specific technologies had disproportionate amounts non-usage frequencies: EZ Analyze and Social Networking Platforms. EZ Analyze had the highest amount of non-usage frequencies with 59 survey responders (91%) remarking this technology was not used by them for professional purposes. A total of 51 (78%) of the responding school counselors cited the

Table 6

Non-usage Frequencies

Technology	Response "N" Total	Percentage of "N" Responses	Rank
EZ Analyze	59	91%	1
Social Networking Platforms	51	78%	2
Website	7	11%	3
Internet	4	6%	4
Microsoft Excel	4	6%	5
Microsoft PowerPoint	3	5%	6
E-mail	2	3%	7
Student Database System	1	2%	8
Microsoft Word	0	0%	9

non-usage of social networking platforms. The remaining seven technologies had a much lower frequency of non-usage. A total of seven (11%) responders identified the non-usage of a website while the internet and *Microsoft* Excel each had non-usage frequencies of four (6%).

Admissions of non-usage in regards to *Microsoft* PowerPoint summed to three (5%) and when the same analysis was applied to responses regarding the non-usage frequencies for E-mail a total of two (3%) was determined. A single occurrence of non-usage was disaggregated from survey responses in reference to a Student Database System. Finally, the collected data were absent of any responses identifying the non-usage of *Microsoft* Word, concluding that all responding school counselors were using *Microsoft* Word in a manner which falls within one quadrant of the ASCA National Model framework.

Sub-question 3: *How is technology being used at RAMP schools to satisfy the four quadrants of the ASCA National Model*?

Analysis for this sub-question was reliant upon the calculation of response count means, due to the disparate amount of coded responses related to each specific quadrant of the ASCA National Model (See Figure 3, p.42). Response counts for each coded response presented to responders throughout survey items 6 through 14 were totaled for each item and mean response count totals were then calculated per each individual quadrant. The means scores were charted within multiple distribution tables, representing the value of each technology within the four quadrants of the ASCA National Model. Additional to mean scores, ranks are provided for the purpose of providing a quick determination of each technology's importance.

The use of a website was found to be most prevalent among responses related to the Foundation Quadrant of the ASCA National Model. Response counts totals for coded responses A (40) and B (42) produced a mean score of 41. The total coded responses for C (42), D (30), E (23), and F (42) represented the Delivery Quadrant of the ASCA National Model and provided a mean score of 34.25. Coded responses G (7), H (11), I (26), and J (18) generated a mean score

Table 7

Website Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
1	Foundation	41
2	Delivery	34.25
3	Management	15.5
4	Accountability	10.33

of 15.5, indicating the importance of this specific technology within the Management Quadrant of the ASCA National Model. The lowest ranking quadrant of the ASCA National Model, when analyzed for this specific technology, was the Accountability Quadrant. A response count mean of 10.33 was figured based on response counts for coded responses K (18), L (6), and M (7).

Survey participants supplied response data that identified the use of e-mail was primarily for the purpose of satisfying the Delivery Quadrant of the ASCA National Model. For this survey item, coded responses C (28), D, (29), E (54), and F (52) calculated to a response count mean of 40.75. The Management Quadrant of the ASCA National Model was represented by coded responses G (29), H (42), I (36), and J (37). The response count mean for this quadrant was found to be 36, ranking it second among all four of the quadrants. The Accountability Quadrant of the ASCA National Model ranked third for this specific technology. The corresponding response codes of K (34), L (19), and M (9) engendered a response count mean of 20.67. Finally, a response count mean of 15.5 was found for the Foundation Quadrant of the

Table 8

E-Mail Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
4	Foundation	15.5
1	Delivery	40.75
2	Management	36
3	Accountability	20.67

ASCA National Model. This response count mean was calculated based on response counts for coded responses A (16) and B (15).

The next survey item asked participants to relate the use of the internet to each of the four quadrants of the ASCA National Model. The greatest response count mean can be attributed to the Delivery Quadrant of the ASCA National Model. Response counts for response codes C (42), D (46), E (38) and F (55) produce a response count mean for this quadrant of 42.25. Foundation ranked second for this survey item, producing a response count mean of 30 based on provided responses which included response codes A (31) and B (29). The Accountability Quadrant of the ASCA National Model ranked third based on tallied responses consisting of responses coded K (31), L (30), and M (16), calculating to a response count mean of 25.67. The lowest ranking quadrant for this specific technology was found to be Management. Responses coded G (17), H (19), I (43), and J (23) produced a response count mean of 25.5.

Table 9

Internet Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
2	Foundation	30
1	Delivery	42.25
4	Management	25.5
3	Accountability	25.67

The next three technologies included within the survey are all produced by Microsoft and could be considered standard technologies used throughout all of our personal and professional lives regularly. Survey item nine asked the study participants to identify how they were using Microsoft Word within their professional practice. Foundation ranked the highest with a

Table 10

Microsoft Word Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
1	Foundation	61
2	Delivery	54.25
3	Management	49.25
4	Accountability	44.33

response count mean of 61 based on responses coded A (61) and B (61). The second ranked quadrant for this survey item was Delivery. A response count mean of 54.25 was derived from response counts to coded responses C (63), D (49), E (41), and F (64). Management and Accountability ranked third and fourth, respectively. A response count mean of 49.25 was calculated for Management based on response counts consisting of codes responses G (52), H (52), I (47), and J (46). The response counts for coded responses K (54), L (45), and M (34), contributed to a response count mean of 44.33 attributed to the Accountability Quadrant of the ASCA National Model.

The quadrant satisfied to the greatest extent by the use of Microsoft Excel was found to be Accountability. A response count mean of 25.33 was calculated for this quadrant based on responses provided with response codes K (45), L (14), and M (17). The quadrants of Delivery

Table 11

Microsoft Excel Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
4	Foundation	4
2	Delivery	20.75
2	Management	20.75
1	Accountability	25.33

and Management each had response count means of 20.75. Responses for this survey item coded C (16), D(14), E (19), and F (34) attributed to the response count mean for Delivery and responses coded G (6), H (4), I (59) , J (14) were used to calculate the Management response

count mean. The Foundation Quadrant of the ASCA National Model was satisfied the least in regards to this, specific, survey item. A response count mean of four was determined, based on response counts of responses coded A (4) and B (4).

Microsoft PowerPoint was found to be utilized most in regards to the satisfaction of school counseling processes related to the Delivery Quadrant of the ASCA National Model. Tallied responses for response codes C (48), D (36), E (20), and F (51) provided the data necessary to calculate a response count mean of 38.75 for this quadrant. Foundation ranked second due to a response count mean of 34.5, based on responses to response codes A (34) and B (35). The Accountability Quadrant of the ASCA National Model ranked third for this technology. A response count mean of 23 was derived from responses coded K (33), L (26), and M (10). Finally, the ASCA National Model Quadrant of Management was satisfied the least for this technology. A response count mean of 18.5 was calculated from responses coded as G (11), H (30), I (21), and J (12).

