



SCHOOL of
GRADUATE STUDIES
EAST TENNESSEE STATE UNIVERSITY

East Tennessee State University
Digital Commons @ East
Tennessee State University

Electronic Theses and Dissertations

Student Works


8-2006

The Effectiveness of Principal Training and Formal Principal Mentoring Programs.

Robert B. Dodson

East Tennessee State University

Follow this and additional works at: <https://dc.etsu.edu/etd>

 Part of the [Educational Sociology Commons](#), and the [Teacher Education and Professional Development Commons](#)

Recommended Citation

Dodson, Robert B., "The Effectiveness of Principal Training and Formal Principal Mentoring Programs." (2006). *Electronic Theses and Dissertations*. Paper 2217. <https://dc.etsu.edu/etd/2217>

This Dissertation - Open Access is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact digilib@etsu.edu.

The Effectiveness of Principal Training and Formal Principal Mentoring Programs

A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education

by

Robert B. Dodson

August 2006

Dr. Nancy Dishner, Chair

Dr. Henry J. Antkiewicz

Dr. Louise MacKay

Dr. Terry Tollefson

Keywords: Principal, Principal Preparation, Mentor, Critical Success Factors

ABSTRACT

The Effectiveness of Principal Training and Formal Principal Mentoring Programs

by

Robert B. Dodson

The purpose of this study was to determine principals' perceptions of how effective mentoring programs and university-based principal preparation programs are in developing the skills necessary to carry out the 13 critical success factors identified by the Southern Regional Education Board (SREB). A review of the literature addressed what it means to be an effective principal and what an effective mentoring program should look like.

The quantitative study was conducted using a survey developed from the SREB's 13 critical success factors that have been developed to determine what makes a successful, effective principal. Each factor was developed into a question about whether or not Northeast Tennessee principals perceive that they were adequately prepared to be successful principals in their principal preparation programs and if they received any training through a mentoring program on these same 13 factors once they received their principalship.

The overall results indicated that few principals participated in a formal mentoring program and those who did received a marginal amount of assistance on the critical factors identified by the SREB. The results also showed that, overall, the respondents indicated that they received more adequate leadership training during their principal preparation programs on the SREB's factors in their classroom experience than they did through their hands-on experience; although, respondents did not give particularly high marks to either experience. Furthermore, respondents who belong to a cohort scored their training higher than those who did not belong to a cohort,

and those who received a degree higher than a master's degree reported a higher level of training than did their peers with only master's degrees on some of the SREB's critical success factors.

DEDICATION

I dedicate this work to my wife, Tammi, who has supported my efforts beyond what any husband deserves. I simply could not have done this without her love, understanding, and patience. She is my best friend and she is the one who enriches my life. I love you, Tammi!

I also dedicate this work to my five children, Matthew, Chelsea, Ben, Mary Beth, and Adam. There have been many times when you wanted or needed Dad and had to wait. Thank you for your love, patience, and understanding. I love you all and you are all so important to me.

I also dedicate this work to my parents, Joseph and Alice; with you, the dream of accomplishing this was born. Thank you for your belief in me and your guidance. I love you both.

Finally, I dedicate this work to the Lord, my God, whom I acknowledge is the originator of all knowledge, truth, and life itself. I can do all things through Him.

ACKNOWLEDGMENTS

The atmosphere created by the Educational Leadership & Policy Analysis department at ETSU has been one that has encouraged me to flourish in my educational undertakings. I appreciate the dedication and caring nature of the ELPA faculty that demands academic excellence in a way that encourages students to succeed. In particular, I would like to thank my committee members: Dr. Henry Antkiewicz, Dr. Louise MacKay, and Dr. Terry Tollefson as well as my committee chair, Dr. Nancy Dishner, for their encouragement and patience. I want to give an additional note of thanks to Dr. Dishner for her infinite words of wisdom and guidance and for her tireless answering of emails and telephone messages. My acknowledgements, however, would remain incomplete without mentioning Dr. Russell West who served on my committee before passing away during my 2nd year in the doctoral program. Not only did he become a friend but he also became one to whom I looked up.

A special note of thanks goes to Susan Twaddle and Debby Bryan for their invaluable editing and data analysis expertise. Finally, I would like to thank all of the superintendents and principals in Northeast Tennessee for their willingness and cooperation to assist with my data collection.

CONTENTS

| | Page |
|---|------|
| ABSTRACT | 2 |
| DEDICATION | 4 |
| ACKNOWLEDGMENTS | 5 |
| LIST OF TABLES | 10 |
| Chapter | |
| 1. INTRODUCTION | 11 |
| Statement of the Problem..... | 16 |
| Research Questions and Hypotheses | 17 |
| Significance of the Study | 20 |
| Assumptions..... | 20 |
| Delimitations..... | 21 |
| Limitations | 21 |
| Operational Definitions..... | 21 |
| Overview of the Study | 22 |
| 2. LITERATURE REVIEW | 23 |
| Overview..... | 23 |
| Definition of Mentor | 23 |
| Types of Mentoring | 24 |
| Benefits for Protégés..... | 25 |
| Benefits for Mentors | 27 |

| Chapter | Page |
|---|------|
| Benefits to School Districts | 28 |
| Problems of Mentoring | 29 |
| Effective Mentors | 32 |
| Effective Mentoring Programs..... | 34 |
| The Southern Regional Education Board | 37 |
| The Internship Disconnect | 38 |
| The Effective Principal Internship | 39 |
| Summary | 42 |
| 3. RESEARCH METHODOLOGY | 44 |
| Procedures..... | 44 |
| Criteria for Instrument Development..... | 45 |
| Pilot Study..... | 45 |
| Pilot Instrument Validity | 46 |
| Identifying Participants in the Study | 46 |
| Data Collection Procedures | 47 |
| Statistical Tests and Analysis | 47 |
| Research Questions and Hypotheses | 48 |
| Summary | 50 |
| 4. DATA PRESENTATION AND ANALYSIS | 51 |
| Description of the Sample..... | 51 |
| The 13 Critical Success Factors..... | 52 |
| Analysis of the Research Questions..... | 54 |
| Research Question #1 | 54 |
| Research Question #2 | 56 |

| Chapter | Page |
|--|------|
| Research Question #3 | 58 |
| Research Question #4 | 60 |
| Research Question #5 | 62 |
| Research Question #6 | 65 |
| Research Question #7 | 69 |
| Anecdotal Question Responses..... | 72 |
| Summary | 73 |
| 5. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS | 76 |
| Summary of the Study | 76 |
| Summary of the Findings..... | 78 |
| Research Question #1 | 78 |
| Research Question #2 | 80 |
| Research Question #3 | 81 |
| Research Question #4 | 82 |
| Research Question #5 | 83 |
| Research Question #6 | 85 |
| Research Question #7 | 86 |
| Conclusions..... | 87 |
| Recommendations for School Systems and Universities..... | 89 |
| Recommendations for Future Research | 90 |
| REFERENCES | 91 |
| APPENDICES | 95 |
| Appendix A: Letter to Directors of Schools | 95 |
| Appendix B: Letter to Principals | 96 |

| Chapter | Page |
|--|------|
| Appendix C: Principals' Survey | 98 |
| Appendix D: Follow-Up Letter to Principals | 106 |
| VITA..... | 107 |

LIST OF TABLES

| Table | Page |
|--|------|
| 1. Descriptive Statistics for Principals' Perceptions of Informal Mentoring in Which They Participated by Critical Success Factors | 55 |
| 2. Descriptive Statistics for Principals' Perceptions of Their Formal and Informal Mentoring Programs by Critical Success Factors | 57 |
| 3. Descriptive Statistics for Principals' Overall Perceptions of Their Principal Preparation Programs by Critical Success Factors | 58 |
| 4. Independent Samples <i>t</i> Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Institution Regarding the Critical Success Factors | 60 |
| 5. Independent Samples <i>t</i> Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Cohort Regarding the Critical Success Factors | 64 |
| 6. Independent Samples <i>t</i> Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Degree Earned Regarding the Critical Success Factors | 68 |
| 7. Independent Samples <i>t</i> Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Year Graduated Regarding the Critical Success Factors | 70 |

CHAPTER 1

INTRODUCTION

The principal as an instructional leader impacts the school's climate, and in turn, students' achievement (Norton, 2002/2003). Matthews (2002) pointed out that numerous studies have established that having an effective principal has a direct impact on school achievement. Researchers 15 years ago agreed with the current literature that the principal is an important piece of the achievement puzzle and he or she should exhibit qualities of being creative, encouraging, courageous, aware of student progress, and committed to the school's mission (Daresh & Playko, 1989). Furthermore, Daresh and Playko (1989) identified five behavioral patterns that are acknowledged as being associated with effective leaders. These included providing the school with the sense of a mission, fostering participative management, providing instructional support, monitoring instruction, and demonstrating resourcefulness.

Effective principals are a key factor in having a good school and are a crucial component of school improvement (Harris, 2001). Among other things, they develop curriculum, improve instruction, gather resources, and build the budget. They are responsible for every aspect of the school including creating and communicating the vision; this ability separates the leaders from those who are simply good managers (Ubben, Hughes, & Norris, 2004). In short, "The principal is the key to school success" (Goodwin, Cunningham, & Childress, 2003, p. 29).

The principal's job is becoming harder with the increasing roles and responsibilities that include accountability and other issues such as retaining teachers, juggling a diversity of stakeholders, dealing with political forces, and keeping up to date with technology advancement. The job of the principal has changed dramatically over the years as the principal has become the one individual largely responsible for sustaining high test scores (Harris, 2001; Norton, 2002/2003). The principal's job is also becoming more difficult in the face of societal problems

such as teenage pregnancy, lack of family support, and poverty (Daresh, 1997). Lovely (2004) described the principal as one who must manage a complex organization that can bring demands that are unpredictable. Principals must work in various capacities such as part-time custodians, social workers, counselors, disciplinarians, and teachers' supervisors just to name a few. A principal must answer the call of accountability and, at the same time, lead a highly diverse staff and student body in a politicized climate (Bloom, 1999).

Lovely (2004) pointed out that the novice principal faces the additional pressures of having to take in massive amounts of information, must work to achieve change despite considerable opposition, and must also prove he or she has the ability to accomplish the school's goals. As new principals face these overwhelming demands, the school system and the university must become increasingly proactive and collaborative in their mentoring, training, support, and professional development in order for the schools to retain these new administrators and for both to assist them in becoming effective educational leaders (Browne-Ferrigno & Muth, 2004). Novice principals face seemingly overwhelming obstacles such as isolation, a lack of expertise in certain areas, the need for socialization, and induction into their profession and particular organization. Demands on principals are great and the pressure is tremendous. To be effective, the new principal must master many skills and abilities. In the field of education, some educators assume that if teachers are competent then they will also be competent principals (Riede, 2003). Not only is this not true, but Riede also pointed out that when novice principals do take the reigns of their own school, they are often not prepared.

Novice principals simply cannot be expected to become experts overnight on these problems and issues (Lovely 2004). Lovely likened this predicament to a 16-year-old trying to pass his or her driver's test, or even worse, to conquer a motor speedway without any training behind the wheel. They need help and support, as they are not equipped to take over their duties without adequate support. Becoming a change agent cannot happen until the novice principal

demonstrates some knowledge and mastery of some basic functions such as managing the budget, supervising teachers, and developing time-management skills (Bloom, 1999).

One issue that is compounding the problem in educational leadership is a nationwide shortage of qualified principals, partly because of the attrition rates caused by increasing demands on them, but also because of the increasing numbers who are ready to retire. This shortage is now reaching critical proportions and is very real (Quinn, 2002). The evidence denoting a principal shortage is almost irrefutable. Bloom (1999) reported a National Association of Elementary and Secondary School Principal survey that confirmed a shortage of qualified principal candidates. Matthews (2002) pointed to a statistic showing that the turnover rate of principals over the past 10 years has been at 40%. Norton (2002/2003) put the percentage of turnover somewhere between 42% and 50% during the 1990s and predicted that it would only worsen during this decade. Harris (2001) pointed out that estimates revealed the average age of a principal was 50 years and that within the next 5 years, nearly half would be able to retire. Norton was concerned that the diminishing supply of principals and the large numbers of retiring principals clearly demonstrate that principal attrition has reached a critical state. Educators and policymakers have become progressively more disturbed about principal shortages and have become concerned that a shortage of trained principals will adversely affect school reform (Mulhall, Flowers, & Mertens, 2004).

The predicted shortage of principals is now here and although the attrition rate and retirement are problems, so is the fact that fewer educators are interested in becoming administrators (Daresh, 2004; Harris, 2001). Goodwin et al. (2003) argued that there is “both anecdotal and empirical evidence indicating that although there are adequate numbers of persons qualified for the principalship, there is a shortage of applicants for vacant posts” (p. 26). Part of the reason for this decrease in qualified candidates is that the role of the principal is changing dramatically and principals are being asked to do even more with less authority and autonomy (Goodwin et al.). Cushing, Kerrins, and Johnstone (2003) pointed out that most educators who

are currently working on their credentials plan on working with curriculum at central office. The reason given most often for this decision was that being a principal is simply too demanding with not enough rewards. Cushing et al. cited other reasons for the current principal shortage as being low pay, high stress, long hours, and too few rewards. Daresh and Capasso (2002) argued that one of the reasons prospective principals are not interested in pursuing careers as building administrators was because of the isolation and the lack of collegial support.

Researchers, both today and in the 1990s, described the world of new principals as one where there is the potential to flounder as they try to handle the many demands placed on them. It is also a place filled with anxiety, frustration, and isolation (Daresh & Playko, 1992; Lovely 2004). If educators are to stop the high attrition rate of our nation's school leaders, then they must be provided with adequate support. Too much is at stake. Schools are under increasing pressure to perform academically with many different extra educational functions as they serve many different stakeholders to whom they are accountable. New principals and veterans need support and continual professional development just to keep pace with the changing of their workplace (Daresh & Playko, 1992; Lovely).

New principals have a need for quick, accurate, constructive feedback about the decisions they make and how they handle various situations. They simply cannot wait for an end-of-year performance evaluation. Instead, they need ongoing coaching, evaluation, and supervision (Kelly & Peterson, 2000). They also need professional development throughout their careers if they are to be effective (Browne-Ferrigno & Muth, 2004; Daresh & Playko, 1992). Daresh (1988), almost 20 years ago, pointed out that mentoring is a way to provide this professional development and to “pass the torch on to the next generation” (p. 6). Daresh (1988) noted that there are very few formal efforts in place to accomplish this. Even though developing effective school leaders is a labor-intensive endeavor, establishing a well thought out mentoring program can be an effective way to provide professional development for novice and experienced principals alike. It is also one way to fight against the above-mentioned problems and slow the

decline of effective principals leaving the profession in this age of high stakes accountability, especially as the number of viable candidates decreases (Browne-Ferrigno & Muth).

Seventeen years ago, Daresh and Playko (1989) made the assumption that mentoring was a powerful tool that could be used to assist novice administrators in surviving their 1st year. They asserted that a mentoring program should be much more than just a safety net. Instead, it should be looked upon as a form of professional development that could help both the mentor and the protégé. Fifteen years later, Krajewski (2004) agreed with Daresh and Playko (1989) by pointing out that a majority of principals in a recent survey reported that mentoring and guidance from their peers was one of the greatest benefits to them. Ehrich, Hansford, and Tennent (2004) and Grogan and Crow (2004) noted that researchers were finding that mentoring could be a very positive learning experience for both mentors and protégés and they concluded that mentoring could enhance professional development, personal growth, and learning for all involved. Other researchers maintained that there was not enough literature on mentoring novice principals to suggest any support for generalizations toward mentoring's effectiveness and only stated that mentoring programs might reduce isolation, increase collegiality and socialization, and give them networking access (Howley, Chadwick & Howley, 2002). Furthermore, Playko (1995) argued that mentoring, although a good idea, was not a cure-all for the novice principal. Most states have instituted laws and policies requiring support programs that are intended to assist the school principal (Daresh, 2004). However, oftentimes mentors are selected with no forethought resulting in forced relationships that often fail to provide the needed support for the protégé (Browne-Ferrigno & Muth, 2004).