Table 12

Microsoft PowerPoint Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
2	Foundation	34.5
1	Delivery	38.75
4	Management	18.5
3	Accountability	23

Student Database Systems are used by school districts to enter and maintain multiple forms of data specific to each, individual, student. This study found that responding school counselors identified the satisfaction of the Delivery Quadrant of the ASCA National Model as

Table 13

Student Database System Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
4	Foundation	2
1	Delivery	37
3	Management	17.25
2	Accountability	17.3

the most prevalent. A response count mean of 37 was found in regards to this quadrant based on response counts to response codes C (14), D (41), E (48), and F (45). Accountability ranked second with a response count mean of 17.3 based on responses coded as K (31), L (11), and M (10). Management ranked third based on response tallies for responses coded G (6), H (4), I (54), and J (5). Finally, school counseling activities related to the Foundation Quadrant of the ASCA National Model were completed the least in regards to this specific technology. A response count mean of 2 was found for this quadrant based on responses coded A (2) and B (2).

The use of Social Networking Platforms or Social Media has been steadily rising throughout schools recently, reflective of the popularity of these technologies. Participants of this study were asked to determine how school counselors are using this technology to satisfy each quadrant of the ASCA National Model. The greatest benefit of this technology was found

within the Delivery Quadrant. A response count mean of 5.25 was found for this quadrant based on response totals for responses coded as C (5), D (2), E (4), and F (10). Foundation ranked second based on a calculated response count mean of 2, due to responses coded as A (3) and B (1). Also found to rank second was Accountability due to a response count mean of 2. Responses coded as K (4), L (1), and M (1) generated the identified mean. The Management Quadrant of the ASCA National Model was found to be satisfied the least by this technology. Responses coded as G (0), H (0), I (2), and J (2) led to a response count mean of 1 for this quadrant.

Table 14

Social Networking Platforms Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
2	Foundation	2
1	Delivery	5.25
4	Management	1
2	Accountability	2

EZ Analyze is a Microsoft Excel add-on developed by Dr. Timothy Poynton. It provides free, Excel-based tools designed to enhance the data-driven work educators engage in. While Professional School Counselors are the target audience for EZAnalyze products, professionals and students in other disciplines also find these tools useful.

Table 15

EZ Analyze Response Count Means

Rank	ASCA Model Quadrant	Response Count Mean
4	Foundation	0
3	Delivery	1
1	Management	1.5
2	Accountability	1.3

This technology proved to be the least used technology among the participants (See Table 5, p. 50). A response count mean of 1.5 was determined for Management based on responses coded G (0), H (0), I (6), and J (0), ranking this quadrant first for this technology. The Accountability Quadrant of the ASCA National Model ranked second based on response totals for response codes K (3), L (0), and M (1). Delivery ranked third with a response count mean of 1, due to provided responses which identified response codes C (0), D (1), E (2), and F (1) as uses for this technology. The lowest ranking quadrant was Foundation with a response count mean of zero.

The second, and final, phase of the data analysis for this sub-question required the collected response count means and corresponding technologies to be ranked based on each of the four quadrants of the ASCA National Model. The purpose of this phase is to provide an additional level of understanding into the technology usage purposes of the study participants.

The response count means for technology usage related to the Foundation Quadrant were calculated based on responses coded as A and B. These responses were calculated in mean scores and ranked in regards to this specific quadrant. Microsoft Word ranked first due to a calculated response count mean of 61. The use of a website (41) ranked second, followed by Microsoft PowerPoint (34.5). The lowest ranking technologies for this specific quadrant were the use of a Student Database System (2), Social Networking Platform (2) and EZ Analyze (0).

Table 16

Foundation Quadrant – Technology Rankings

Rank	Technology	Response Count Mean
2	Website	41
5	E-Mail	15.5
4	Internet	30
1	Microsoft Word	61
6	Microsoft Excel	4
3	Microsoft PowerPoint	34.5
7	Student Database System	2
7	Social Networking Platforms	2
9	EZ Analyze	0

Responder replies to survey items six through 14 which were coded as C, D, E, and F displayed a usage purpose which satisfied the Delivery Quadrant. Response counts associated with these coded responses were totaled and response count means were determined. The ranked

response count means determined Microsoft Word (54.25) was the technology used the most to satisfy this quadrant. Usage of the internet (45.25) and e-mail (40.75) ranked second and third, respectively. Once again, EZ Analyze (1) represented the technology used the least to satisfy this quadrant.

Table 17

Delivery Quadrant – Technology Rankings

Rank	Technology	Response Count Mean
6	Website	34.25
3	E-Mail	40.75
2	Internet	45.25
1	Microsoft Word	54.25
7	Microsoft Excel	20.75
4	Microsoft PowerPoint	38.75
5	Student Database System	37
8	Social Networking Platforms	5.25
9	EZ Analyze	1

The response count means for technology usage related to the Management Quadrant were reliant upon the responses coded as G, H, I, and J. Analysis occurred through the calculation of mean scores and rankings were determined in regards to this specific quadrant. Microsoft Word ranked first due to a calculated response count mean of 49.25. The use of e-mail (36) ranked second, followed by the internet (25.5). The lowest ranking technologies for

this specific quadrant were the use of a Website (15.5), EZ Analyze (1.5) and Social Networking Platforms (1).

Table 18

Management Quadrant – Technology Rankings

Rank	Technology	Response Count Mean
7	Website	15.5
2	E-Mail	36
3	Internet	25.5
1	Microsoft Word	49.25
4	Microsoft Excel	20.75
5	Microsoft PowerPoint	18.5
6	Student Database System	17.25
9	Social Networking Platforms	1
8	EZ Analyze	1.5

Finally, satisfaction of the Accountability Quadrant was measured based on responses coded K, L, and M. Once again, response counts associated with these coded responses were totaled and response count means were determined. The ranked response count means determined Microsoft Word (44.33) was the technology used the most to satisfy this quadrant. Usage of the internet (25.67) and Microsoft Excel (25.33) ranked second and third, respectively. The three lowest ranking technologies, for this specific quadrant, were the use of a website (10.33), Social Networking Platforms (2), and EZ Analyze (1.33).

Table 19

Accountability Quadrant – Technology Rankings

Rank	Technology	Response Count Mean
7	Website	10.33
5	E-Mail	20.67
2	Internet	25.67
1	Microsoft Word	44.33
3	Microsoft Excel	25.33
4	Microsoft PowerPoint	23
6	Student Database System	17.33
8	Social Networking Platforms	2
9	EZ Analyze	1.33

Sub-question 4: *What RAMP schools report utilizing technology high frequencies?*

The primary purpose of this final sub-question is to identify a purposeful sample for the second, qualitative, phase of this study. Data analysis for this sub-question required a succession of steps. First, the collected survey responses for survey items 6 through 14 were exported in numerical form, providing a value for each closed-ended response. Next, this data was cleaned of all responses representing the closed-ended response coded “N”. Subsequently, the total cells that contained numbers were summed per responder, representing usage frequencies. Finally these sums were sorted and ranked from high to low. Three responders ranking within the top

four (93rd Percentile) agreed to participate in the second qualitative phase of this study, ensuring the use of an extreme case, purposeful sample.

Qualitative Data Analysis

The second qualitative phase of this study reviews how school counselors at RAMP schools with high technology usage rates describe their experiences in regards to technology usage for professional purposes.

A total of three school counselors, identified in the first, quantitative, phase of this study participated in semi-structured case study interviews, which followed an established interview protocol. The interviews were recorded, transcribed, and coded. Finally, a total of three emerging themes were identified by the researcher in regards to technology usage by school counselors: 1) Communication, 2) Data Collection and Analysis, and 3) Inappropriate Technology Usage.

Theme 1: Communication

All three of the participants relied heavily on the usage of technology for communication purposes. Participants cited the speed at which communication can occur with students, parents, teachers, administrators, and other stakeholders when technologies are used for this purpose. E-mail, websites, Microsoft PowerPoint, and graphic design programs were identified as specific technologies used to enhance communication by the participating school counselors.

Throughout the interview process, participants were able to link the use of technology for communication purposes to the satisfaction of the Foundation Quadrant of the ASCA National Model. Technology was primarily used as a tool of communication in regards to this quadrant for the purpose of disclosing departmental missions, beliefs, and goals. Participant quotes supporting this finding include:

- *"We use technology to communicate our mission and our beliefs to our stakeholders via our website."*
- *"We design brochures on the computer which give parents information about our departmental goals."*
- *"I have used PowerPoint to conduct presentations for our staff and parents."*
- *"I post a monthly newsletter on our school's website."*

The use of technology for communication purposes assisted the responding school counselors in fulfilling the components of the profession that fall within the Delivery Quadrant of the ASCA National Model. Once again, the use of websites for communication purposes was a prevalent trend within this quadrant. Additionally, technology was availed for the purpose of communicating student planning, and delivering the school counseling curriculum. Participant quotes supporting this finding include:

- *"We develop personal education plans for each student through a state run website."*
- *"We use a Promethean Board in almost all of our classroom lessons."*
- *"Our classroom lessons include websites such as YouTube and Discovery Education Online."*
- *"We use a career interest survey website for our students."*

Communication was greatly elevated through the use of technology when fulfilling the many components of the Management Quadrant of the ASCA National Model. Participants described their increased ability to communicate with their advisory council, post management agreements, and develop action plans based on survey results due to the application of technology. Participant quotes supporting this finding include:

- *"We e-mail the minutes of our advisory council meetings to all of the members."*
- *"We used the internet to conduct a survey to identify the need for an anti-bullying program."*
- *"Our management agreement is posted on our website."*

Table 20

Theme 1: Communication – Quadrants and Codes

ASCA National Model Quadrant	Codes
Foundation	Design Brochures Website E-Mail E-Mail Signature On-line Newsletter
Delivery	Presentations Interest Inventories Websites Technology Engages Students School Counseling Curriculum Personal Education Plans
Management	Advisory Council Notifications E-Mail Websites Surveys Management Agreements
Accountability	Distribution of Results Data

The application of technology within the Accountability Quadrant of the ASCA National Model provided participants with the ability to communicate results data with multiple

stakeholders through the use of e-mail and websites. Participants provided the following supporting statements for this finding:

- *"I am able to e-mail staff results data to support our program."*
- *"We post student outcome data on our website."*

Theme 2: Data Collection and Analysis

Responses provided by the participants during each of the three case study interviews were coded and analyzed. The process of data collection and analysis was a prevailing theme. Participating school counselors expressed an elevated ability level in regards to data collection and analysis, due to the implementation of technology.

The use of data to drive and evaluate a school counseling program is applied to the ASCA National Model within the Management and Accountability Quadrants (ASCA, 2003). Participant responses within the semi-structured case study interviews revealed student information databases provided counselors with easy access to individual student data.

Table 21

Theme 2: Data Collection and Analysis – Quadrants and Codes

ASCA National Model Quadrant	Codes
Management	Student Database System Surveys
Accountability	Results Data

Additionally, the use of Microsoft Excel simplified the data analysis process for the purpose of the calculation of results data. Responders provided the following supportive statements of these findings:

- *"We use our student information system to track student attendance data."*
- *"I use Microsoft Excel to calculate percentage increases or decreases."*

Theme 3: Inappropriate Technology Usage

Each of the three participants explained the need to avoid an overreliance on technology when providing school counseling services. This theme was especially prevalent within the participants' responses regarding the delivery of responsive services, which is a component of the Delivery Quadrant of the ASCA National Model. Additional concerns regarding the need for face-to-face communication with staff and administration were presented, as well.

Table 22

Theme 3: Inappropriate Technology Usage – Quadrants and Codes

ASCA National Model Quadrant	Codes
Delivery	Need For Face-To-Face Meetings Providing Personal Responsive Services Decrease in Counselor to Student Interaction
Management	Communicating With Stakeholders

These concerns would fall within the Management and Delivery Quadrants of the ASCA National Model. Participants stressed the need for human interaction between school counselors, students, and additional stakeholders. Replacing the humanistic characteristics of the practice could be detrimental to the profession. Statements of this finding include:

- *"Sometimes the use of technology can lessen the amount of interaction I have with my students."*
- *"It is not appropriate to rely on technology when providing responsive services."*
- *"I still make sure I gather initial information in a face-to-face meeting."*

Table 23

Qualitative Analysis Summary

ASCA National Model Quadrant	Theme
Foundation	Communication
Delivery	Communication Inappropriate Technology Usage
Management	Communication Data Collection and Analysis Inappropriate Technology Usage
Accountability	Communication Data Collection and Analysis

Mixed Methods Data Analysis

Qualitative research and quantitative research provide different pictures, or perspectives, and each has its limitations (Creswell & Plano Clark, 2011, p. 9). The purpose of this study is to identify technology usage trends among RAMP schools and also, to conduct an in depth analysis of schools with high usage frequencies. A mixed methods data analysis, or combining of the research methodologies, has been used for the purpose of enhancing both the quantitative and qualitative findings.

The quantitative results described previously in this chapter (See Tables 15-18, p. 59-62) have been summarized within Table 22, displaying the five technologies with the greatest usage rates per ASCA National Model Quadrant. Additionally, the prevailing theme or themes for each quadrant has been listed, linking the quantitative and qualitative data.