Another way to increase the effectiveness of administrators and stem the tide of the principal shortages is to give them better training in their university-based principal preparation programs. Principal trainees have the opportunity to learn a variety of leadership skills during their internships that can enable them to avoid many of the pitfalls that new principals often face. According to Fry, Bottoms, and O'Neill (2005), a well-designed principal preparation program

allows principal candidates the opportunity to develop their knowledge and skills and learn to apply these new talents in authentic settings. If done correctly, the internship in such a program, can be a “sturdy vessel upon which new practitioners can navigate the swift, unpredictable currents that separate classroom theory and on-the-job reality” (p. 3). The problem is that few universities are taking advantage of this unique opportunity. Rather than providing authentic leadership opportunities, there is a “disconnect between the work of today’s principals and the university preparation new principals receive” (p. 5). In fact, they argued, “In far too many principal preparation programs, the internship ‘vessel’ is leaky, rudderless, or still in dry dock” (p. 3). Mark Musick, then President of the Southern Regional Education Board (SREB), has stated that university presidents must be challenged to make leadership preparation a priority and that states must improve their policies and procedures on leadership preparation and licensure in general (as cited in Fry et al., p. 2). The SREB is a consortium of 16 states that makes available services to its members, provides ways to share resources, and assists states in achieving educational improvements that would otherwise be impossible or impractical to achieve as individual states.

Statement of the Problem

There are many leadership skills that principals must have in order to be effective and too many initially licensed principals are entering their profession without the leadership skills to effectively lead a school. The SREB has enumerated these skills in its 13 critical success factors. More research is needed to determine whether university-based principal preparation programs are including these factors in their preparation programs.

Furthermore, novice principals face a myriad of challenges that have the potential to adversely affect not only their effectiveness but also their longevity. In response to this, school systems or state boards of education have often instituted a mentoring program. Such programs must be well thought out and should be based on the current literature such as the SREB’s 13

critical success factors. There is not a lot of research on whether or not principal mentoring programs are using the 13 critical success factors in their attempt to increase the effectiveness of their novice principals. More information is needed in order to assess the current ability of formal and informal mentoring programs to include training in these 13 factors.

Because more information is needed regarding the nature of effective mentoring programs and principal preparation programs, the purpose of this study was to determine principals' perceptions of how effective mentoring programs and university-based principal preparation programs are in developing the skills necessary to carry out the 13 critical success factors identified by the SREB.

Research Questions and Hypotheses

Research Question #1: Is there a difference in principals' perceptions of their informal mentoring experiences between principals who participated in a formal mentoring program and those who did not?

Descriptive statistics were used to analyze this research question.

Research Question #2: Among principals who participated in a formal mentoring program, what are their perceptions of their formal and informal mentoring experiences as they relate to the 13 critical success factors?

Descriptive statistics were used to answer this research question.

Research Question #3: Overall, what are principals' perceptions of their classroom and hands-on experiences in their principal preparation program as it relates to the 13 critical success factors?

Descriptive statistics were used to answer this research question.

Research Question #4: Is there a difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

To answer this question, 26 null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho4₁: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their classroom experience in their principal preparation program.

Ho4₂: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their hands-on experience in their principal preparation program.

Each null hypothesis was tested with a *t* test for independent samples.

Research Question #5: Is there a difference between principals who belonged to a cohort during their degree programs versus those who did not in their perceptions of the quality of their degree programs in addressing critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in their principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho5₁: There is no difference between principals who belonged to a cohort during their principal preparation program versus those who did not in their perceptions of the quality of their classroom experience.

Ho5₂: There is no difference between principals who belonged to a cohort during their principal preparation program and those who did not in their perceptions of the quality of their hands-on experience.

Each of the 26 null hypotheses was tested with a *t* test for independent samples.

Research Question #6: Is there a difference between principals who earned a master's degree versus those with a higher degree in their perceptions of the quality of their degree programs in addressing the critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho6₁: There is no difference between principals with a master's degree versus those with a higher degree in their perceptions of the quality of their classroom experience in their principal preparation program.

Ho6₂: There is no difference between principals with a master's degree and those with a higher degree in their perceptions of the quality of their hands-on experience in their principal preparation program.

Each null hypothesis was tested with a *t* test for independent samples.

Research Question # 7: Is there a difference between principals who earned their degrees 10 or fewer years ago versus more than 10 years ago in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho7₁: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their classroom experience.

Ho7₂: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their hands-on experience.

A *t* test for independent samples was used to test each of the null hypotheses.

Significance of the Study

The need for effective leadership from principals cannot be over emphasized. In order for principals to be effective, they must have the requisite skills (Lovely, 2004). An effective university-based principal preparation program and a mentoring program that includes the SREB's 13 critical success factors might offer an opportunity for prospective and novice principals to gain these skills.

This study could provide data for school system superintendents and university professors who wish to begin or improve principal mentoring programs and principal preparation programs by surveying principals who have participated in such programs. This study may add to the literature base as to how effective university-based principal preparation programs and school system principal mentoring programs are in training their students and protégés in the 13 critical success factors as identified by the SREB in order to be an effective principal.

Assumptions

This study was based on the following assumptions:

1. Significant information can be obtained through the use of a questionnaire.
2. Principals who participate in this study will answer all of the questions in an honest and straightforward manner.
3. Identification of the effectiveness of mentoring programs in training protégés in the leadership skills enumerated in the SREB's 13 critical success factors is useful to all participants in a mentoring program.
4. Identification of the effectiveness of principal preparation programs in training potential principals in the leadership skills enumerated in the SREB's 13 critical success factors is useful to all participants of a university-based principal preparation program.

Delimitations

This study was confined by the following delimitations:

1. The principals surveyed were restricted to 16 school districts in Northeast Tennessee.
2. This study was confined to university-based principal preparation programs and principal mentorship programs only.

Limitations

1. The mentoring programs about which the principals were surveyed might have unique qualities because of the small number of principals who reported participating in formal mentoring programs.
2. The number and type of participants who choose to respond might limit the study.
3. My experience as a principal might produce some bias that could have limited the study.

Operational Definitions

The following definitions were employed for this study:

Formal mentorship program: A structured program that is established by a local education agency for the purpose of giving professional instruction and guidance to novice principals by experienced school principals who have been given training for such a purpose (Barnett, 1995; Daresh, 2004; Mertz, 2004).

Informal mentoring program: A mentoring situation in which the protégé has entered into a mentoring relationship without the prompting of his or her local education agency.

Prospective Principal: One who participates in a university-based principal preparation program.

Protégé: “One who is under the care and protection of an influential person for the furthering of his career” (Woolf, 1979, p. 919). For the purposes of this study, this includes a novice principal who is participating in a formal mentoring program.

Cohort: A group of students who go through an entire principal preparation program together.

Mentor: A master at providing opportunities for the growth of others, by identifying situations and events which contribute knowledge and experience to the life of the steward. For the purposes of this study, a mentor is also one who has voluntarily agreed to provide training and guidance to a novice principal and who has received the requisite training to do so.

Novice Principal: For the purpose of this study, a novice principal is any public school principal who has 5 years experience or fewer; this may be interchangeable with the term new principal.

Principal Preparation Program: University-based master’s degree program in educational leadership that leads to initial licensure as a principal.

Overview of the Study

This study is organized into five chapters. Chapter 1 includes the introduction, the statement of the problem, the research questions, the hypotheses to be tested, the significance of the study, the assumptions, delimitations, and limitations of the study, the definitions, and the overview of the study. Chapter 2 contains a review of the related literature published since January 1977. Chapter 3 explains the methodology used in the study. Chapter 4 contains the statistical treatment of the data. Chapter 5 comprises the summary, findings, conclusions, and recommendations of the study.

CHAPTER 2

LITERATURE REVIEW

Overview

The concept of mentoring has been around for thousands of years. For example, in Homer's *Odyssey*, Mentor is the name of a friend of Odysseus who educated Odysseus' son, Telemachus, while Odysseus was away for 20 years in Troy (Conyers, 2004). Daresh (1995) took the image from the *Odyssey* and pointed out that this literary description was a "lasting image of the wise and patient counselor who serves to shape and guide the lives of younger, less-experienced colleagues" (p. 8). Ehrich et al. (2004) mentioned that the word "mentor" means a father figure who guides and advises a younger person. They pointed out that mentors have been with us throughout history and have played significant roles in developing the talents and skills of others. Although this is true, formal mentoring programs have been introduced into corporations and the government only in the last 2 to 3 decades and have taken place because managers saw the potential for employees to learn and grow on the job (Ehrich et al.).

Definition of Mentor

There are many definitions in the literature for the word mentor. Ragins and McFarlin (1990) called a mentor one who is experienced, high ranking, influential in his or her organization and is committed to supporting others' careers. Crosby (1999) cited another definition as one who is trusted and experienced, who takes an interest in the development of less experienced people, and whose advice is sought out or one who offers advice and suggestions. Daresh (1995, 2004) defined a mentor as one who starts a relationship for the purpose of instruction or guidance or one who is concerned with the career development of another. Daresh and Playko (1992) defined mentoring as "the process of bringing together experienced,

competent administrators with beginning colleagues as a way to help them with the transition to the world of school administration” (p. 27). Bush and Coleman (1995) defined a mentor as a peer who gives support intended to assist novice principals in managing the transition from teacher to principal. Daresh (1988) pointed out that mentors could assist in welcoming new colleagues into their new world and introducing them to its customs, values, and resources.

Wasden (1988) gave this definition:

The mentor is a master at providing opportunities for the growth of others, by identifying situations and events that contribute knowledge and experience to the life of the steward. Opportunities are not happenstance; they must be thoughtfully designed and organized into logical sequence. Sometimes hazards are attached to opportunity. The mentor takes great pains to help the steward recognize and negotiate dangerous situations. In doing all this, the mentor has an opportunity for growth through services, which is the highest form of leadership. (p. 6)

Schein (1978) contended that mentors are teachers, role models, coaches, and sponsors.

By being these to a novice, the mentor is providing opportunities for growth. Finally, Daresh (2001) defined mentoring as an ongoing process in which people in organizations give guidance and support to others so that they can contribute effectively to the goals of that organization. The above definitions establish that there are common threads of guidance, support, and instruction when defining the word mentor.

Types of Mentoring

There are many different types of formal mentoring programs (Ehrich et al., 2004). Jacobi (1991) pointed out that some programs trained mentors, whereas other did not. In some programs, mentors and protégés were assigned to each other; in others, the protégés selected the mentor. Some assign the location and the number of meetings and others leave those details to the participants. Finally, some programs are evaluated and some are either not evaluated or only evaluated with a vague instrument.

There are differing types of mentoring in terms of intensity. Shapiro, Haseltine, and Rowe (1978) have listed the types of mentoring on a continuum. On one side of the continuum

there is the relationship of a peer pal and on the other is a true mentor. A peer pal is one who is at the same level as the protégé and the two share information, strategy, and mutually support each other. Next on the continuum is a guide. This is someone who can explain how the system works to the protégé, but who is not in a position to support the protégé. The third type on the continuum is the sponsor. This person assists in promoting and shaping the protégé's career. The patron is next. This person is more influential than is the sponsor in helping the protégé in career advancement. On the other end of the continuum is the mentor. This person is more paternalistic and becomes both an advocate for and teacher of the protégé.

Benefits for Protégés

The literature is replete with the potential benefits of mentoring programs. Daresh and Playko (1989) called it a powerful tool that could be used to help novice administrators in surviving their 1st year, but they pointed out it should be much more than just a safety net to assist new administrators in surviving. Mentoring should be considered as ongoing professional development that can be beneficial to both the mentor and the protégé (Daresh & Playko, 1989; Kelly & Peterson, 2000). However, these researchers noted that mentoring could be especially helpful to the 1st-year principal. Browne-Ferrigno and Muth (2004) pointed out that a well-designed and implemented mentoring program could serve as a valuable professional development tool for both the mentor and the protégé. Krajewski (2004) pointed to a study that found that the greatest benefit to new administrators was the mentoring program.

As educators look for ways to improve the quality of principals' training, they are becoming more aware of the potential that mentoring has for helping novice principals transition successfully from teaching to the world of administration (Daresh & Playko, 1989). Some of this potential comes in the form of benefits to the protégé such as (a) increased confidence and competence, (b) the ability to blend administrative theory learned at the university setting with real-life situations, (c) improved communication skills, (d) knowledge of effective strategies and

techniques that the mentor has learned, and (e) the reduction of the feeling of isolation (Daresh, 1995; Daresh & Playko, 1989; Dussault, 1995). Furthermore, Browne-Ferrigno and Muth (2004) pointed out that developing collegial relationships with other administrators has changed some principals' perspectives about being a building administrator and has resulted in a change in the way they approached their job.

Mentoring programs allow protégés to feel more goals directed, detail oriented, self-confident, and reflective (Bush & Coleman, 1995). Protégés benefit by gaining new knowledge and skills and by not feeling as isolated from their peers (Brady, 1993). Daresh (2004) likened a mentor to a master electrician who teaches an apprentice practical skills. For the educator, this can mean teaching the novice principal how to develop a master schedule, evaluate a teacher, conduct parent conferences, or perform other school related activities. However, Daresh (2004) contrasted this picture by stating that mentors actually do more than that. They can often raise more questions than they answer; this means they might provoke thoughtfulness on the part of the protégé.

“Mentors hold the key novices need to unlock their professional expertise” (Barnett, 1995, p. 54). They are the means for developing capabilities in reflective thinking, problem solving, and cognitive development. New administrators will have difficulty developing this expertise without assistance from experienced administrators who can model expertise in problem solving. A well-thought-out program can develop the protégé's cognitive abilities, improve problem-solving skills, and improve his or her ability to become a reflective decision maker (Leithwood & Steinback, 1992).

Both mentors and protégés can have an overwhelmingly positive learning experience when they participate in a mentoring program (Ehrich et al., 2004). Ehrich et al. reported, from a compilation of studies, that the most important outcome for protégés was career advancement and psychosocial support. Such support included advice, friendship, performance feedback, and encouragement (Kram, 1985). Another important outcome of mentoring for the protégé was

assistance with classroom teaching, such as helping teachers with teaching strategies, classroom planning, discipline, content, and resources. Furthermore, protégés benefited from the ability to discuss and share ideas, problems, and information with peers (Ehrich et al.).

Playko (1995) argued that the most important benefit to protégés is the practical knowledge and skills that they can gain from a mentor who can help them on the job. Furthermore, Playko recognized that mentoring helps socialize the novice principal into his or her new role. A mentor can act as a guide that helps the protégé know what is acceptable and not acceptable in the organization. Sometimes it is not as much a matter of getting the job done as it is of getting the job done within the social parameters of the organization in which the novice works. A good mentor can be of great assistance with this. Playko further pointed out that one benefit of mentoring is simply career advancement. It can be a significant source of networking that allows one to tap into other positions. Norton (2002/2003) praised mentoring by stating that it builds communication channels, develops a system of personal support, allows self-confidence to grow, and provides a role model to novice principals. Daresh (1988) provided a fitting conclusion to the discussion by stating, “Mentoring is an important concept that has rather obvious implications for the ways in which aspiring school administrators might enjoy more successful learning experiences” (p. 12).