Table 24

Mixed Methods Analysis Summary

ASCA National Model Quadrant	Technology Rankings	Themes
Foundation	1) Microsoft Word 2) Website 3) Microsoft PowerPoint 4) Internet 5) E-mail	Communication
Delivery	1) Microsoft Word 2) Internet 3) E-mail 4) Microsoft PowerPoint 5) Student Database System	Communication Inappropriate Technology Usage
Management	1) Microsoft Word 2) E-Mail 3) Internet 4) Microsoft Excel 5) Microsoft PowerPoint	Communication Data Collection and Analysis Inappropriate Technology Usage
Accountability	1) Microsoft Word 2) Internet 3) Microsoft Excel 4) Microsoft PowerPoint 5) E-mail	Communication Data Collection and Analysis

Microsoft Word, a website, Microsoft PowerPoint, the internet, and e-mail were the five highest ranking technologies in regards to the Foundation quadrant. These rankings are a result of the data collected and analyzed during the first, quantitative phase of this study. The second, qualitative, phase of the study led the researcher to identify Communication as the only prevailing theme emerging from the three case studies that fell within all four of the quadrants.

The highest ranking technologies in reference to the Delivery quadrant included Microsoft Word, the internet, e-mail, Microsoft PowerPoint, and a Student Database System. Communication and Inappropriate Technology usage, were both, prevailing themes aligned to this quadrant.

Once again, Microsoft Word, e-mail, the internet and Microsoft PowerPoint were determined to have high usage frequencies within the Management Quadrant of the ASCA National Model. Additionally, Microsoft Excel was found to be used regularly. All three of the prevailing themes surfaced throughout the case studies in a manner which aligned each theme with this quadrant.

Finally, the highest usage frequencies within the Accountability quadrant were found to be Microsoft Word, the internet, Microsoft Excel, Microsoft PowerPoint, and e-mail. Furthermore, Communication and Data Collection and Analysis were identified as the prevailing themes of this quadrant based on the qualitative analysis of the three case studies.

Chapter 5

DISCUSSION

Methods and Procedures

The format of this study was a Mixed Methods Explanatory Sequential design, requiring the collection and analysis of quantitative and qualitative data. During the first, quantitative, phase of this study, the researcher administered a self-designed web-based, cross-sectional survey. A total of 184 school counselors, who had obtained RAMP status in the previous three years, were invited to participate in the study. Quantitative data analysis occurred, focusing on the four sub-questions, aligned with guiding research question:

> How are school counselors at Recognized ASCA Model Programs (RAMP) using technology?

Included within the quantitative data analysis, was the identification of a purposeful sample for the second, qualitative, phase of this study. A purposeful sample reflects "intentionally selected participants who have experienced the key concepts explored" within the study (Creswell & Plano Clark, 2011, p. 112).

Qualitative data was gathered through the administration of three case study interviews with school counselors who had reported high rates of technology usage during the first, quantitative, phase of this study. Qualitative data analysis occurred through the coding of transcribed interviews for the purpose of identifying three prevailing themes. Finally, mixed methods data analysis occurred by mixing the combined quantitative and qualitative data, framed within the four quadrants of the ASCA National Model. By mixing the data collected in this study, the researcher is able to provide a better understanding of the problem than if the dataset had been used alone (Tashakkori & Teddlie, 2003).

Figure 6 – Study Design Visual Summary

Phase I		**Phase II**	**Interpretation**
Quantitative →	Participant Selection →	Qualitative →	Mixed Methods
Web Based Cross-Sectional Survey	Purposeful Sample	3 Case Studies	Mixing of the Data
Distribution Charts Totals Means Rankings		Prevailing Themes Participant Statements	Totals Means Rankings Prevailing Themes

Discussion and Conclusions

Phase I - Quantitative

During the first, quantitative phase of the study the researcher examined how school counselors at Recognized ASCA Model Programs (RAMP) are using technology in a professional capacity. To ensure the results of this phase of the study were aligned with this guiding research question, data collection and analysis occurred for the purpose of answering four research sub-questions. The fourth and final sub-question is not included within this chapter because its purpose was simply to identify a purposeful sample for the second, qualitative, phase of the study.

Sub-question 1: *What are the usage frequencies for specific forms of technology by school counselors at RAMP schools?*

The data used to answer this sub-question was collected from participant responses to the nine, closed-ended, multiple choice questions that existed within the web-based cross-sectional survey. The collected data was analyzed, producing usage frequency totals, means, and rankings for each of the nine technologies. Usage frequency means were calculated directly from the determined usage frequency totals. There is no adjustment to the corresponding rankings when referencing frequency totals and frequency means. The purpose of these two data points is to simply display additional data for comparison purposes.

The technology found to have the highest usage frequency was *Microsoft* Word. The Internet, E-mail, and *Microsoft* PowerPoint were the other technologies found to rank within the top half when usage frequency rates were compared for the nine technologies considered within this study. These findings are consistent with technology skills identified by Hines (2002) that were considered necessary components of a successful school counselor education program. The author cited “Word Processing”, “Multimedia Presentations”, and “Electronic and Internet Resources” as essential technological skills for school counselors. Countering this point, these findings were not consistent with those found by Sabella, Poynton, and Isaacs (2010), who identified Data Management was one of two technology competencies rated as most important by responding school counselors. It is important to note, technological competencies such as Word Processing, Communication and Collaboration and the World Wide Web were found to be of “average” importance to the responding counselors. This finding is somewhat consistent to the findings of this study.

The three technologies with the lowest ranking usage frequencies were found to be *Microsoft* Excel, Social Networking Platforms, and EZ Analyze. Due to the fact that *Microsoft* Excel and EZ Analyze are considered technological tools primarily used for data collection, organization, and analysis, it is reasonable to speculate some school counselors at RAMP schools are not demonstrating student outcomes as suggested by the ASCA (2003). Additionally, one can conclude the perceived importance of technology competencies identified by Sabella, Poynton, and Isaacs (2010) is not as strong among school counselors at RAMP schools. Furthermore, the use of social networking continues to grow, yet it has not firmly entered the professional lives of school counselors at RAMP schools.

Sub-question 2: *What are the non-usage frequencies for specific forms of technology by school counselors at RAMP schools?*

As discussed previously within this study, the outcome of this research is compelling to school counselors, school counseling leaders, school counselor educators and even educational administrators since it proffers beneficial data. This information can be referenced when developing school counseling programs aligned with the ASCA National Model that include research driven technology usage, thus increasing the level of services provided by the comprehensive school counseling program. The purpose of this sub-question was to identify technologies experiencing low levels of usage while also recognizing those technologies used on a much more regular basis.

The quantitative data analysis for this sub-question procured response count totals, which represented non-usage frequencies, and the percentage of responses identified as “N” within survey items 6 through 14. Additionally, rankings were determined for each of the nine technologies.