Benefits for Mentors

With the many benefits that mentoring provides protégés, it is easy to overlook the benefits to the mentors themselves. The literature points to several of these benefits. One of the greatest advantages is that of job satisfaction. Mentors enjoy grooming new administrators who show potential (Ehrich et al., 2004). This is especially true if the mentor has reached a point in his or her career when the excitement is not what it once was and if the protégé is successful by having excellent job performance (Clutterback, 1985). Another benefit that mentors enjoy is increased peer recognition (Daresh & Playko, 1992). Mentors also benefit in terms of personal

career advancement (Ehrich et al.). They receive new ideas and insights into problems from their protégés and can capitalize on this new perspective. This, in turn, can translate into professional advancement and growth (Daresh, 2004; Gordon, 2004). Browne-Ferrigno and Muth (2004) and Ehrich et al. iterated this point by arguing that mentoring experiences, if carefully constructed and executed, might serve as effective professional development for all involved.

Those who mentor others may have cause to have greater reflection on their own attitudes and behaviors. They, like their protégés, will feel less isolated because they have an avenue to speak openly with and can share their professional interests with colleagues. Being a mentor can give one the personal satisfaction of feeling that he or she is doing something worthwhile in preparing the next generation of principals and feeling, once again, like a teacher in sharing important insights and information to others (Playko, 1995). Like their protégés, mentors also enjoy the sharing of ideas with colleagues and the collaborative nature of the mentoring process (Ehrich et al., 2004). Finally, Bush and Coleman (1995) pointed out that mentors benefit by gaining valuable insight into current practices, improving their analysis of problems, in addition to the pure enjoyment of interacting with a new principal and the opportunity to discuss professional issues with a colleague.

Benefits to School Districts

In addition to the advantages for mentors and protégés, mentoring programs also benefit school systems. Daresh (2004) noted that school systems gain a more capable staff, create norms of lifelong learning, have higher employee motivation levels, and see more productivity from employees with greater self-esteem. Furthermore, Daresh (2004) and Playko (1995) pointed out that school systems with mentoring programs begin to develop a climate of collegial support. Administrators are more satisfied with the choice they have made for an employer; therefore, they are more motivated to serve their organizations and go the extra mile. School districts with

mentoring programs also see more successful novice principals; this increases their self-esteem and, in turn, assists in having higher student achievement (Daresh, 2004). Bush and Coleman (1995) argued that mentoring programs allow new principals to become more confident and become more effective sooner than if they had not participated in a mentoring program, and effective principals are always a benefit to any school system. Another benefit for school systems is that mentoring programs can strengthen their leadership development processes; this, in turn, gives the school system more effective leaders (Browne-Ferrigno & Muth, 2004). However, one of the most important benefits to a school system is that mentoring leads to improved grades, attendance, and behavior of the students (Ehrich et al., 2004).

Problems of Mentoring

Along with all of the benefits cited in the literature, there can also be limitations and drawbacks to mentoring. Those who implement and operate mentoring programs will need to be careful to not allow “unwanted side effects that can stifle innovation and create and perpetuate the status quo” (Grogan & Crow, 2004, p. 466). Daresh (2004) echoed Grogan and Crow’s point by stating that if mentoring programs are going to be used only to ensure that novice principals are assimilated and will perform their duties the way they have always done, then the school system could have a rather large problem. School systems must be adept at responding to societal change rather than trying to maintain the status quo. In other words, “Mentoring takes on a much different character when it is used to promote an enhancement or expansion of traditional visions of leadership and not simply a reinforcement of past practices” (Daresh, 2004, p. 512).

Long (1997) mentioned several concerns about mentoring programs, especially those in which the details were not well thought out. These concerns included (a) mismatching mentors and protégés, (b) poor planning in the development of a mentoring program, (c) a lack of time to carry out the mentoring, and (d) minorities not having access to mentors. Another potential

problem that Long cited was the lack of commitment on the part of the school system. This can mean a variety of things such as a lack, or termination, of funding; lack of support; and the inability for the mentoring program to be coordinated with other organizational activities. Many states are requiring the adoption of mentoring programs to help novice principals. In complying with these mandates, school systems often do not provide enough support to such a program, time is not made for mentors and protégés to meet, and compensation for mentors is often not considered. This results in mentoring programs being short on substance (Playko, 1995).

Mismatches often plague mentoring programs and mentoring relationships. Browne-Ferrigno and Muth (2004) found that forcing mentoring relationships failed to give the support novice principals need. Playko (1995) pointed out that mismatches could occur because of the myth that matching mentors and protégés should be done by gender, age, or school type when there is no solid evidence that making such matches has any effect on the mentoring relationship. Playko made the point that this was especially true of pairing men with women. The literature indicated that both men and women could be effective mentors to women. Playko's real point though, was that thoughtful consideration does need to go into the pairing of mentors and protégés but gave no more guidelines than what is stated above. Daresh and Playko (1989), on the other hand, said that the pairing of mentors and protégés should be based on interpersonal styles, the personalities of both parties, an examination of professional goals, and the learning needs of both people.

Daresh (2004) pointed out that lack of support could doom a mentoring program to failure saying, "If mentoring is not respected as a legitimate approach to learning, it will not be successful and effective" (p. 511). There is often the feeling among school administrators that a mentoring program is not needed and is a waste of time because of the belief that any administrator who needs help must be weak. Many veterans take a dim view of such programs because they point out that if they did it on their own, so can others. It is as if a principal is on his or her own personal journey and the only way to learn is from one's own mistakes. This

point of view makes it hard for any school system to implement a mentoring program because if principals themselves do not support such a program then why would anyone else? (Daresh, 2004).

Daresh and Playko (1992) argued that token compliance with state mandates to offer mentoring programs would not result in effective mentoring. In fact, they stated that token compliance was perhaps worse than not trying to comply with the mandate in the first place and that a mentoring program should be part of a comprehensive professional development plan. Mertz (2004) found that mentoring programs could not be effective if the mentors were not participating voluntarily, there was not mutual respect between the mentor and the protégé, and if the mentor was not accessible to the protégé. Mertz further stated that mentors and protégés must share a common perspective of what it should entail if the mentoring program is to be successful.

Many times schools systems do jump on the bandwagon and start a mentoring program without a lot of forethought. Playko (1995) explained that mentoring is often seen as a “magic potion” that may be used in almost any setting to ensure that new principals have a “buddy” in the system to “show the ropes” (p. 90). Mentoring is a real way to instruct people and should be viewed from a proactive standpoint by experienced principals who have been trained to do so because inadequate preparation can limit the effectiveness of such a program. School systems cannot simply assume that a long-time principal makes the best mentor (Playko, 1995). Daresh and Playko (1989) pointed out that training of mentors is a very important piece of the puzzle and recommended that school systems give specialized training to potential mentors.

A particularly menacing problem plaguing mentoring programs was the lack of resources. As resources for public education declines, the funding for professional development disappears quickly. This is true especially for programs designed for small groups such as mentors and protégés in principal mentoring programs (Daresh, 2004). Adequate funding is essential in order for mentoring programs to achieve their full potential. Furthermore, resources in the form of

time and talented people are also required in order to make a mentoring program realize its potential (Daresh & Playko, 1989).

Finally, mentors can actually cause damage to their protégés if they allow themselves to dominate their protégés to the point that their protégés depend on them too much. Evidence of this can be seen by protégés not making their own decisions (Bush & Coleman, 1995). Rather, they depend on the mentor to tell them what to do instead of reflecting on the problem and developing their own answers. A major part of what mentors should try to accomplish with their protégés is to assist them in their decision-making, but not make decisions for them (Bush & Coleman). Daresh and Playko (1989) echoed these sentiments by listing potential problems that could develop in mentoring relationships:

1. Mentors may become too protective and controlling;
2. mentors may have personal agendas to fulfill;
3. beginning principals may get only a limited perspective from a single mentor;
4. mentors may not acknowledge the limitation of their protégés;
5. beginners may become too dependent on their mentors;
6. beginners may idealize and idolize their mentors;
7. beginners may try to become “carbon copies” of their mentors;
8. formal mentoring arrangements may be too structured; and
9. mentors may compose all beginning principals to an ideal vision or standard of performance, which may never be realized. (pp. 20-21)

Effective Mentors

The effective mentor will receive training before beginning such an endeavor. The lack of training has been a major problem that mentoring programs have faced (Playko, (1995).

When training mentors, three particular abilities have been identified that relate to the role of a mentor and should be included in their training (Daresh & Playko, 1989). One of these was

problem solving. This could include gathering information about a problem, defining the problem, proposing possible solutions, implementation strategies, and developing and implementing an action plan. Another skill was conferencing skills. Mentors will need to learn of the concerns and sensitivities of novice principals when conferring with them in order to best meet their needs. The last skill to be taught was observational skills such as ways to use shadowing as an effective way to work with a protégé (Daresh & Playko, 1989).

In order for mentoring programs to be effective, the best possible mentors should be selected. Daresh (1988) pointed out that anyone who serves as a mentor should have a deep desire to do so. Daresh (1988) further argued that there is a list of characteristics that are desirable of a mentor. Included in this list are items such as the mentor needs to have experience as a school principal and must be regarded as effective in that role. Other items in Daresh's (1988) list included leadership qualities such as having intelligence, good communication skills, a clear vision of how a school should be run, the ability to accept more than one way to accomplish a task, the talent to ask the right questions, a desire to see protégés go past their current performance levels, the ability to model lifelong learning, and the awareness of the realities and politics of their particular school system. Daresh and Playko (1992) pointed out that effective mentors should be those who are able to give guidance to someone who is in a professional position in the school system for the first time. The effective mentor will also need to be trained, innovative, carefully selected, and be well respected by his or her colleagues (Crow & Matthews, 1998).

Some characteristics in principals seemed to indicate that they would not make effective mentors. These included those principals who are heavily involved in the internal politics of the school system, those who are new to their position or who have recently come from a different school system, those who have a history of having a high turnover rate at their school, and those who believe that they already have all of the answers and know it all (Daresh & Playko, 1989).

Mentors are key in uncovering a protégé's professional expertise and can be the instigator for developing expertise in being a reflective thinker and cognitive development (Barnett, 1995). Barnett argued that the effective mentor would assist their protégés in becoming independent problem solvers rather than depending on the mentor for the answers. Furthermore, they will encourage protégés to be reflective in their decisions. Barnett encouraged fostering independence for protégés rather than mentoring practices that are directive or critical toward the protégé. One way mentors can do this is by using appropriate questioning that encourages cognitive growth and reflective thinking on the part of the protégé (Barnett). By asking clarifying questions, the mentor requires the protégé to recall the events in question. Asking purpose and consequence questions allow protégés to think through causes and effects of the issues and their potential actions. Linking questions enables the protégé to think about how his or her personal views, beliefs, values, and goals relate to the situation at hand. The effective mentor will probe and clarify their protégé's responses (Barnett). They will ask protégés to classify vague comparisons and give reasons for absolute phrases and dispute universal statements in order to generate clearer thinking and improved problem-solving approaches (Costa & Garmston, 1994). Barnett also contended that in order for mentors to gain the trust of their protégés and be able to access their deeper thoughts, the mentor must strive to come across as nonjudgmental. They should take a neutral position by using methods such as paraphrasing and rephrasing what the protégé has said and by stressing the protégé's accomplishments and strengths.

Effective Mentoring Programs

Mentoring programs are supposed to be more than having experienced principals being told to expect phone calls from novice principals. Rather, effective mentoring programs emphasize continuity and consistency. Mentoring is not a final effort to save the novice from a crisis but a way to refine and develop skills the novice already has exhibited (Playko, 1995).

Many things need to happen in order to make mentoring programs effective. As has been stated earlier, in order to have an effective mentoring program “Only the very best principals can serve as true mentors, and care must be constantly exercised to make certain that the ‘best of the best’ become role models and mentors” (Daresh, 1988, p. 26). Furthermore, Daresh (1988) pointed out that in order to have the best mentoring program, mentors and protégés must be well matched. A more important question educators must ask themselves, aside from who will be a mentor, is how will they be trained. Training has been cited in the literature as being a key component to a successful mentoring program (Ehrich et al., 2004). Daresh (2004) emphasized the importance of the selection and preparation of mentors to an effective mentoring program. Daresh and Playko (1991) explained that training aimed at the development and maintenance of cognitive growth in protégés is essential for a mentoring program. This training allows the mentor to learn how to ask the right questions to stimulate thinking, reflective thinking, and problem solving in the protégé (Daresh & Playko, 1991). Daresh and Playko (1989) also pointed out that, although mentoring training program formats may vary, every effort should be made to include the following issues:

1. Review of basic assumptions, concepts, and definitions associated with mentoring as a way to assist beginning administrators.
2. Discussion of basic beliefs, values, and assumptions concerning desirable administrative practice. What is “leadership,” for example?
3. Development of awareness of personal strengths and limitations that may be called upon in the performance of the mentoring role.
4. Review of feedback techniques and other forms of interpersonal communication skills.
5. Understanding of interpersonal styles so that matches with protégés may be productive. (p. 53)

There are four major conditions that must be met if a school system is going to have an effective mentor-training program (Daresh & Playko, 1989). The first one is building trust. Trust and a good rapport among the people in the program are essential. Mentoring programs will have virtually no chance of succeeding if there is jealousy, fear, and disrespect among the participating administrators. The second condition is to make sure there are sufficient resources. This must happen if mentoring programs are to achieve their potential. The third condition is open communication. Open communication will allow participants to learn about and perform their roles more effectively. The last condition is that of knowing the principles of adult learning. Educators are knowledgeable about the learning needs of children but do not necessarily know anything about the learning needs of adults. Daresh and Playko (1989) cited Malcolm Knowle's work in this area and included such adult learner characteristics as the adult is self-directed, has a reservoir of experience from which to draw, is problem centered, and is increasingly inclined toward the developmental responsibilities of his or her appointed social role. In addition to mentor training, Ehrich et al. (2004) noted that any effective mentoring program should have an ongoing evaluative component to it for its duration and should contain a follow-up assessment at some point after the completion of the program to ensure effectiveness.

Daresh (2004) argued that mentoring programs should do much more than reinforce past practices. Instead, they should help novice principals "gain insights into trends, issues, and social realities that go beyond existing practices. To ignore this point would no doubt lead to another major pitfall of traditional mentoring programs, namely the temptation to use mentoring to promote cloning, not growth" (p. 512). Daresh (2004) argued further that those who are responsible for starting mentoring programs must not drop the ball once they have started. Mentoring programs must have specific goals to be accomplished and this focus must be retained throughout the duration of the program.

The Southern Regional Education Board

The Southern Regional Education Board (SREB, 2002) is the first interstate education compact in the United States. It was established in 1948 by 16 states for promoting improvements in education in the 16-state region. It enables educational and government leaders to work together in order to advance education. This, in turn, will improve the long-term economic and social well being of the region. A board that includes the governor of each state plus four other members administers the SREB. One of these members must be a state legislator and another must be an educator (SREB).

The SREB publishes many helpful reports and facts that assist its member states in their educational planning and policy development. It maintains a far-reaching educational database in all member states and its staff responds to many requests on a daily basis. It also plans meetings and conferences that allow policy makers and educators to share information within their individual states and across state borders (SREB, 2002).