This sub-question provided valuable data that notes seven of the nine technologies were found to have response count totals for response “N” no greater than 7 or 11 percent, respectfully. Additionally, it is important to mention all responders indicated they use one technology, *Microsoft* Word, for the purpose of satisfying professional responsibilities. This finding is aligned with the findings of an earlier study conducted by Carlson, Portman, and Bartlett (2006) which also reported *Microsoft* Word was most commonly used technology among responding school counselors.

The results of this data analysis also divulge findings consistent to technology usage trends determined within other previous studies. Blum and Kishner (1988) surveyed school counselors over twenty years ago and determined 80% of the participants did not feel technology integration would play a large role in the delivery of school counseling services. Building upon the study conducted by Blum and Kishner, Eichenholtz (2001), found 95% of responding school counselors reported access to the internet, demonstrating immense growth in the use of technology within the profession of school counseling. The results of this study continue to demonstrate the ongoing growth of technology usage within the profession of school counseling, identifying 100% of the responding participants are using some form of technology within their professional lives.

Two technologies, Social Networking Platforms and EZ Analyze, were found to have disproportionate non-usage frequencies when compared to the other seven technologies included within this specific study. This finding is consistent with findings within the previous sub-question which, where it was determined the same two technologies had disproportionate usage frequencies when compared to the other seven technologies. The results of this study clearly outline a need for professional growth and development in the implementation of these two

technologies within school counseling programs at RAMP schools. The data collected within this sub-question demonstrate a need for increased preparation and professional development for school counselors in regards to technology usage for the purpose of data collection and analysis.

Sub-question 3: *How is technology being used at RAMP schools to satisfy the four quadrants of the ASCA National Model*?

The purpose of this sub-question was to discover technologies that played prevalent roles in delivering quality school counseling services within RAMP schools. Response count means were determined through quantitative data analysis derived from the data collected through the administration of the web-based, cross-sectional survey. The results of this analysis were framed within the four quadrants of the ASCA National Model. Therefore, it was necessary to use response count means as the sole data point when answering this sub-question due to the dissimilar amount of coded responses for each survey item which were representative of each of the four quadrants.

Foundation Quadrant

The Foundation Quadrant of the ASCA National Model determines how students will benefit from the school counseling program (ASCA, 2003). Identified mission statements along with agreed upon beliefs and philosophies are the major components of school counseling programs which fall within this quadrant.

The response count means for technology usage related to the Foundation Quadrant were calculated based on responses coded as A and B. The data analysis related to this sub-question concluded *Microsoft* Word was the technology that played the largest role for responding school counselors when satisfying school counseling program components found within this quadrant. This finding is consistent with the results identified in the previous two sub-questions which also

established this technology had the greatest frequency of usage among school counselors who participated in the first, quantitative, phase of this study. Additional technologies with high levels of usage attributed to this quadrant include: websites, *Microsoft* PowerPoint, the internet and e-mail. Once again, these technologies accomplish tasks considered to be essential skills for school counselors entering the profession according to Hines (2002) and are technology competencies considered to be of some importance to school counselors surveyed by Sabella, Poynton, and Isaacs (2010).

Delivery Quadrant

The Delivery Quadrant is inclusive of the methodologies and actions used by school counselors for the purpose of delivering school counseling services to the students of the school. Typical items of evidence included within this quadrant are the curriculum, student planning, responsive services, and system support (ASCA, 2003).

Data analysis occurred for this quadrant by calculating response count means for responses coded C, D, E, and F. *Microsoft* Word was found to be the technology that was utilized the most by responding school counselors when performing tasks associated with this quadrant. This finding is, also, consistent with the results identified in the previous two sub-questions which also established this technology had the greatest frequency of usage among school counselors who participated in the first, quantitative, phase of this study. The internet, e-mail, *Microsoft* PowerPoint, and the Student Database System were all additional technologies with high levels of usage aligned to the satisfaction of school counseling responsibilities which fall within this quadrant. This study found the use of the Internet and e-mail were the second and third most important technologies in regards to this quadrant.

This finding is consistent with Hayden, Poynton, and Sabella's (2008) research, which centered on the Delivery Quadrant of the ASCA National Model. The data for this study were compiled through qualitative methodologies and includes responses from school counselors without any consideration given to their RAMP status. Responding school counselors identified the usage of the same technologies when satisfying this quadrant of the ASCA National Model.

Management Quadrant

School counseling programs require organizational tools, necessary to arrange and describe the processes in place to support the needs of the school. The use of data, time, and calendars along with student action plans all are associated activities with this quadrant (ASCA, 2003).

The response count means for technology usage affiliated to the Management Quadrant were calculated based on responses coded as G, H, I, and J. The data analysis for to this sub-question concluded *Microsoft* Word was, once again, the technology that played the largest role for participating school counselors when satisfying activities aligned to this quadrant. This finding continues to be consistent with the results identified in the previous two sub-questions that also determined this technology had the greatest frequency of usage among school counselors who provided survey responses. Additional technologies that were found to play a large role within this quadrant were e-mail, the Internet, *Microsoft* Excel, and *Microsoft* PowerPoint. Once again, the same four technologies continue to rank within the top five for each of the three quadrants discussed to this point. This is the first time *Microsoft* Excel is ranked within the top five technologies used to satisfy professional responsibilities related to a single quadrant of the ASCA National Model. This quadrant is one of two quadrants which include the use of data. This technology is primarily used to organize and analyze data.

Therefore, it is unsurprising this technology would be highly important when discussing the Management Quadrant.

Accountability Quadrant

The final quadrant examined within this sub-question is the Accountability Quadrant. The purpose of this quadrant is to demonstrate the effectiveness of school counseling activities while also evaluating the program, as a whole. It is important for school counselors to be able to link the program to student achievement (ASCA, 2003), and activities aligned to this quadrant are expected to accomplish such a goal.

The response count means for technology usage pertinent to the satisfaction of the Accountability Quadrant were determined based on responses coded as K, L, and M. The data analysis for to this sub-question concluded *Microsoft* Word was, once again, the technology that played the primary role when satisfying school counseling activities defined within this quadrant. Once more, it is important to mention this finding is consistent with the results found within the previous two sub-questions, which also stated this technology had the greatest frequency of usage among participating school counselors. Additional technologies that were found to play a large role within this quadrant were the internet, *Microsoft* Excel, *Microsoft* PowerPoint, and e-mail. This is the second quadrant that included *Microsoft* Excel within the top five technologies used to satisfy the activities aligned to it. This finding is consistent with Hartman's (1998) writings, which discussed the use of databases to monitor student achievement, as well as Stone and Turba's (1999, p.1) statement: "Analyzing and interpreting data is a critical consulting skill around which a proactive guidance program can be developed." It is also a consistent finding when referencing Sabella, Poyton, and Isaacs (2010) study, which determined Data Management

was a technology competency considered to be “most important” by responding school counselors.