One of the projects of the SREB is its Leadership Initiative. The purpose of this initiative is to develop effective principals who can encourage student achievement and improve schools. It attempts to do this by making efforts to redesign and realign leadership preparation programs with member states' new accountability systems and standards. This initiative is meant to meet the goal of every school having the leadership that will result in improved student achievement. Another goal of the Leadership Initiative is to provide support to school leaders' attempts to improve student achievement, instruction, and curriculum. In order to achieve these goals, the SREB has developed the research-based 13 critical success factors for effective principals. The idea being that, if principals are trained in and use these factors in their leadership capacities, they will see success in terms of students' achievement and schools' improvement (SREB, 2002).

The Internship Disconnect

According to Fry et al. (2005), the SREB conducted a survey of 61 university-based principal preparation programs in the SREB region and found that most programs did not provide authentic leadership opportunities for their principal candidates. Instead, they found that prospective principals were not given the opportunity to lead but had many chances to follow and that creating leaders in school reform was not a priority. They found that universities and school districts were not working together to provide well-supervised and well-structured practical experiences for prospective principals. Furthermore, they found that principal preparation programs were not preparing principal candidates to meet the rigorous accountability demands found in today's public schools. Of the 61 programs surveyed, Fry et al. found the following:

1. barely a third of the universities require aspiring principals to lead activities that create a mission to improve student achievement and a vision of the elements of school, curriculum, and instructional practices that make higher achievement possible;
2. fewer than one fourth require aspiring principals to lead activities that implement good instructional practices such as leading groups of teachers in developing assignments and assessments aligned with curriculum standards or monitoring implementation of the curriculum;
3. only 15% require aspiring principals to lead the work of literacy and numeracy task forces to improve students' performance in these critical areas;
4. only a third of the universities require aspiring principals to lead activities such as creating or using authentic assessments of student work that set high expectations for all students;
5. fewer than half require aspiring principals to lead activities in which faculties analyze schoolwide data and examine the performance of subgroups within the school;

6. about half of the universities require aspiring principals to lead activities that support change through quality sustained professional development; and
7. about one fourth require aspiring principals to lead activities for organizing and using time and acquiring and using resources to meet the goals of school improvement. (p. 5)

Fry et al. (2005) firmly stated that while some universities were making the necessary changes in their principal preparation programs, the majority of universities were not seriously considering changes in their programs. They suggested that the reason for this was that they did not have the expertise, support, or the perceived need to change. Davis and Jazzar (2005) pointed out that university-based principal preparation programs continue to lack rigor, curricular coherence and structure to produce qualified, effective school leaders.

The Effective Principal Internship

Davis and Jazzar (2005) reported that one aspect of an effective university-based principal internship was that the internship embraces new strategies and has realistic experiences that go beyond the classroom. Lauder (2000) pointed out, “A trend in principal preparation programs is a design that rests almost entirely on full-time internships” (p. 26). University-based principal internships that are of high quality give principal candidates the opportunity to demonstrate that they have mastered the skills and knowledge base to be effective principals who can change schools. Such internship programs require close supervision by experts in the field and careful planning and coordination with local school districts (Fry et al., 2005). These authors pointed to a number of criteria that one must look for when assessing whether or not a university-based internship program is effective. These criteria included:

1. the collaboration between the university and school districts;
2. a set of assignments designed to apply the knowledge and skill learned in the classroom;

3. a continuum of practices that allows the student to progress from an observer to participant to leader of school-based activities;
4. placements that allow the student to work with a diverse population;
5. handbooks and other materials that clearly express expectations to all involved;
6. timely supervision by expert faculty that provides formative feedback on performance;
7. directing effective principals in guiding interns through their required activities; and
8. providing rigorous evaluations of the intern's performance on clearly defined standards and exit criteria (p. 7).

Fry et al. (2005), through an exhaustive literature review of research data, have developed the 13 critical success factors of principals who are successful in raising achievement levels in schools that have a significant number of students who are considered high risk. These 13 factors are organized under three competencies that are the basis behind its work in leadership redesign. These factors and competencies are:

- I. Competency: Effective principals have a comprehensive understanding of school and classroom practices that contribute to student achievement.
 - a. Critical Factor #1. Focusing on student achievement: creating a focused mission to improve student achievement and a vision of the elements of school, curriculum, and instructional practices that make higher achievement possible.
 - b. Critical Factor #2. Developing a culture of high expectations: setting high expectations for all students to learn higher-level content.
 - c. Critical Factor #3. Designing a standards-based instructional system: recognizing and encouraging good instructional practices that motivate students and increase their achievement.
- II. Competency: Effective principals have the ability to work with teachers and others to design and implement continuous student improvement.

- a. Critical Factor #4. Creating a caring environment: developing a school organization where faculty and staff understand that every student counts and where every student has the support of a caring adult.
 - b. Critical Factor #5. Implementing databased improvements: using data to initiate and continue improvement in school and classroom practices and in student achievement.
 - c. Critical Factor #6. Communicating: keeping everyone informed and focused on student achievement.
 - d. Critical Factor #7. Involving parents: making parents partners in students' education and creating a structure for parent and educator collaboration.
- III. Competency: Effective principals have the ability to provide the necessary support for staff to carry out sound school, curriculum, and instructional practices.
- a. Critical Factor #8. Initiating and managing change: understanding the change process and using leadership and facilitation skills to manage it effectively.
 - b. Critical Factor #9. Providing professional development: understanding how adults learn and advancing meaningful change through quality sustained professional development that leads to increased student achievement.
 - c. Critical Factor #10. Innovating: using and organizing time and resources in innovative ways to meet the goals and objectives of school improvement.
 - d. Critical Factor #11. Maximizing resources: acquiring and using resources wisely.
 - e. Critical Factor #12. Building external support: obtaining support from the central office and from community and parent leaders for the school improvement agenda.
 - f. Critical Factor #13. Staying abreast of effective practices: continuously learning from and seeking out colleagues who keep them abreast of new research and proven practices (p. 30).

Summary

The SREB has developed 13 clear, researched-based leadership factors (skills) that principals must have in order to effectively lead in their schools. The research indicates that university-based principal preparation programs are not including these 13 factors in their preparation programs.

A review of literature also addressed the importance of the role of the principal and how that role has changed and grown larger over time. There are many definitions of a mentor, but it seems to boil down to one who gives guidance, support, and instruction to a novice principal. The literature pointed to a continuum of mentoring programs that ranged from peer pals to true mentors. There was also a range of mentoring programs in terms of structure, training, and mentor selection processes.

There are benefits cited for protégés, mentors, and school systems. Some of these found advantages were a reduction in the feeling of being isolated, increased job satisfaction and collegiality, improved student achievement, networking and professional advancement, and more effective professional development. In addition to these advantages, the literature pointed to increased self-confidence and improved job performance for the protégé and increased peer recognition for the mentor. Nowhere in the literature review did this researcher find a mention of the SREB's 13 critical success factors in relation to principal mentoring.

The literature, however, did point out potential problems with mentoring programs. These included the stifling of innovation, the mismatching of mentors and protégés, forced relationships, lack of mentor training, resources, and program evaluation. Another problem that has been pointed out is the potential for the mentoring relationship itself to be unhealthy for the protégé.

The literature revealed some ideas on what makes an effective mentor and an effective mentoring program. There are skills that were suggested for the mentor to learn, conditions in

which mentoring programs could flourish, and steps that administrators could take to ensure a successful mentoring program.

The literature seems to support the idea of mentoring programs. Ehrich et al. (2004) pointed out that the potential problems associated with formal mentoring programs could be overcome with careful planning and good leadership. Browne-Ferrigno and Muth (2004) agreed with this assessment by stating, "Carefully constructed and implemented mentoring experiences serve as effective professional development not only for aspiring and novice principals, but also for veteran principals" (p. 471).

CHAPTER 3

RESEARCH METHODOLOGY

Procedures

This chapter presents an overview of the methodology used in this study. It includes the following procedures: research design, instrument development, pilot study, reliability and validity, verification, identification of participants, assessments for the instrument, data analysis techniques, statistical techniques and analysis, and a summary.

The purpose of this study was to determine principals' perceptions of how effective mentoring programs and university-based principal preparation programs are in developing the skills necessary to carry out the 13 critical success factors identified by the SREB. A survey instrument was developed and used to accumulate the needed data to determine which components of the SREB's 13 critical success factors were being taught in principal preparation programs and principal mentoring programs. No effort was made to influence the variables or the findings through intervention or suggestion.

Through the collection and analysis of data, the study was used to evaluate the adequacy of principal preparation programs and mentoring programs in preparing principals to be effective in accordance with the SREB's 13 critical success factors. With this information, university officials can create or maintain a high-quality principal preparation program and the school system can maintain or develop a high-quality mentoring program by strengthening and modifying those factors identified by the SREB that allow principals to be more effective school leaders.

After searching for an adequate instrument for this purpose, I found no such instrument; although, the part of the instrument measuring principals' preparation came directly from a similar instrument developed by the SREB for surveying its constituent universities on the same

subject. Consequently, an instrument was developed by the researcher that required a piloting of the survey instrument.

Criteria for Instrument Development

The following section describes the development of the survey instrument used in the study. Criteria used in conducting the pilot study and the administration of the pilot survey are included.

The review of the literature, in particular the SREB research, was used in determining areas important to the development of effective and successful school principals. Identified areas were improving students' achievement, setting high expectations, encouraging sound instructional practices, fostering the attitude that every student counts, using data to improve achievement, keeping stakeholders informed, partnering with parents, facilitating change, understanding how adults learn, organizing innovative ways to meet school goals, using and acquiring resources wisely, obtaining central office support, and keeping abreast of new research and proven practices. Using the SREB's competency and critical success factors for effective principals, questions were constructed that would enable the collection of data necessary to accomplish the study.

Pilot Study

The pilot instrument was administered to six principals in North Carolina Schools who had at least 2 years of experience. The purpose for administering the pilot instrument was to establish those items on the instrument that might have had objectionable wording for each item; to identify poor items on the instrument before administration to the targeted sample; to present the opportunity to determine the instrument's readability, clarity, and ease of use; and to determine the effectiveness of the instrument by attaining sample data.

Pilot Instrument Validity

I conducted an investigation of the instrument's validity. Kachigan (1991) defined validity as "the extent to which the measurements reflect what we intend them to or what we claim they do" (p. 140). The validation process for this study consisted of the following procedures:

1. The pilot instrument was administered to each principal who had at least 2 years of experience as a principal.
2. A review of the pilot test responses was conducted and itemized with test questions being rewritten or eliminated as advised by the pilot group.
3. The items on the pilot instrument were reviewed and used to determine usability.

Once the instrument had been evaluated, refined, and rewritten, it was reviewed a second time by an East Tennessee State University Educational Leadership and Policy Analysis department's faculty member for final approval. On the final survey instrument, I asked respondents to answer how well they believed they were prepared for each of the SREB's 13 critical success factors through their principal preparation programs, a formal mentoring program, or an informal mentoring experience. A five-point scale measured the degree the respondent believed that he or she was prepared with: (4) superior, (3) above average, (2) satisfactory, (1) below average, and (0) not addressed.

Identifying Participants in the Study

The sample for this study was from 16 public school districts in the Northeast Tennessee area. These school districts were selected because of their proximity to the SREB member school, East Tennessee State University. There were 170 principals eligible to respond to the survey from the 16 school districts.

Data Collection Procedures

On December 9, 2005, a permission letter (see Appendix A) along with a copy of the survey instrument (see Appendix C) was mailed to the directors of the 16 school systems in the Northeast Tennessee area. Each director was asked to complete the bottom part of the letter and to place a check mark next to a statement giving permission or to a statement denying permission. Each director also had the opportunity to ask for an executive summary of my results. On January 25, 2006, an invitation to participate in the study by completing the online survey was emailed to the 170 principals in the selected school districts with a reply requested by January 31, 2006 (see Appendix B).

After 1 week, a second email invitation was sent to those participants who had not completed the survey by the deadline. One week later, on February 7, 2006, a follow-up email invitation was sent to those who had not responded to encourage their participation (see Appendix D). When an adequate number of the surveys were returned, the data were compiled and analyzed. The Statistics Package for Social Sciences (SPSS) was used to analyze the data. The results of this analysis are presented in Chapter 4. Individual schools or school personnel were never referred to by name and all statistical analyses were presented in summary form with no one person or school being identified.

Statistical Tests and Analysis

Analysis of the data from the study was conducted initially using descriptive statistical procedures. Summary measures specifically including mean and percentages were used to answer the research questions. These statistical procedures were computed by using the SPSS.

Research Questions and Hypotheses

Research Question #1: Is there a difference in principals' perceptions of their informal mentoring experiences between principals who participated in a formal mentoring program and those who did not?

Descriptive statistics were used to analyze this research question.

Research Question #2: Among principals who participated in a formal mentoring program, what are their perceptions of their formal and informal mentoring experiences as they relate to the 13 critical success factors?

Descriptive statistics were used to answer this research question.

Research Question #3: Overall, what are principals' perceptions of their classroom and hands-on experiences in their principal preparation program as it relates to the 13 critical success factors?

Descriptive statistics were used to answer this research question.

Research Question #4: Is there a difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

To answer this question, 26 null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho4₁: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their classroom experience in their principal preparation program.

Ho4₂: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their hands-on experience in their principal preparation program.

Each null hypothesis was tested with a *t* test for independent samples.

Research Question #5: Is there a difference between principals who belonged to a cohort during their degree programs versus those who did not in their perceptions of the quality of their degree programs in addressing critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in their principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho5₁: There is no difference between principals who belonged to a cohort during their principal preparation program versus those who did not in their perceptions of the quality of their classroom experience.

Ho5₂: There is no difference between principals who belonged to a cohort during their principal preparation program and those who did not in their perceptions of the quality of their hands-on experience.

Each of the 26 null hypotheses was tested with a *t* test for independent samples.

Research Question #6: Is there a difference between principals who earned a master's degree versus those with a higher degree in their perceptions of the quality of their degree programs in addressing the critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho6₁: There is no difference between principals with a master's degree versus those with a higher degree in their perceptions of the quality of their classroom experience in their principal preparation program.

Ho6₂: There is no difference between principals with a master's degree and those with a higher degree in their perceptions of the quality of their hands-on experience in their principal preparation program.

Each null hypothesis was tested with a *t* test for independent samples.

Research Question # 7: Is there a difference between principals who earned their degrees 10 or fewer years ago versus more than 10 years ago in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

Twenty-six null hypotheses were developed related to classroom experience and hands-on-experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors:

Ho7₁: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their classroom experience.

Ho7₂: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their hands-on experience.

A *t* test for independent samples was used to test each of the null hypotheses.

Summary

This chapter described the methods used for identification of the participants, selection of the sample, creating and piloting of the instrument, soliciting the final data, statistical tests, and data analysis. The instrument was used to provide the participants with a tool to convey their perceptions of how well they were prepared for their principalship according to the SREB's 13 critical success factors and their perceptions of how well their school system provided support on these same factors through the use of a mentoring program.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

The purpose of this study was to determine principals' perceptions of how effective mentoring programs and university-based principal preparation programs are in developing the skills necessary to carry out the 13 critical success factors identified by the SREB. For each critical success factor, respondents were asked to evaluate how well their classroom and hands-on experiences in their principal preparation programs and formal and informal mentoring prepared them to meet the demands of each critical success factor.

A study of this type could possibly provide valuable information to aid universities in developing or maintaining quality principal education programs and it should allow school systems to develop or improve superior mentoring programs. Data were gathered from principals through an online survey. The data were analyzed through the use of descriptive statistics (means, standard deviations) and *t* tests of independent samples.

Description of the Sample

The study's participants consisted of the principals of the Northeast Tennessee school systems. The overall response rate for principals responding to the online survey was 56 responses out of 170 potential respondents (32.9%).