The results of the data analysis aligned to this sub-question indicated *Microsoft Word*, *Microsoft* PowerPoint, the internet, and e-mail are specific technologies used to satisfy school counseling activities in all four quadrants of the ASCA National Model. All of these technologies are used regularly outside of a professional capacity, providing grounds for legitimate speculation for the cause of this finding.

Data collection and analysis tools such as Microsoft Excel and Student Database Systems were found to be essential technologies when completing tasks within the Management and Accountability Quadrants. The reliance on data and data analysis within each of these quadrants provides a simple explanation for the high rankings of these technologies within these two quadrants only. However, it is difficult to ignore the lack of use of EZ Analyze. This technology is a *Microsoft* Excel add-on technology, yet the advantages of this product are clearly not being experienced by responding school counselors.

Phase II - Qualitative

The purpose of the second, qualitative phase of this study was to examine how school counselors at RAMP schools describe their experiences in regards to technology usage for professional purposes.

For this phase of the study, three school counselors were identified through the administration of the web-based, cross-sectional survey as having high technology usage rates. These three school counselors participated in semi-structured case study interviews. The interviews were initially recorded and then transcribed and coded. Finally, the codes were used to determine three emerging themes throughout all three of the interviews.

Theme 1: Communication

Communication was the only emerging theme that encompassed all four quadrants of the ASCA National Model. Identified methodologies of using technology for communication purposes generate the conclusion school counselors are clearly relying on technology for communication purposes. This conclusion is consistent with the contentions provided by Sabella and Booker (2003), where the authors cited there was a need to use technology to create presentations because "the visibility of a comprehensive school counseling program may give others professionals a clearer conceptualization of the goals and of a counseling program within the school environment" (p. 206).

Additionally, responder comments aligned with this theme support previous discussions regarding the use of technology to enhance student engagement when delivering school counseling services to students. All three participants of the case study interviews cited the ability to integrate technology into their presentation techniques as advantageous in regards to communicating with students. This finding is appropriate, considering the suggested need for school counselors to learn how to develop "multi-media" presentations, which was identified by Hines (2002) as an essential skill for developing school counselors.

The use of e-mail and a departmental website were found to be important technological uses when satisfying multiple quadrants of the ASCA National Model. Participants of the case study interviews noted they are able to use these technologies within the Foundation, Delivery, and Management quadrants. This finding is interesting, as it enhances the results of Eichenholtz's (2001) study. The results of this study determined 95% of responding school

counselors reported access to the internet, but only 80% stated a website dedicated to the school counseling department existed. While 80% can surely be considered a high rate of website usage, it is inconsistent with the findings of this phase of the study. During this phase of the study 100% of the participants described the use of departmental websites, demonstrating the continued growth of the use of technology within the profession of school counseling. It is not unreasonable for the researcher to speculate the continued growth of technology usage within the personal lives of school counselors between the year of the cited study and this study is a contributing factor to this discrepancy.

Theme 2: Data Collection and Analysis

The use of data to drive and evaluate school counseling programs and activities is a relatively new theme within the profession. It is also a theme which is typically associated with two of the four quadrants: Management and Accountability.

Each of the three participants in this phase of the study was able to discuss their ability to integrate technology for the process of data collection and data analysis within both of the previously stated quadrants. Findings within this phase of the study describe responding school counselors were using surveys, Student Database Systems, and the generation of results data to satisfy tasks associated with the Management and Accountability Quadrants.

In 2010, Sabella, Poynton and Issacs were able to determine one of the most important technology competencies according to responding school counselors were related to data management and analysis. The findings in this phase of the study appear to support this finding since 100% of the participants were able to discuss the use of technology for these purposes. However, it is important to point out the extremely small sample size for this phase of the study, requiring the need to reference a more generalized conclusion developed from the quantitative

data analysis. Previously within this chapter, the researcher discussed the relatively low use of a specific technology, EZ Analyze. The sole purpose of this technology is data collection and analysis. This does not disqualify the high usage frequencies identified in the same phase of this study for technologies identified as *Microsoft* Excel and Student Database Systems. Due to the results of this study, combined with previous similar studies, it is reasonable to conclude there has been some growth among school counselors in regards to technology integration for the purpose of data collection and analysis, but more growth is still necessary within the profession to equal the perceived importance of this competency.

Theme 3: Inappropriate Technology Usage

The three case studies conducted in the qualitative phase of the study chronicled the participants concern in regards to an over reliance on technology when providing school counseling services. Cited apprehensions by participating school counselors included a possible decrease in counselor to student interaction, ignoring the need for face-to-face interaction with stakeholders and confidentiality when providing personal responsive services.

Previous findings within this phase of the study have demonstrated a level of progress in regards to the integration of technology throughout the field of school counseling. Findings attributed to this theme differ from this pattern. Similar concerns have been documented throughout previous studies and cited literature throughout the past three decades. Waltz (1987) identified two specific concerns regarding the integration of technology into the profession as lack of professional-to-client personal connections and possible breaches in confidentiality (p.3). Van Horn and Myrick (2001, p. 124) also discussed their concerns regarding possible breeches in confidentiality. Sabella, Poynton, and Issacs (2010) study found a total of 497 responders felt the most important technology competencies were related to the ability to maintain

confidentiality, send file attachments, and protect students (p.613). It is safe to conclude school counselors at RAMP schools continue to voice concerns regarding the growing integration of technology within the profession.

Table 25

Conclusions Summary

Conclusion	Discussion
Social networking platforms have not been widely accepted by school counselors at RAMP schools for the purpose of enhancing the delivery of school counseling services.	1) Quantitative Sub-question 1 2) Quantitative Sub-question 2
The findings of this study support previous findings which demonstrate increases in the use of technology within the profession of school counseling over time.	1) Quantitative Sub-question 2 2) Qualitative Theme 2
The types of technologies used by school counselors at RAMP schools in a professional capacity are consistent from school counselor to school counselor.	1) Quantitative Sub-question 3 2) Qualitative Theme 1
School counselors at RAMP schools have similar concerns regarding technology integration within the profession when compared to previous studies.	1) Qualitative Theme 3
A need exists for increased preparation and professional development for school counselors in regards to technology usage for the purpose of data collection and analysis.	1) Sub-question 2

Recommendations For Future Research

The role of school counselors continues to grow as does their impact on student achievement. Due to this, it is easy to understand future research will be conducted regarding

school counseling and the role technology will play within the profession. The following questions remain unanswered following this study:

1) Would the results of this study be consistent if school counselors at non-RAMP schools were included within the population and eventual sample for this study?
2) Would the results of this study remain unchanging if specific grade areas (primary and secondary) were used to identify a purposeful sample for this study?
3) What is the statistical relationship between school counselor age and technology usage frequency?
4) What is the statistical relationship between school setting (urban, suburban, and rural) and technology usage frequency?