Thirty-one respondents (56.4%) were male and 24 (42.9%) were female. Of the respondents, six (10.7%) participated in a formal mentoring program. Most respondents (67.9%) did not belong to a cohort; however, 32.1% did belong to a cohort. East Tennessee State University had a majority of graduates who responded to the survey (75%), and 25% of the respondents were from other universities. It was interesting to note that 34 (61.8%) of the respondents received a master's degree during their principalship preparation and 21 (38.2%) received either a specialist or doctoral degree. Another interesting note was that half of the

respondents graduated from their principalship preparation programs at least 15 years ago. Most of the respondents found a position as a principal relatively quickly after graduating with 21 (38.9%) gaining a principalship within 1 year of graduating and 45 (83.3%) finding a position as principal within 7 years.

The 13 Critical Success Factors

The SREB has developed 13 clear, researched-based leadership factors (skills) that principals must have in order to effectively lead in their schools. On the survey instrument, I asked respondents to answer how well they believed they were prepared for each of the SREB's 13 critical success factors through their principal preparation programs, a formal mentoring program, or an informal mentoring experience. Each of these four categories (classroom experience, hands-on experience, formal, and informal mentoring) was measured on a five-point scale with: (4) superior, (3) above average, (2) satisfactory, (1) below average, and (0) not addressed. Based on the 13 critical success factors, the following items were used on the survey instrument (see Appendix C):

1. Led the faculty in activities that are designed to improve student achievement, such as defining and adapting best practices based on current research that support the school's vision and implementing curriculum that produces gains in student achievement.
2. Led the faculty by setting high expectations for students to learn high-level content by developing or overseeing academic recognition programs and using and/or evaluating rubrics, projects, and end-of-course tests.
3. Led the faculty by encouraging the implementation of good instructional practices that motivate and increase student achievement by analyzing and evaluating the quality of instructional practices, working with faculty to develop assignments that are aligned with standards, map curriculum across grade levels, or working with faculty to select and implement instructional strategies that address identified achievement gaps.
4. Led the faculty by assisting in developing an attitude and organization within the school that fosters and understanding that every student counts by working with staff to identify student needs, or collaborating to provide mentors and increased parental involvement.

5. Led the faculty by using data to initiate and continue improvement in school and classroom practices and student achievement by analyzing data to develop or refine instructional activities or by facilitating data desegregation for use by faculty and other stakeholders.
6. Led the faculty by keeping everyone informed and focused on student achievement by analyzing and communicating school progress and school achievement to teachers, parents, and staff or by gathering feedback regarding the effectiveness of personal communication skills.
7. Led the faculty by assisting in making parents partners in their student's education and create structure for parents and educators to collaborate by working in meaningful relationships with faculty and parents to develop action plans for student achievement.
8. Led the faculty by managing the change process effectively, such as working with faculty and staff in professional development activities, mentoring new teachers, or by assisting in building a learning community that includes all stakeholders.
9. Led the faculty by advancing meaningful change through quality sustained professional development that benefits students by having problem-solving sessions or by scheduling, developing, or presenting professional development activities for faculty that positively impact student achievement.
10. Led the faculty by using time in innovative ways to meet the goals and objectives of school improvement by scheduling classroom and/or professional development activities in a way that provides meaningful time for school improvement activities or by scheduling time to provide extra support for struggling students so that they have the opportunity to learn to mastery.
11. Led the faculty by acquiring and using resources wisely by writing grants, developing partnerships that provide resources for school improvement, or by developing schedules that maximize student learning in meaningful ways with measurable success.
12. Led the faculty by gaining support from central office and all stakeholders for their school's improvement agenda by working with faculty to communicate with the school board and other stakeholders in a way the supports school improvement and its agenda.
13. Led the faculty by continuously learning and seeking out colleagues who keep them abreast of new research and proven practices by working with faculty to implement research based instructional practices and by working with professional groups and organizations.

Analysis of the Research Questions

Data for this study were compiled from the results of the survey instrument. Descriptive statistics and independent samples *t* test were used to analyze the data. The organization of this chapter follows the order of the research questions as written in Chapter 1.

Research Question #1

Is there a difference in principals' perceptions of their informal mentoring experiences between principals who participated in a formal mentoring program and those who did not?

Because only 6 (10.7%) respondents indicated they had participated in a formal mentoring program, tests of significance comparing principals who participated in formal mentoring versus those who did not were not conducted. Instead, descriptive statistics were used to answer this research question. All respondents indicated that they informally sought out a mentor even if they did participate in a formal mentoring program.

For 12 of the 13 critical success factors, respondents who participated in a formal mentoring program evaluated their informal mentoring experience higher than did those who did not participate in a formal mentoring program. In addition, principals with formal mentoring experience reported that their informal mentoring experience was satisfactory on 7 of the 13 critical success factors and principals without formal mentoring experience reported their informal mentoring experience as being less than satisfactory on all 13 critical success factors. In other words, the respondents who participated in a formal mentoring program had a more positive experience with informal mentoring than did those who did not receive formal mentoring. Table 1 shows how principals perceived the informal mentoring they received as a novice principal.

Table 1

Descriptive Statistics for Principals' Perceptions of Informal Mentoring in Which They Participated by Critical Success Factors

| Critical Success Factor | Participation in Formal Mentoring Program | <i>N</i> | <i>M</i> | <i>SD</i> |
|------------------------------|---|----------|----------|-----------|
| Factor 1 Informal mentoring | Yes | 6 | 2.00 | 1.90 |
| | No | 50 | 1.00 | 1.29 |
| Factor 2 Informal mentoring | Yes | 6 | 2.00 | 1.90 |
| | No | 50 | 1.12 | 1.29 |
| Factor 3 Informal mentoring | Yes | 6 | 1.67 | 1.63 |
| | No | 50 | 1.16 | 1.31 |
| Factor 4 Informal mentoring | Yes | 6 | 2.17 | 1.83 |
| | No | 50 | 1.26 | 1.43 |
| Factor 5 Informal mentoring | Yes | 6 | 1.50 | 1.64 |
| | No | 50 | 1.20 | 1.37 |
| Factor 6 Informal mentoring | Yes | 6 | 2.00 | 1.90 |
| | No | 50 | 1.22 | 1.36 |
| Factor 7 Informal mentoring | Yes | 6 | 1.83 | 1.60 |
| | No | 50 | 1.12 | 1.32 |
| Factor 8 Informal mentoring | Yes | 6 | 2.17 | 1.83 |
| | No | 50 | 1.18 | 1.35 |
| Factor 9 Informal mentoring | Yes | 6 | 1.83 | 1.83 |
| | No | 50 | 1.18 | 1.35 |
| Factor 10 Informal mentoring | Yes | 6 | 1.67 | 1.37 |
| | No | 50 | 1.22 | 1.40 |
| Factor 11 Informal mentoring | Yes | 6 | 1.00 | 1.26 |
| | No | 50 | 1.10 | 1.25 |
| Factor 12 Informal mentoring | Yes | 6 | 2.17 | 1.83 |
| | No | 50 | 1.40 | 1.46 |
| Factor 13 Informal mentoring | Yes | 6 | 2.00 | 1.67 |
| | No | 50 | 1.34 | 1.42 |

Research Question #2

Among principals who participated in a formal mentoring program, what are their perceptions of their formal and informal mentoring experiences as they relate to the 13 critical success factors?

Because there were only six respondents (10.7%) who stated that they had participated in a formal mentoring program, tests of significance were not conducted. Instead, descriptive statistics were used to analyze this research question.

As shown in Table 2, principals who had participated in a formal mentoring program rated formal mentoring higher than informal mentoring on all 13 critical success factors. In other words, they perceived that formal mentoring was more satisfactory than informal mentoring in preparing them to be successful in each critical success factor. It is interesting to note that Table 2 shows that for critical success factor 3, (addressing the analysis and evaluation of the quality of instruction), the mean for formal mentoring ($M = 2.67$, $SD = .82$) was a full point higher (on a five-point scale) than was the mean for informal mentoring ($M = 1.67$, $SD = 1.63$). For critical success factor 1 (improving student achievement based on best practices and curriculum that produces student achievement gains) and factor 11 (acquiring and using resources wisely), the mean for formal mentoring was .83 of a point higher than was the mean for informal mentoring.

Although principals who participated in a formal mentoring program evaluated their formal mentoring as at least satisfactory for 12 of the 13 critical success factors, they also rated their informal mentoring experiences as less than satisfactory on 6 of the 13 critical success factors.

Table 2

Descriptive Statistics for Principals' Perceptions of Their Formal and Informal Mentoring Programs by Critical Success Factors

| Critical Success Factor | Mentoring | <i>N</i> | <i>M</i> | <i>SD</i> |
|-------------------------|-----------|----------|----------|-----------|
| Factor 1 | Formal | 6 | 2.83 | 1.17 |
| | Informal | 6 | 2.00 | 1.90 |
| Factor 2 | Formal | 6 | 2.33 | 1.63 |
| | Informal | 6 | 2.00 | 1.90 |
| Factor 3 | Formal | 6 | 2.67 | .82 |
| | Informal | 6 | 1.67 | 1.63 |
| Factor 4 | Formal | 6 | 2.83 | .75 |
| | Informal | 6 | 2.17 | 1.83 |
| Factor 5 | Formal | 6 | 2.00 | .89 |
| | Informal | 6 | 1.50 | 1.64 |
| Factor 6 | Formal | 6 | 2.67 | 1.21 |
| | Informal | 6 | 2.00 | 1.90 |
| Factor 7 | Formal | 6 | 2.50 | .55 |
| | Informal | 6 | 1.83 | 1.60 |
| Factor 8 | Formal | 6 | 2.83 | .75 |
| | Informal | 6 | 2.17 | 1.83 |
| Factor 9 | Formal | 6 | 2.17 | 1.60 |
| | Informal | 6 | 1.83 | 1.83 |
| Factor 10 | Formal | 6 | 2.17 | 1.17 |
| | Informal | 6 | 1.67 | 1.37 |
| Factor 11 | Formal | 6 | 1.83 | 1.47 |
| | Informal | 6 | 1.00 | 1.26 |
| Factor 12 | Formal | 6 | 2.50 | 1.38 |
| | Informal | 6 | 2.17 | 1.83 |
| Factor 13 | Formal | 6 | 2.67 | 1.51 |
| | Informal | 6 | 2.00 | 1.67 |

Research Question #3

Overall, what are principals' perceptions of their classroom and hands-on experiences in their principal preparation program as it relates to the 13 critical success factors?

Descriptive statistics were used to analyze this research question.

When the means were taken for each factor for both classroom experience and hands-on experience in their principal preparation programs, the results indicate that in every critical success factor, respondents evaluated their classroom experience higher than their hands-on experience. As shown in Table 3, they perceived that their classroom experience was more helpful than their hands-on experience in preparing them to be successful in each critical success factor. Furthermore, it is significant to note that with the exception of only 2 of the 26 means, the mean for each factor, whether hands on or classroom experience did not rise above 2.5 (the mid-point score between satisfactory and above average).

Table 3

Descriptive Statistics for Principals' Overall Perceptions of Their Principal Preparation Programs by Critical Success Factors

| Critical Success Factor/Experience | <i>N</i> | <i>M</i> | <i>SD</i> |
|------------------------------------|----------|----------|-----------|
| Factor 1: | | | |
| Classroom | 56 | 2.41 | 1.04 |
| Hands-on | 56 | 1.91 | 1.31 |
| Factor 2: | | | |
| Classroom | 56 | 2.32 | 1.11 |
| Hands-on | 56 | 1.93 | 1.33 |
| Factor 3: | | | |
| Classroom | 56 | 2.43 | 1.11 |
| Hands-on | 56 | 2.04 | 1.25 |
| Factor 4: | | | |
| Classroom | 56 | 2.62 | 1.05 |
| Hands-on | 56 | 2.18 | 1.34 |

Table 3 (continued)

| Critical Success Factor/Experience | <i>N</i> | <i>M</i> | <i>SD</i> |
|------------------------------------|----------|----------|-----------|
| Factor 5: | | | |
| Classroom | 56 | 2.05 | 1.21 |
| Hands-on | 56 | 1.80 | 1.31 |
| Factor 6: | | | |
| Classroom | 56 | 2.36 | 1.10 |
| Hands-on | 56 | 2.00 | 1.35 |
| Factor 7: | | | |
| Classroom | 56 | 2.16 | 1.17 |
| Hands-on | 56 | 1.84 | 1.28 |
| Factor 8: | | | |
| Classroom | 56 | 2.38 | 1.12 |
| Hands-on | 56 | 2.09 | 1.35 |
| Factor 9: | | | |
| Classroom | 56 | 2.32 | 1.21 |
| Hands-on | 56 | 1.93 | 1.36 |
| Factor 10: | | | |
| Classroom | 56 | 2.07 | 1.26 |
| Hands-on | 56 | 1.89 | 1.34 |
| Factor 11: | | | |
| Classroom | 56 | 1.96 | 1.09 |
| Hands-on | 56 | 1.75 | 1.22 |
| Factor 12: | | | |
| Classroom | 56 | 2.39 | .97 |
| Hands-on | 56 | 2.02 | 1.18 |
| Factor 13: | | | |
| Classroom | 56 | 2.54 | 1.14 |
| Hands-on | 56 | 2.14 | 1.34 |

Research Question #4

Is there a difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

The number of respondents who graduated from East Tennessee State University (ETSU) was 42 (75%) compared to the 14 (25%) who graduated from other universities. Independent samples *t* tests were conducted to compare the mean perceptions of principals who graduated from ETSU versus other universities as to how well their principal preparation degree programs prepared them for each critical success factor. As shown in Table 4, none of the 26 comparisons was statistically significant. However, for hands-on experience related to critical success factor 5 (use of data to develop or refine instructional activities) the mean for graduates of other universities ($M = 2.36, SD = 1.45$) was .74 of a point higher than the mean for graduates of ETSU ($M = 1.62, SD = 1.23$). The effect size as measured by η^2 was moderate (.06). The η^2 indicated that 6% of the variance of the scores on the dependent variable is accounted for by the degree granting institution.