The preceding questions, along with additional existing questions lead to the following suggestions for consideration when designing future studies within the same topic area:

1) Repeat this study with a much larger, multifarious population.
2) Study the role grade level plays in reference to students whom receive school counseling services.
3) Identify the influence age has on the technology usage frequency of school counselors.
4) Research the role of school setting when analyzing technology usage frequencies in regards to school counselors.
5) Studying the relationship between school counselor usage frequency and student satisfaction in the school counseling services received.
6) Studies that examine the continued transition of school counseling programs from responsive to proactive practices.

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Appendix A

Visual Model for Mixed Methods Procedures of the Study

Visual Model For Mixed Methods Procedures – Sequential Explanatory Mixed Methods Design

Phase	Procedure	Product
Quantitative Data Collection	▪ Cross-sectional web-based survey (N=184)	▪ Item response data
Quantitative Data Analysis	▪ Univariate and multivariate data analysis	▪ Frequencies ▪ Frequency Means ▪ Frequency Distribution Tables ▪ Frequency Rank
Qualitative Data Collection	▪ Purposeful sample (N=3) ▪ Semi-structured interviews	▪ Interview data
Qualitative Data Analysis	▪ Coding ▪ Thematic analysis	▪ Codes and themes ▪ Visual data display
Mixed-Methods Interpretation	▪ Report quantitative and qualitative results ▪ Discuss how qualitative findings help to explain the quantitative findings	▪ Answer quantitative phase guiding research question and sub-questions. ▪ Answer qualitative phase central question. ▪ Discussion ▪ Conclusions

Appendix B

Quadrants of the ASCA National Model

Quadrants of the ASCA National Model (ASCA, 2003)

Foundation

Like any solid structure, a school counseling program is built on a strong foundation. Based on the school's goals for student achievement, what every student should know and should be able to do, the foundation determines how every student will benefit from the school counseling program. Many school counseling programs are based on the ASCA National Standards for Student Competencies.

Beliefs and Philosophy: The philosophy is a set of principles guiding the program development, implementation and evaluation. All personnel involved in managing and implementing the program should reach consensus on each belief or guiding principal contained in the philosophy.

Mission: A mission statement describes the program's purpose and goals. A school counseling program mission statement aligns with and is a subset of the school and district's mission.

Delivery

Based on the core beliefs, philosophies and missions identified in the foundation, the delivery system describes the activities, interactions and methods necessary to deliver the program.

Guidance Curriculum: The guidance curriculum consists of structured developmental lessons designed to assist students in achieving the desired competencies and to provide all students with the knowledge and skills appropriate for their developmental level. The guidance curriculum is infused throughout the school's overall curriculum and is presented systematically through K-12 classroom and group activities.

Individual Student Planning: School counselors coordinate ongoing systematic activities designed to assist students individually in establishing personal goals and developing future plans.

Responsive Services: Responsive services, which are the traditional duties of a school counselor, consist of activities meeting individual students 'immediate needs, usually necessitated by life events or situations and conditions in the students' lives. These needs require counseling, consultation, referral, peer mediation or information.

Systems Support: Like any organized activity, a school counseling program requires administration and management to establish, maintain and enhance the total counseling program.

Management

Intertwined with the delivery system is the management system, which incorporates organizational processes and tools to ensure the program is organized, concrete, clearly delineated and reflective of the school's needs.

Management agreements ensure effective implementation of the delivery system to meet students' needs.

Advisory Council: An advisory council is a group of people appointed to review counseling program results and to make recommendations.

Use of Data: A comprehensive school counseling program is data-driven. The use of data to effect change within the school system is integral to ensuring every student receives the benefits of the school counseling program.

Action Plans: For every desired competency and result, there must be a plan outlining how the desired result will be achieved.

Use of Time: ASCA's National Model recommends that school counselors spend 80 percent of their time in direct service (contact) with students and provides a guide to school counselors and administrators for determining the amount of time their program should devote to each of the four components of the delivery system.

Use of Calendars: Once school counselors determine the amount of time necessary in each area of the delivery system, they should develop weekly calendars to keep students, parents, teachers and administrators informed.

Accountability

School counselors and administrators are increasingly challenged to demonstrate the effectiveness of the school counseling program in measurable terms. To evaluate the program and to hold it accountable, school counselors must collect and use data that link the program to student achievement.

Results Reports, which include process, perception and results data, ensure programs are carried out, analyzed for effectiveness and modified as needed. Sharing these reports with stakeholders serves to advocate for the students and the program. Immediate, intermediate and long-range results are collected and analyzed for program improvement.

School Counselor Performance Standards: The school counselor's performance evaluation contains basic standards of practice expected of school counselors implementing a school counseling program. These performance standards should serve as both a basis for counselor evaluation and as a means for counselor self-evaluation.

Program Audit: The primary purpose for collecting information is to guide future action within the program and to improve future results for students.

Appendix C

Survey Items

Survey Items

Item #	Item	Item Format
1	What is your last name?	Open-Ended
2	What is your last name?	Open-Ended
3	What is your e-mail address?	Open-Ended
4	How long have you been working as a school counselor?	Multiple Choice
5	What description best characterizes the school you currently work in?	Multiple Choice
6	I am using a website to:	Closed-Ended
7	I am using e-mail to:	Closed-Ended
8	I am using the internet to:	Closed-Ended
9	I am using *Microsoft Word* to	Closed-Ended
10	I am using *Microsoft Excel* to:	Closed-Ended
11	I am using *Microsoft PowerPoint* to:	Closed-Ended
12	I am using the Student Database System to:	Closed-Ended
13	I am using Social Networking Platforms to:	Closed-Ended
14	I am using *EZ Analyze* to:	Closed-Ended

Closed-Ended Responses (Survey Items 6-14)

Code	Description	ASCA Model Quadrant
A	Develop, Communicate, or Identify The School Counseling Program's Beliefs and Philosophy	Foundation
B	Develop, Communicate, or Identify The School Counseling Program's Mission Statement	Foundation
C	Develop, Communicate, or Identify The School Counseling Program's Curriculum	Delivery
D	Assist Students Individually in Establishing Personal Goals and Developing Future Plans	Delivery
E	Provide Responsive Services	Delivery
F	Maintain and Enhance the Total School Counseling Program	Delivery
G	Develop, Communicate, or Identify Yearly Management Agreements	Management
H	Develop, Communicate, or Identify The School Counseling Program's Advisory Council	Management
I	Collect or Analyze Data	Management
J	Develop, Communicate, or Identify Weekly Calendars	Management
K	Develop, Communicate, or Identify Results Reports	Accountability
L	Develop, Communicate, or Identify The School Counseling Performance Standards	Accountability
M	Develop, Communicate, or Identify A School Counseling Program Audit	Accountability
N	I am NOT using this technology for any of the responses above.	N/A