Table 4

Independent Samples t Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Institution Regarding the Critical Success Factors

| Factor / Experience | Institution | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|-------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 1: | | | | | | | | |
| Classroom | ETSU | 42 | 2.43 | .97 | 54 | .22 | < .01 | .83 |
| | Other | 14 | 2.36 | 1.28 | | | | |
| Hands-on | ETSU | 42 | 1.93 | 1.30 | 54 | .18 | < .01 | .86 |
| | Other | 14 | 1.86 | 1.41 | | | | |
| Factor 2: | | | | | | | | |
| Classroom | ETSU | 42 | 2.24 | 1.05 | 54 | .97 | .02 | .34 |
| | Other | 14 | 2.57 | 1.28 | | | | |
| Hands-on | ETSU | 42 | 1.93 | 1.31 | 54 | .00 | < .01 | 1.00 |
| | Other | 14 | 1.93 | 1.44 | | | | |

Table 4 (continued)

| Factor / Experience | Institution | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|-------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 3: | | | | | | | | |
| Classroom | ETSU | 42 | 2.38 | 1.10 | 54 | .55 | < .01 | .58 |
| | Other | 14 | 2.57 | 1.16 | | | | |
| Hands-on | ETSU | 42 | 1.90 | 1.23 | 54 | 1.37 | .03 | .18 |
| | Other | 14 | 2.43 | 1.28 | | | | |
| Factor 4: | | | | | | | | |
| Classroom | ETSU | 42 | 2.62 | 1.06 | 54 | .07 | < .01 | .94 |
| | Other | 14 | 2.64 | 1.34 | | | | |
| Hands-on | ETSU | 42 | 2.10 | 1.30 | 54 | .81 | .01 | .42 |
| | Other | 14 | 2.43 | 1.45 | | | | |
| Factor 5: | | | | | | | | |
| Classroom | ETSU | 42 | 2.00 | 1.17 | 54 | .57 | < .01 | .57 |
| | Other | 14 | 2.21 | 1.37 | | | | |
| Hands-on | ETSU | 42 | 1.62 | 1.23 | 54 | 1.86 | .06 | .07 |
| | Other | 14 | 2.36 | 1.45 | | | | |
| Factor 6: | | | | | | | | |
| Classroom | ETSU | 42 | 2.33 | 1.05 | 54 | .28 | < .01 | .78 |
| | Other | 14 | 2.43 | 1.28 | | | | |
| Hands-on | ETSU | 42 | 1.90 | 1.34 | 54 | .91 | .02 | .37 |
| | Other | 14 | 2.29 | 1.38 | | | | |
| Factor 7: | | | | | | | | |
| Classroom | ETSU | 42 | 2.19 | 1.11 | 54 | .33 | < .01 | .75 |
| | Other | 14 | 2.07 | 1.38 | | | | |
| Hands-on | ETSU | 42 | 1.86 | 1.24 | 54 | .18 | < .01 | .86 |
| | Other | 14 | 1.79 | 1.42 | | | | |
| Factor 8: | | | | | | | | |
| Classroom | ETSU | 42 | 2.33 | 1.07 | 54 | .48 | < .01 | .63 |
| | Other | 14 | 2.50 | 1.29 | | | | |
| Hands-on | ETSU | 42 | 1.98 | 1.32 | 54 | 1.09 | .02 | .28 |
| | Other | 14 | 2.43 | 1.45 | | | | |
| Factor 9: | | | | | | | | |
| Classroom | ETSU | 42 | 2.24 | 1.14 | 54 | .89 | .02 | .38 |
| | Other | 14 | 2.57 | 1.40 | | | | |
| Hands-on | ETSU | 42 | 1.81 | 1.29 | 54 | 1.14 | .02 | .26 |
| | Other | 14 | 2.29 | 1.54 | | | | |
| Factor 10: | | | | | | | | |
| Classroom | ETSU | 42 | 2.10 | 1.27 | 54 | .24 | < .01 | .81 |
| | Other | 14 | 2.00 | 1.30 | | | | |
| Hands-on | ETSU | 42 | 1.86 | 1.35 | 54 | .34 | < .01 | .73 |
| | Other | 14 | 2.00 | 1.36 | | | | |

Table 4 (continued)

| Factor / Experience | Institution | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|-------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 11: | | | | | | | | |
| Classroom | ETSU | 42 | 1.95 | 1.03 | 54 | .14 | < .01 | .89 |
| | Other | 14 | 2.00 | 1.30 | | | | |
| Hands-on | ETSU | 42 | 1.67 | 1.16 | 54 | .88 | .01 | .38 |
| | Other | 14 | 2.00 | 1.41 | | | | |
| Factor 12: | | | | | | | | |
| Classroom | ETSU | 42 | 2.40 | .90 | 54 | .16 | < .01 | .88 |
| | Other | 14 | 2.36 | 1.01 | | | | |
| Hands-on | ETSU | 42 | 2.00 | 1.19 | 54 | .19 | < .01 | .85 |
| | Other | 14 | 2.07 | 1.21 | | | | |
| Factor 13: | | | | | | | | |
| Classroom | ETSU | 42 | 2.50 | 1.04 | 54 | .40 | < .01 | .69 |
| | Other | 14 | 2.64 | 1.45 | | | | |
| Hands-on | ETSU | 42 | 2.07 | 1.35 | 54 | .69 | .01 | .50 |
| | Other | 14 | 2.36 | 1.34 | | | | |

Research Question #5

Is there a difference between principals who belonged to a cohort during their degree programs versus those who did not in their perceptions of the quality of their degree programs in addressing critical success Factors?

Most of the respondents ($n = 38$) did not participate in a cohort program while completing their principal preparation program. Only 18 (32.1%) of the 56 respondents did participate in a cohort program. Independent samples *t* tests were conducted to evaluate whether there were differences between principals who participated in a cohort and those who did not in their perceptions of how well they were prepared for each critical success factor. The respondents' perceptions of how well they were prepared during their principal preparation program was the test variable, measured on a five point scale from 0 to 4, whereas the grouping variable was whether or not the respondent belonged to a cohort while completing the requirements of the principal preparation program.

Both critical success factors 1 and 8 showed significance. Both of these were related to their classroom experience in their principal preparation program. Critical success factor 1 addressed improving students' achievement based on best practices and curriculum that produces gains in student achievement. For critical success factor 1, classroom experience, the test results showed $t(54) = 2.48, p = .02$. The effect size, as measured by η^2 was .10, which indicated a moderate effect size. Respondents from noncohort groups ($M = 2.18, SD = 1.09$) had a lower mean than did respondents from cohort groups ($M = 2.89, SD = .76$).

Critical success factor 8 addressed the management of change processes. For critical success factor 8, classroom experience, the t test result was $t(54) = 2.18, p = .03$. The η^2 was .08, indicating a moderate effect size. The respondents from the noncohort groups ($M = 2.16, SD = 1.10$) had a lower mean for how well they were prepared than the group of respondents from the cohort group ($M = 2.83, SD = 1.04$).

It is important to note that although the t tests for critical success factor 1, hands-on experience, and critical success factor 13, classroom experience, were not significant, each had a moderate effect size (.06). In both cases, the mean for principals who participated in a cohort was higher than for those who did not. The η^2 indicated that 6% of the variance of the scores on the dependent variable is accounted for by whether or not they participated in a cohort. Table 5 indicates principals' perceptions of their principal preparation programs (classroom experience and hands-on experience) when comparing whether or not they belonged to a cohort of students by each critical success factor.

Table 5

Independent Samples t Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Cohort Regarding the Critical Success Factors

| | Cohort | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|--------------------|--------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 1 Classroom | Yes | 18 | 2.89 | .76 | 54 | 2.48 | .10 | .02**† |
| | No | 38 | 2.18 | 1.09 | | | | |
| Factor 1 Hands-on | Yes | 18 | 2.39 | 1.24 | 54 | 1.92 | .06 | .06 |
| | No | 38 | 1.68 | 1.30 | | | | |
| Factor 2 Classroom | Yes | 18 | 2.50 | 1.10 | 54 | .82 | .01 | .41 |
| | No | 38 | 2.24 | 1.13 | | | | |
| Factor 2 Hands-on | Yes | 18 | 2.00 | 1.50 | 54 | .27 | < .01 | .79 |
| | No | 38 | 1.89 | 1.27 | | | | |
| Factor 3 Classroom | Yes | 18 | 2.56 | .98 | 54 | .59 | .01 | .56 |
| | No | 38 | 2.37 | 1.17 | | | | |
| Factor 3 Hands-on | Yes | 18 | 2.22 | 1.22 | 54 | .76 | .01 | .45 |
| | No | 38 | 1.95 | 1.27 | | | | |
| Factor 4 Classroom | Yes | 18 | 2.83 | .92 | 54 | 1.02 | .02 | .31 |
| | No | 38 | 2.53 | 1.11 | | | | |
| Factor 4 Hands-on | Yes | 18 | 2.44 | 1.29 | 54 | 1.03 | .02 | .31 |
| | No | 38 | 2.05 | 1.35 | | | | |
| Factor 5 Classroom | Yes | 18 | 1.94 | 1.21 | 54 | .46 | < .01 | .65 |
| | No | 38 | 2.11 | 1.23 | | | | |
| Factor 5 Hands-on | Yes | 18 | 1.72 | 1.27 | 54 | .32 | < .01 | .75 |
| | No | 38 | 1.84 | 1.35 | | | | |
| Factor 6 Classroom | Yes | 18 | 2.50 | 1.10 | 54 | .66 | .01 | .51 |
| | No | 38 | 2.29 | 1.11 | | | | |
| Factor 6 Hands-on | Yes | 18 | 2.11 | 1.41 | 54 | .42 | < .01 | .68 |
| | No | 38 | 1.95 | 1.33 | | | | |
| Factor 7 Classroom | Yes | 18 | 2.39 | 1.20 | 54 | 1.00 | .02 | .32 |
| | No | 38 | 2.05 | 1.16 | | | | |
| Factor 7 Hands-on | Yes | 18 | 1.83 | 1.29 | 54 | .02 | < .01 | .98 |
| | No | 38 | 1.84 | 1.28 | | | | |
| Factor 8 Classroom | Yes | 18 | 2.83 | 1.04 | 54 | 2.18 | .08 | .03**† |
| | No | 38 | 2.16 | 1.10 | | | | |
| Factor 8 Hands-on | Yes | 18 | 2.22 | 1.56 | 54 | .50 | .01 | .62 |
| | No | 38 | 2.03 | 1.26 | | | | |

Table 5 (continued)

| | Cohort | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|--------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 9 Classroom | Yes | 18 | 2.72 | 1.23 | 54 | 1.74 | .05 | .09 |
| | No | 38 | 2.13 | 1.17 | | | | |
| Factor 9 Hands-on | Yes | 18 | 2.22 | 1.56 | 54 | 1.12 | .02 | .27 |
| | No | 38 | 1.79 | 1.26 | | | | |
| Factor 10 Classroom | Yes | 18 | 2.17 | 1.29 | 54 | .39 | < .01 | .70 |
| | No | 38 | 2.03 | 1.26 | | | | |
| Factor 10 Hands-on | Yes | 18 | 2.00 | 1.41 | 54 | .41 | < .01 | .69 |
| | No | 38 | 1.84 | 1.33 | | | | |
| Factor 11 Classroom | Yes | 18 | 2.11 | 1.18 | 54 | .69 | .01 | .50 |
| | No | 38 | 1.89 | 1.06 | | | | |
| Factor 11 Hands-on | Yes | 18 | 1.89 | 1.37 | 54 | .58 | .01 | .56 |
| | No | 38 | 1.68 | 1.16 | | | | |
| Factor 12 Classroom | Yes | 18 | 2.61 | .78 | 54 | 1.17 | .03 | .25 |
| | No | 38 | 2.29 | 1.04 | | | | |
| Factor 12 Hands-on | Yes | 18 | 2.00 | 1.33 | 54 | .08 | < .01 | .94 |
| | No | 38 | 2.03 | 1.13 | | | | |
| Factor 13 Classroom | Yes | 18 | 2.94 | 1.21 | 54 | 1.88 | .06 | .07 |
| | No | 38 | 2.34 | 1.07 | | | | |
| Factor 13 Hands-on | Yes | 18 | 2.44 | 1.58 | 27 | 1.06* | .02 | .30 |
| | No | 38 | 2.00 | 1.21 | | | | |

* *t* test does not assume equal variances

** significant at the .05 level

Research Question #6

Is there a difference between principals who earned a master's degree versus with a higher degree in their perceptions of the quality of their degree programs in addressing the critical success factors?

Most of the respondents ($n = 34$) received a master's degree while completing their principal preparation program. Of the 55 respondents, 21 (38.1%) received a degree other than a master's degree, such as a specialist or doctoral degree. Independent samples *t* tests were

conducted to evaluate whether there were differences between principals who received a master's degree versus those who received a specialist's or doctoral degree in their perceptions of how well they were prepared for each critical success factor. The respondents' perceptions of how well they were prepared during their principal preparation program were the test variables, measured on a five-point scale from 0 to 4 and the grouping variable was whether the respondent received a master's degree or a higher degree while completing his or her principal preparation program.

Regarding principals' hands-on experience in their principal preparation programs, critical success factors 5, 9, and 13 showed significance differences between principals with a master's degree and those with a higher degree. For their classroom experience, there were significant differences between principals with a master's and principals with a higher degree on critical success factors 8 and 13.

Critical success factor 5 addressed the use of data to develop or refine instructional activities. For critical success factor 5, hands-on experience, the t test was significant, $t(53) = 2.08, p = .04$. The effect size, as measured by η^2 was .08, which indicated a moderate effect size. Respondents from the master's degree group ($M = 1.50, SD = 1.24$) had a lower mean than did respondents from the specialist's and doctoral degree group ($M = 2.24, SD = 1.34$).

Critical success factor 9 addressed leading faculty by providing meaningful professional development that positively impacts student achievement. For critical success factor 9, hands-on experience, the t test was significant, $t(53) = 2.20, p = .03$. The effect size, as measured by η^2 was .08, which indicated a moderate effect size. Respondents from the master's degree group ($M = 1.59, SD = 1.18$) had a lower mean than did respondents from the specialist's and doctoral degree group ($M = 2.38, SD = 1.47$).

Critical success factor 13 addressed leading the faculty by keeping them abreast of new research and proven practices and by working with faculty to implement research based instructional practices. For critical success factor 13, hands-on experience, the t test was

significant, $t(53) = 2.82, p = .01$. The effect size, as measured by η^2 was .13, which indicated a moderate effect size. Respondents from the master's degree group ($M = 1.74, SD = 1.31$) had a lower mean than did respondents from the specialist's and doctoral degree group ($M = 2.71, SD = 1.15$).

Critical success factor 8 addressed leading the faculty by managing the change process effectively. For critical success factor 8, classroom experience, the t test was significant, $t(53) = 1.99, p = .05$. The effect size, as measured by η^2 was .07, which indicated a moderate effect size. Respondents from the master's degree group ($M = 2.12, SD = 1.04$) had a lower mean than did respondents from the specialist's and doctoral degree group ($M = 2.71, SD = 1.15$).

Critical success factor 13 addressed leading the faculty by keeping abreast of new research and proven practices and by working with faculty to implement research based instructional practices. For critical success factor 13, classroom experience, the t test was significant, $t(53) = 2.66, p = .01$. The effect size, as measured by η^2 was .12, which indicated a moderate effect size. Respondents from the master's degree group ($M = 2.21, SD = 1.04$) had a lower mean than respondents did from the specialist's and doctoral degree group ($M = 3.00, SD = 1.14$).

It is important to note that although the t tests for critical success factors 6 (hands-on experience), and 9 (classroom experience) were not significant, each had a moderate effect size (.06). Critical success factor 6 addressed communicating school progress and achievement to keep everyone informed. Critical success factor 9 focused on leading faculty by providing meaningful professional development that positively impacts students' achievement. For both of these factors, 6% of the variance of the scores on the dependent variable was accounted for by whether the respondent received a master's degree or a higher degree. Table 6 shows principals' perceptions of their principal preparation programs (classroom experience and hands-on experience) when comparing what degree they earned by each critical success factor.

Table 6

Independent Samples t Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Degree Earned Regarding the Critical Success Factors

| | Degree Earned | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------------|----------|----------|-----------|-----------|----------|----------|----------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-------|-------|---------------------|----|------|------|--------------------|---------|----|------|------|----|------|-----|
| Factor 1 Classroom | Masters | 34 | 2.26 | 1.05 | 53 | 1.08 | .02 | .29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.57 | .98 | | | | | Factor 1 Hands-on | Masters | 34 | 1.88 | 1.37 | 53 | .19 | < .01 | .85 | Higher than Masters | 21 | 1.95 | 1.28 | Factor 2 Classroom | Masters | 34 | 2.24 | .99 | 34 | .72* | .01 | .48 | Higher than Masters | 21 | 2.48 | 1.33 | Factor 2 Hands-on | Masters | 34 | 1.91 | 1.33 | 53 | .11 | < .01 | .92 | Higher than Masters | 21 | 1.95 | 1.40 | Factor 3 Classroom | Masters | 34 | 2.26 | 1.11 | 53 | 1.17 | .03 | .25 | Higher than Masters | 21 | 2.62 | 1.07 | Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | Higher than Masters | 21 | 2.38 | 1.16 | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 |
| Factor 1 Hands-on | Masters | 34 | 1.88 | 1.37 | 53 | .19 | < .01 | .85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 1.95 | 1.28 | | | | | Factor 2 Classroom | Masters | 34 | 2.24 | .99 | 34 | .72* | .01 | .48 | Higher than Masters | 21 | 2.48 | 1.33 | Factor 2 Hands-on | Masters | 34 | 1.91 | 1.33 | 53 | .11 | < .01 | .92 | Higher than Masters | 21 | 1.95 | 1.40 | Factor 3 Classroom | Masters | 34 | 2.26 | 1.11 | 53 | 1.17 | .03 | .25 | Higher than Masters | 21 | 2.62 | 1.07 | Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | Higher than Masters | 21 | 2.38 | 1.16 | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | |
| Factor 2 Classroom | Masters | 34 | 2.24 | .99 | 34 | .72* | .01 | .48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.48 | 1.33 | | | | | Factor 2 Hands-on | Masters | 34 | 1.91 | 1.33 | 53 | .11 | < .01 | .92 | Higher than Masters | 21 | 1.95 | 1.40 | Factor 3 Classroom | Masters | 34 | 2.26 | 1.11 | 53 | 1.17 | .03 | .25 | Higher than Masters | 21 | 2.62 | 1.07 | Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | Higher than Masters | 21 | 2.38 | 1.16 | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | |
| Factor 2 Hands-on | Masters | 34 | 1.91 | 1.33 | 53 | .11 | < .01 | .92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 1.95 | 1.40 | | | | | Factor 3 Classroom | Masters | 34 | 2.26 | 1.11 | 53 | 1.17 | .03 | .25 | Higher than Masters | 21 | 2.62 | 1.07 | Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | Higher than Masters | 21 | 2.38 | 1.16 | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 3 Classroom | Masters | 34 | 2.26 | 1.11 | 53 | 1.17 | .03 | .25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.62 | 1.07 | | | | | Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | Higher than Masters | 21 | 2.38 | 1.16 | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 3 Hands-on | Masters | 34 | 1.82 | 1.29 | 53 | 1.62 | .05 | .11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.38 | 1.16 | | | | | Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | Higher than Masters | 21 | 2.67 | 1.06 | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 4 Classroom | Masters | 34 | 2.56 | 1.05 | 53 | .37 | < .01 | .71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.67 | 1.06 | | | | | Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | Higher than Masters | 21 | 2.48 | 1.29 | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 4 Hands-on | Masters | 34 | 1.94 | 1.32 | 53 | 1.47 | .04 | .15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.48 | 1.29 | | | | | Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | Higher than Masters | 21 | 2.29 | 1.23 | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 5 Classroom | Masters | 34 | 1.85 | 1.16 | 53 | 1.32 | .03 | .19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.29 | 1.23 | | | | | Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | Higher than Masters | 21 | 2.24 | 1.34 | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 5 Hands-on | Masters | 34 | 1.50 | 1.24 | 53 | 2.08 | .08 | .04** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.24 | 1.34 | | | | | Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | Higher than Masters | 21 | 2.67 | 1.02 | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 6 Classroom | Masters | 34 | 2.15 | 1.13 | 53 | 1.72 | .05 | .09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.67 | 1.02 | | | | | Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | Higher than Masters | 21 | 2.38 | 1.28 | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 6 Hands-on | Masters | 34 | 1.74 | 1.36 | 53 | 1.75 | .06 | .09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.38 | 1.28 | | | | | Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | Higher than Masters | 21 | 2.14 | 1.31 | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 7 Classroom | Masters | 34 | 2.15 | 1.10 | 53 | .01 | < .01 | .99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.14 | 1.31 | | | | | Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | Higher than Masters | 21 | 1.90 | 1.37 | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 7 Hands-on | Masters | 34 | 1.76 | 1.23 | 53 | .39 | < .01 | .70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 1.90 | 1.37 | | | | | Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factor 8 Classroom | Masters | 34 | 2.12 | 1.04 | 53 | 1.99 | .07 | .05** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Higher than Masters | 21 | 2.71 | 1.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table 6 (continued)

| | Degree Earned | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|---------------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 8 Hands-on | Masters | 34 | 1.82 | 1.27 | 53 | 1.65 | .05 | .10 |
| | Higher than Masters | 21 | 2.43 | 1.40 | | | | |
| Factor 9 Classroom | Masters | 34 | 2.06 | 1.07 | 53 | 1.87 | .06 | .07 |
| | Higher than Masters | 21 | 2.67 | 1.32 | | | | |
| Factor 9 Hands-on | Masters | 34 | 1.59 | 1.18 | 53 | 2.20 | .08 | .03** |
| | Higher than Masters | 21 | 2.38 | 1.47 | | | | |
| Factor 10 Classroom | Masters | 34 | 1.94 | 1.15 | 53 | 1.28 | .03 | .21 |
| | Higher than Masters | 21 | 2.38 | 1.36 | | | | |
| Factor 10 Hands-on | Masters | 34 | 1.65 | 1.30 | 53 | 1.73 | .05 | .09 |
| | Higher than Masters | 21 | 2.29 | 1.38 | | | | |
| Factor 11 Classroom | Masters | 34 | 1.88 | 1.12 | 53 | 1.04 | .02 | .31 |
| | Higher than Masters | 21 | 2.19 | .98 | | | | |
| Factor 11 Hands-on | Masters | 34 | 1.59 | 1.23 | 53 | 1.53 | .04 | .13 |
| | Higher than Masters | 21 | 2.10 | 1.14 | | | | |
| Factor 12 Classroom | Masters | 34 | 2.26 | .99 | 53 | 1.14 | .02 | .26 |
| | Higher than Masters | 21 | 2.57 | .93 | | | | |
| Factor 12 Hands-on | Masters | 34 | 1.79 | 1.23 | 53 | 1.66 | .05 | .10 |
| | Higher than Masters | 21 | 2.33 | 1.06 | | | | |
| Factor 13 Classroom | Masters | 34 | 2.21 | 1.04 | 53 | 2.66 | .12 | .01*** |
| | Higher than Masters | 21 | 3.00 | 1.14 | | | | |
| Factor 13 Hands-on | Masters | 34 | 1.74 | 1.31 | 53 | 2.82 | .13 | .01*** |
| | Higher than Masters | 21 | 2.71 | 1.15 | | | | |

* t test does not assume equal variances

** significant at the .05 level

*** significant at the .01 level

Research Question #7

Is there a difference between principals who earned their degrees 10 or fewer years ago versus more than 10 years ago in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

Most of the respondents ($n = 36$) received their degree from their principal preparation program 11 or more years ago. Only 18 (33.3%) of the 54 respondents received a degree 10 years ago or fewer. Independent samples t tests were conducted to evaluate whether there were differences between principals who received a degree from a principal preparation program 11 or more years ago versus those who received a degree 10 or fewer years ago in their perceptions of how well they were prepared for each critical success factor.

As shown in Table 7, none of the t tests showed a statistically significant difference in the means of principals who received their degree 11 or more years ago and those who received their degree 10 or fewer years ago. The effect size, as measured by η^2 , was small for each of the 26 comparisons. In other words, there was very little difference between those principals who earned degrees 11 or more years ago and those who earned their degrees 10 or fewer years ago in their perceptions of how well their degree programs prepared them for their leadership role as a principal.

Table 7
Independent Samples t Test Mean Comparisons of Principals' Perceptions of Their Classroom and Hands-on Experience by Year Graduated Regarding the Critical Success Factors

| | Year Graduated | N | M | SD | df | t | η^2 | p |
|--------------------|----------------|-----|------|------|------|-----|----------|-----|
| Factor 1 Classroom | 10 or fewer | 18 | 2.44 | .92 | 52 | .37 | < .01 | .71 |
| | 11 or more | 36 | 2.33 | 1.10 | | | | |
| Factor 1 Hands-on | 10 or fewer | 18 | 2.11 | 1.13 | 52 | .72 | .01 | .48 |
| | 11 or more | 36 | 1.83 | 1.42 | | | | |
| Factor 2 Classroom | 10 or fewer | 18 | 2.39 | 1.14 | 52 | .34 | < .01 | .74 |
| | 11 or more | 36 | 2.28 | 1.14 | | | | |
| Factor 2 Hands-on | 10 or fewer | 18 | 1.83 | 1.34 | 52 | .42 | < .01 | .67 |
| | 11 or more | 36 | 2.00 | 1.37 | | | | |

Table 7 (continued)

| | Year Graduated | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|----------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 3 Classroom | 10 or fewer | 18 | 2.33 | .91 | 52 | .26 | < .01 | .80 |
| | 11 or more | 36 | 2.42 | 1.20 | | | | |
| Factor 3 Hands-on | 10 or fewer | 18 | 2.17 | 1.04 | 52 | .45 | < .01 | .65 |
| | 11 or more | 36 | 2.00 | 1.37 | | | | |
| Factor 4 Classroom | 10 or fewer | 18 | 2.61 | .92 | 52 | .09 | < .01 | .93 |
| | 11 or more | 36 | 2.58 | 1.13 | | | | |
| Factor 4 Hands-on | 10 or fewer | 18 | 2.33 | 1.14 | 52 | .65 | .01 | .52 |
| | 11 or more | 36 | 2.08 | 1.42 | | | | |
| Factor 5 Classroom | 10 or fewer | 18 | 1.78 | 1.06 | 52 | .96 | .02 | .34 |
| | 11 or more | 36 | 2.11 | 1.26 | | | | |
| Factor 5 Hands-on | 10 or fewer | 18 | 1.89 | 1.18 | 52 | .36 | < .01 | .72 |
| | 11 or more | 36 | 1.75 | 1.40 | | | | |
| Factor 6 Classroom | 10 or fewer | 18 | 2.44 | 1.04 | 52 | .51 | .01 | .61 |
| | 11 or more | 36 | 2.28 | 1.16 | | | | |
| Factor 6 Hands-on | 10 or fewer | 18 | 2.22 | 1.31 | 52 | .85 | .01 | .40 |
| | 11 or more | 36 | 1.89 | 1.39 | | | | |
| Factor 7 Classroom | 10 or fewer | 18 | 2.11 | 1.28 | 52 | .16 | < .01 | .87 |
| | 11 or more | 36 | 2.17 | 1.16 | | | | |
| Factor 7 Hands-on | 10 or fewer | 18 | 1.89 | 1.28 | 52 | .22 | < .01 | .83 |
| | 11 or more | 36 | 1.81 | 1.31 | | | | |
| Factor 8 Classroom | 10 or fewer | 18 | 2.44 | 1.04 | 52 | .43 | < .01 | .67 |
| | 11 or more | 36 | 2.31 | 1.17 | | | | |
| Factor 8 Hands-on | 10 or fewer | 18 | 2.06 | 1.30 | 52 | .07 | < .01 | .94 |
| | 11 or more | 36 | 2.08 | 1.38 | | | | |
| Factor 9 Classroom | 10 or fewer | 18 | 2.44 | 1.25 | 52 | .72 | .01 | .48 |
| | 11 or more | 36 | 2.19 | 1.19 | | | | |
| Factor 9 Hands-on | 10 or fewer | 18 | 2.06 | 1.35 | 52 | .57 | .01 | .57 |
| | 11 or more | 36 | 1.83 | 1.36 | | | | |
| Factor 10 Classroom | 10 or fewer | 18 | 2.06 | 1.16 | 52 | .08 | < .01 | .94 |
| | 11 or more | 36 | 2.08 | 1.27 | | | | |
| Factor 10 Hands-on | 10 or fewer | 18 | 1.94 | 1.26 | 52 | .14 | < .01 | .89 |
| | 11 or more | 36 | 1.89 | 1.43 | | | | |
| Factor 11 Classroom | 10 or fewer | 18 | 2.06 | 1.06 | 52 | .36 | < .01 | .72 |
| | 11 or more | 36 | 1.94 | 1.09 | | | | |

Table 7 (continued)

| | Year Graduated | <i>N</i> | <i>M</i> | <i>SD</i> | <i>df</i> | <i>t</i> | η^2 | <i>p</i> |
|---------------------|----------------|----------|----------|-----------|-----------|----------|----------|----------|
| Factor 11 Hands-on | 10 or fewer | 18 | 1.89 | 1.23 | 52 | .39 | < .01 | .70 |
| | 11 or more | 36 | 1.75 | 1.23 | | | | |
| Factor 12 Classroom | 10 or fewer | 18 | 2.44 | .78 | 52 | .50 | .01 | .62 |
| | 11 or more | 36 | 2.31 | 1.04 | | | | |
| Factor 12 Hands-on | 10 or fewer | 18 | 2.06 | 1.21 | 52 | .16 | < .01 | .87 |
| | 11 or more | 36 | 2.00 | 1.20 | | | | |
| Factor 13 Classroom | 10 or fewer | 18 | 2.61 | 1.20 | 52 | .59 | .01 | .56 |
| | 11 or more | 36 | 2.42 | 1.11 | | | | |
| Factor 13 Hands-on | 10 or fewer | 18 | 2.22 | 1.31 | 52 | .36 | < .01 | .72 |
| | 11 or more | 36 | 2.08 | 1.36 | | | | |

Anecdotal Question Responses

I received 78 anecdotal responses. Of these responses, 22 were related to the notion that having more hands-on experiences in their principal preparation program would have made a significant difference in their ability to be a successful principal. Included in these responses were comments about the need for more on-site, hands-on experience in budget and financial matters, desegregation of data, and handling disputes. However, the overall impression from these 22 comments was that the respondents believed having more time to shadow effective principals and observing school leaders handling real world problems would have proven significant in their preparation to be successful principals.

In addition, 46 responses were related to the desire for more training (although the respondents did not indicate whether this needed to be hands-on or classroom experiences) in many different areas including budget development, special education, providing quality professional development, analyzing data, conflict resolution, evaluation training, parental involvement techniques, scheduling, curriculum analysis, supervising marginal teachers, dealing

with disruptive students, staying abreast of best practices, and how to delegate authority and use time wisely.

Ten comments were specifically related to the need for a mentoring program. These responses indicated that there was no opportunity to participate in a mentoring program and that it would have made a significant difference in their ability to be a successful principal. One respondent took this belief a step further by stating that the state board and/or each local education agency should establish a mentoring program.

Summary

Research Question #1: Is there a difference in principals' perceptions of their informal mentoring experiences between principals who participated in a formal mentoring program and those who did not?

In a comparison of the informal mentoring experience of principals, the findings showed that on 12 of the 13 critical success factors principals who participated in a formal mentoring program evaluated their informal mentoring experience higher than did principals who did not participate in a formal mentoring program. Furthermore, principals with formal mentoring experience reported their informal mentoring experience was satisfactory on 7 of the 13 critical success factors, whereas principals without formal mentoring experience evaluated their informal mentoring experience as less than satisfactory on all 13 critical success factors.

Research Question #2: Among principals who participated in a formal mentoring program, what are their perceptions of their formal and informal mentoring experiences as they relate to the 13 critical success factors?

The six principals who participated in a formal mentoring program rated formal mentoring higher than informal mentoring on all 13 critical success factors. However, while principals who participated in a formal mentoring program evaluated their formal mentoring as at least

satisfactory for 12 of the 13 critical success factors, they rated their informal mentoring experiences as less than satisfactory on 6 of the 13 critical success factors.

Research Question #3: Overall, what are principals' perceptions of their classroom and hands-on experiences in their principal preparation program as it relates to the 13 critical success factors?