Appendix D

Case Study Interview Abstract

Question	ASCA Quadrant
What are some positive aspects of utilizing technology to enhance the “Foundation” of your school counseling program?	Foundation
What are some negative aspects of utilizing technology to enhance the “Foundation” of your school counseling program?	Foundation
What are some positive aspects of utilizing technology to enhance the “Delivery” of your school counseling program	Delivery
What are some negative aspects of utilizing technology to enhance the “Delivery” of your school counseling program	Delivery
What are some positive aspects of utilizing technology to enhance the “Management” of your school counseling program	Management
What are some negative aspects of utilizing technology to enhance the “Management” of your school counseling program	Management
What are some positive aspects of utilizing technology to enhance “Accountability” within your school counseling program	Accountability
What are some negative aspects of utilizing technology to enhance “Accountability” within your school counseling program	Accountability

Appendix E

IRB Approval Letter

Sent By: IRB NUgrant System
Sent On: 10/06/2011 06:47 am
Reference: Workflow - 71348
Subject: Official Approval Letter for IRB project #12024
Message: October 5, 2011

Nathan Grosshandler
Department of Educational Administration

Miles Bryant
Department of Educational Administration
133 TEAC, UNL, 68588-0360

IRB Number: 20111012024EP
Project ID: 12024
Project Title: Technology Usage at RAMP Schools : A Mixed Methods Study

Dear Nathan:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board s opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study based on the information provided. Your proposal is in compliance with this institution s Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46). Your project was approved as an Expedited protocol, category 6 & 7.

Date of EP Review: 09/19/2011

You are authorized to implement this study as of the Date of Final Approval: 10/05/2011. This approval is Valid Until: 10/04/2012.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that

cannot be resolved by the research staff.

For projects which continue beyond one year from the starting date, the IRB will request continuing review and update of the research project. Your study will be due for continuing review as indicated above. The investigator must also advise the Board when this study is finished or discontinued by completing the enclosed Protocol Final Report form and returning it to the Institutional Review Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

Julia Torquati, Ph.D.
Chair for the IRB

Appendix F

Web-based Survey Consent Text

University of Nebraska Lincoln

COLLEGE OF EDUCATION AND HUMAN SCIENCES
Department of Educational Administration

IRB# 20111012024EP
Date Approved: 10/05/2011
Valid Until: 10/04/2012

University of Nebraska-Lincoln
Consent to Participate in Online Research

Study Title: Technology Usage at RAMP Schools : A Mixed Methods Study

Person Responsible for Research: Nathan Grosshandler

Study Description: The purpose of this research study is to demonstrate how technology is used to enhance school counseling services at RAMP schools Approximately 184 subjects will participate in this study. If you agree to participate, you will be asked to complete a survey that will take approximately 30 minutes to complete. The questions will ask you to provide information about the technology you use as a professional school counselor and the manner in which you use it. A total of three responders will then be asked to participate in a single interview with the researcher based on the results of this survey. The interview will last approximately 40 minutes.

Risks / Benefits: Risks to participants are considered minimal. There will be no costs for participating, nor will you benefit from participating other than to further research.

Confidentiality: Your responses will remain confidential and no individual participant will ever be identified with his/her answers. Data from this study will be saved on a password protected computer no longer than one year following the successful defense of this dissertation. Only myself and my advisor will have access to the information.

Voluntary Participation: Your participation in this study is voluntary. You may choose to withdraw from this study at any time without penalty. Participation in this survey does not imply consent to participate in the subsequent interview process, but it does imply consent exists for the purpose of allowing the researcher to contact you with an invitation to participate in the interview process. Your decision will not change any present or future relationship with me or the University of Nebraska-Lincoln.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Nathan Grosshandler at NathanGrosshandler@yahoo.com or Dr. Miles Bryant at MBryant1@unl.edu

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? Contact the UNL IRB at 402-472-3123 or unlresearch@unl.edu

Research Subject's Consent to Participate in Research:
By completing the survey, you are voluntarily agreeing to take part in this study. Completing the survey indicates that you have read this consent form and have had all of your questions answered, and that you are 19 years of age or older.

Thank you!

Click Here To Begin the Survey

141 Teachers College Hall / P.O. Box 880360 / Lincoln, NE 68588-0360 / (402) 472-3726 / FAX (402) 472-4300

Appendix G

Case Study Consent Form

UNIVERSITY OF Nebraska Lincoln

COLLEGE OF EDUCATION AND HUMAN SCIENCES
Department of Educational Administration

IRB# 20111012024EP
Date Approved: 10/05/2011
Valid Until: 10/04/2012

University of Nebraska-Lincoln
Consent to Participate in a Case Study Interview

Study Title: Technology Usage at RAMP Schools : A Mixed Methods Study

Person Responsible for Research: Nathan Grosshandler

Study Description: The purpose of this research study is to demonstrate how technology is used to enhance school counseling services at RAMP schools. Approximately 3 subjects will participate in this phase of the study. If you agree to participate, you will be asked to answer questions during a case study interview that will take approximately 40 minutes to complete. Each case study will be conducted over the phone and recorded. The questions will ask you to provide information about the technology you use as a professional school counselor and the manner in which you use it.

Risks / Benefits: Risks to participants are considered minimal. There will be no costs for participating, nor will you benefit from participating other than to further research.

Confidentiality: Your responses will remain confidential and no individual participant will ever be identified with his/her answers. The interview will be recorded, transcribed, and coded for research purposes. Only myself and my advisor will have access to the information.

Voluntary Participation: Your participation in this study is voluntary. You may choose to withdraw from this study at any time without penalty. Your decision will not change any present or future relationship with me or the University of Nebraska-Lincoln.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Nathan Grosshandler at NathanGrosshandler@yahoo.com or Dr. Miles Bryant at MBryant1@unl.edu

Who do I contact for questions about my rights or complaints towards my treatment as a research subject?
Contact the UNL IRB at 402-472-3123 or unlresearch@unl.edu

Research Subject's Consent to Participate in Research:
By completing this form by providing your signature and today's date, you are voluntarily agreeing to take part in this study. Completing this form by providing your signature and today's date indicates that you have read this consent form and have had all of your questions answered, and that you are 19 years of age or older.

Thank you!

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE. YOUR SIGNATURE INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE INFORMATION PROVIDED ABOVE.

☐ I AGREE TO BE RECORDED DURING THE CASE STUDY INTERVIEW

_____ _____
Date Participant Signature

141 Teachers College Hall / P.O. Box 880360 / Lincoln, NE 68588-0360 / (402) 472-3726 / FAX (402) 472-4300