The findings showed that for every critical success factor, principals evaluated their classroom experience higher than their hands-on experience. That is, they perceived that their classroom experience was more helpful than their hands-on experience in preparing them to be successful in each critical success factor. Furthermore, it is significant to note that with the exception of only 2 of the 26 means, the mean for each factor, whether hands on or classroom experience, did not rise above 2.5 (the mid-point score between satisfactory and above average).

Research Question #4: Is there a difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

The findings showed that none of the 26 comparisons was statistically significant. However, for hands-on experience related to critical success factor 5 (use of data to develop or refine instructional activities), the mean for graduates of other universities ($M = 2.36$) exceeded a score of 2 for satisfactory, whereas the mean for graduates of ETSU ($M = 1.62$) was less than satisfactory.

Research Question #5: Is there a difference between principals who belonged to a cohort during their degree programs versus those who did not in their perceptions of the quality of their degree programs in addressing critical success factors?

There was a significant difference between principals who participated in a cohort and those who did not participate on critical success factor 1 that which addresses improving student achievement based on best practices and curriculum that produces gains in students' achievement. Principals who did not participate in a cohort had a lower mean than principals

who did participate in a cohort. There was also a significant difference between principals who participated in a cohort and those who did not on critical success factor 8, classroom experience that addressed the management of change processes. Again, principals in the noncohort group had a lower mean than did those principals in the cohort group.

Research Question #6: Is there a difference between principals who earned a master's degree versus those with a higher degree in their perceptions of the quality of their degree programs in addressing the critical success factors?

Critical success factors 5, 9, and 13 showed significance differences for hands-on experience between principals with a master's degree and those with a higher degree. For all three factors, the mean for the master's degree group was lower than the mean for the higher-degree group. Critical success factors 8 and 13 showed significance differences for classroom experience between principals with a master's degree and those with a higher degree. Again, those with a master's degree had a lower mean than the higher-degree group.

Research Question #7: Is there a difference between principals who earned their degrees 10 or fewer years ago versus more than 10 years ago in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

None of the *t* tests showed statistical significance for those who received their degree 11 or more years ago and those who received their degree 10 or fewer years ago. The effect size for each comparison was quite small.

The anecdotal responses indicated a desire from the participants for the opportunity to participate in a formal mentoring program. They also indicated a wide variety of topics in which they could have used more extensive training. A significant number of the responses centered around a need for more hands-on opportunities and more time observing effective educational leaders solve real world problems in the educational setting.

CHAPTER 5
SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

The purpose of this study was to determine principals' perceptions of how effective mentoring programs and university-based principal preparation programs are in developing the skills necessary to carry out the 13 critical success factors identified by the SREB. By examining the data, a determination could be made as to whether or not principals perceive that they were adequately trained through their principal preparation programs and if any mentoring they received was successful in developing the skills necessary to carry out the 13 critical success factors identified by the SREB. The researcher, using the SREB's 13 critical success factors, developed the survey instrument that was used in the study. It consisted of four questions on each of the 13 critical success factors concerning the respondents' classroom and hands-on experience during their principal preparation programs and their experience with formal and informal mentoring. The participants consisted of the principals in 16 public school systems in the Northeast Tennessee region. The overall response rate for principals responding to the online survey was 56 responses out of 170 potential respondents (32.9%).

The 13 SREB factors are organized under three competencies that are the basis behind its work in leadership redesign. These factors and competencies are:

- I. Competency: Effective principals have a comprehensive understanding of school and classroom practices that contribute to student achievement.
 - a. Critical Factor #1. Focusing on student achievement: creating a focused mission to improve student achievement and a vision of the elements of school, curriculum, and instructional practices that make higher achievement possible.

- b. Critical Factor #2. Developing a culture of high expectations: setting high expectations for all students to learn higher-level content.
 - c. Critical Factor #3. Designing a standards-based instructional system: recognizing and encouraging good instructional practices that motivate students and increase their achievement.
- II. Competency: Effective principals have the ability to work with teachers and others to design and implement continuous student improvement.
- a. Critical Factor #4. Creating a caring environment: developing a school organization where faculty and staff understand that every student counts and where every student has the support of a caring adult.
 - b. Critical Factor #5. Implementing data-based improvements: using data to initiate and continue improvement in school and classroom practices and in student achievement.
 - c. Critical Factor #6. Communicating: keeping everyone informed and focused on student achievement.
 - d. Critical Factor #7. Involving parents: making parents partners in students' education and creating a structure for parent and educator collaboration.
- III. Competency: Effective principals have the ability to provide the necessary support for staff to carry out sound school, curriculum, and instructional practices.
- a. Critical Factor #8. Initiating and managing change: understanding the change process and using leadership and facilitation skills to manage it effectively.
 - b. Critical Factor #9. Providing professional development: understanding how adults learn and advancing meaningful change through quality sustained professional development that leads to increased student achievement.
 - c. Critical Factor #10. Innovating: using and organizing time and resources in innovative ways to meet the goals and objectives of school improvement.

- d. Critical Factor #11. Maximizing resources: acquiring and using resources wisely.
- e. Critical Factor #12. Building external support: obtaining support from the central office and from community and parent leaders for the school improvement agenda.
- f. Critical Factor #13. Staying abreast of effective practices: continuously learning from and seeking out colleagues who keep them abreast of new research and proven practices (p. 30).

Summary of the Findings

Seven research questions were addressed. The following section addresses the findings obtained from the data analysis that was related to the research questions.

Research Question #1

Is there a difference in principals' perceptions of their informal mentoring experiences between principals who participated in a formal mentoring program and those who did not?

Descriptive statistics were used to analyze this research question.

Novice principals inevitably will seek out someone to answer their questions about how to go about the business of being an effective principal. This can occur formally in an organized way and almost always occurs informally. The data suggest that all respondents, including the few respondents who participated in a formal mentoring program ($N = 6$), informally sought out some form of mentoring. Those who participated in a formal mentoring program ranked the value of informal mentoring on 12 of the 13 critical success factors as more valuable than did those who did not participate in a formal mentoring program. Although principals with formal mentoring experience reported their informal mentoring experience was satisfactory on 7 of the 13 critical success factors, principals without formal mentoring experience reported their informal mentoring experience was less than satisfactory on all 13 critical success factors. In

other words, the respondents who participated in a formal mentoring program had a more positive experience with informal mentoring than those who did not receive formal mentoring. These findings could indicate that respondents who participated in a formal mentoring program found informal mentoring more valuable in terms of being prepared to successfully implement the SREB's 13 critical success factors than those who did not participate in a formal mentoring program. More broadly, the data also seem to indicate that neither formal nor informal mentoring was particularly effective in preparing the respondents for success in implementing these factors. The highest mean for informal mentoring of those participating in a formal mentoring program never rose above the satisfactory level ($M = 2.17$ being the highest score) and those who only had an informal mentoring experience never came close to perceiving that experience as satisfactory ($M = 1.40$ being the highest score).

The literature strongly indicated that participation in a well established and well-planned formal mentoring program could allow principals to be more effective and, in turn, have a more positive impact on students' achievement (Browne-Ferrigno & Muth, 2004). Furthermore, the literature indicated that participating in such a program could result in participants becoming more confident and competent, learning to blend theory and real-life situations, learning effective strategies from the mentor, and reducing the feeling of isolation (Daresh, 1995; Daresh & Playko, 1989; Dussault, 1995). The findings from this study, interestingly, indicate that principals who participated in a formal mentoring program, at best, rated their experience as only satisfactory with most of their ratings on each factor as being below average. In addition, those who participated in a formal mentoring program reported a higher mean for any informal mentoring received than did those who did not participate in a formal mentoring program, suggesting that the formal mentoring enhanced any informal mentoring that was received.

Research Question #2

Among principals who participated in a formal mentoring program, what are their perceptions of their formal and informal mentoring experiences as they relate to the 13 critical success factors? Descriptive statistics were used to answer this research question.

Principals who had participated in a formal mentoring program rated formal mentoring higher than informal mentoring on all 13 critical success factors. In other words, they perceived that formal mentoring was more satisfactory than informal mentoring in preparing them to be successful in each critical success factor. However, while principals who participated in a formal mentoring program evaluated their formal mentoring as at least satisfactory for 12 of the 13 critical success factors, they rated their informal mentoring experiences as less than satisfactory on 6 of the 13 critical success factors. In several instances, the mean for formal mentoring was approximately a full point higher than the mean for informal mentoring. The findings for this research question iterate the findings for the previous research question. Formal mentoring is perceived to be more effective than informal mentoring in relation to the SREB's critical success factors and neither is seen as particularly effective. The data seem to point to the idea that formal mentoring programs are either not effectively implementing the SREB's factors or simply have not used the factors when implementing their mentoring program. More importantly, the data indicate that because only 6 of the 56 respondents participated in a formal mentoring program, few school systems are offering mentoring to their novice principals as a way to be more effective in their positions as school leaders.

These data seem to support what the literature indicated in reference to mentoring being valuable to novice principals. Taking this a step further, these data indicate that formal mentoring is preferable over having no organized mentoring program. Novice principals found that their formal mentoring experience was at least somewhat effective in assisting them to be effective leaders and that formal mentoring was more effective than informal mentoring. This finding supports what was evident in the literature review (Browne-Ferrigno & Muth, 2004;

Daresh & Playko, 1989). Mentoring should be well thought out and thoughtfully designed (Long, 1997). In order to be effective, mentoring should not be left to happenstance. In other words, organized, formal mentoring is more effective than informal mentoring.

Research Question #3

Overall, what are principals' perceptions of their classroom and hands-on experiences in their principal preparation program as it relates to the 13 critical success factors? Descriptive statistics were used to answer this research question.

The results indicated that in every critical success factor, respondents evaluated their classroom experience higher than their hands-on experience. They perceived that their classroom experience was more helpful than their hands-on experience in preparing them to be successful leaders in each critical success factor. Furthermore, it is significant to note that with the exception of only 2 of the 26 means, the mean for each factor, whether hands on or classroom experience did not rise above 2.5 (the mid-point score between satisfactory and above average). These data seem to indicate that principal preparation programs are either not effectively implementing the SREB's factors or have not used the factors when implementing their classroom and hands-on experiences.

This finding seems to corroborate the conclusions that the SREB has found in its research. Most universities have not significantly changed their programs to include the factors discussed by the SREB in either their classroom or their hands-on experience. Conversely, the findings also seem to be contrary to the high regard the literature gives to hands-on experiences (Fry et al., 2005; Lauder, 2000). It was surprising to find that the respondents found their classroom experiences more effective than their hands-on experience. Furthermore, the finding that hands-on experience had a lower mean on every factor than classroom experience indicates that universities are not following criteria for having an effective internship by the SREB. These criteria include the collaboration between the university and school districts, assignments

designed to apply the knowledge learned in the classroom, practices that allow students to progress from observers to leaders, timely supervision, having students work with diverse populations, expectations that are clearly spelled out for all involved, directing effective principals to guide interns, and providing rigorous evaluations of the interns' performance.

Research Question #4

Is there a difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their degree programs in addressing the 13 critical success factors?

None of the 26 comparisons was statistically significant. However, for hands-on experience related to critical success factor 5 (use of data to develop or refine instructional activities), the η^2 indicated that 6% of the variance of the scores on the dependent variable was accounted for by the degree-granting institution.

To answer this research question, 26 null hypotheses were developed related to classroom experience and hands-on-experience in the principals' preparation programs. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors. Each null hypothesis was tested with a t test for independent samples.

Ho4₁: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their classroom experience in their principal preparation program.

The null hypothesis was retained. There was no significant difference in the mean of both groups of principals, those who attended ETSU and those who did not, in their perceptions of how effective the classroom experience component of their principal preparation programs was in preparing them to be effective in implementing the SREB's 13 critical success factors.

Ho4₂: There is no difference between principals who earned degrees from ETSU versus other institutions in their perceptions of the quality of their hands-on experience in their principal preparation program.

The null hypothesis was retained. There was no significant difference in the mean of both groups of principals, those who attended ETSU and those who did not, in their perceptions of how effective the hands-on experience component of their principal preparation programs was in preparing them to be effective in implementing the SREB's 13 critical success factors.

This finding supports the SREB's conclusions that universities have yet to make the necessary changes in their principal preparation programs and that many universities have not seriously considered changes in their programs that would consistently yield qualified, effective school leaders (Fry et al., 2005).

Research Question #5

Is there a difference between principals who belonged to a cohort during their degree programs versus those who did not in their perceptions of the quality of their degree programs in addressing critical success factors?

Most of the respondents ($n = 38$) did not belong to a cohort program while completing their principal preparation program, raising the question: When did cohorts become common in principal preparation programs? Both critical success factors for classroom experience 1 and 8 showed significance. Critical success factor 1 addresses improving student achievement based on best practices and curriculum that produces gains in student achievement. Respondents from noncohort groups ($M = 2.18$, $SD = 1.09$) had a lower mean than did respondents from cohort groups ($M = 2.89$, $SD = .76$).

Critical success factor 8 addresses the management of change processes. The respondents from the noncohort groups ($M = 2.16$, $SD = 1.10$) had a lower mean for how well they were prepared than did the group of respondents from the cohort group ($M = 2.83$, $SD =$

1.04). With both critical success factors, the cohort group had a higher mean than did the noncohort group by almost $\frac{3}{4}$ of a point, indicating that they perceived their training close to above average whereas the noncohort group saw their training as closer to satisfactory for those two factors.

Although the t tests for critical success factor 1 hands-on experience and critical success factor 13 classroom experience were not significant, each had a moderate effect size (.06). In both cases, the mean for principals who participated in a cohort was higher than for those who did not. The η^2 indicated that 6% of the variance of the scores on the dependent variable is accounted for by whether or not they participated in a cohort.

Twenty-six null hypotheses were developed related to classroom experience and hands-on experience in their principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors. Each of the 26 null hypotheses was tested with a t test for independent samples.

Ho5₁: There is no difference between principals who belonged to a cohort during their principal preparation program versus those who did not in their perceptions of the quality of their classroom experience.

The null hypothesis was rejected. There was a difference between the principals who belonged to a cohort and those who did not belong to a cohort during their principal preparation programs for factors 1 and 8, classroom experience.

Ho5₂: There is no difference between principals who belong to a cohort during their principal preparation program and those who did not in their perceptions of the quality of their hands-on experience.

The null hypothesis was retained. There was no difference between the principals who belonged to a cohort during their principal preparation program and those who did not belong to a cohort in their perceptions of the quality of their hands-on experience for any of the critical success factors.

Research Question #6

Is there a difference between principals who earned a master's degree versus those with a higher degree in their perceptions of the quality of their degree programs in addressing the critical success factors?

Critical success factors 5, 9, and 13 showed significant differences for hands-on experience between principals with a master's degree and those with a higher degree; critical success factors 8 and 13 showed significance differences for classroom experience between principals with a master's degree and those with a higher degree. For each factor, those with a master's degree had a lower mean than the higher-degree group. These data raise the question of why those with master's degrees had significant differences from those with a higher degree in certain areas.

Twenty-six null hypotheses were developed related to classroom experience and hands-on experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors. Each null hypothesis was tested with a *t* test for independent samples.

Ho6₁: There is no difference between principals with a master's degree versus those with a higher degree in their perceptions of the quality of their classroom experience in their principal preparation program.

The null hypothesis was rejected. There was a difference between those principals who received a master's degree while completing their principal preparation program and those who received a higher degree for factors 8 and 13, classroom experience.

Ho6₂: There is no difference between principals with a master's degree and those with a higher degree in their perceptions of the quality of their hands-on experience in their principal preparation program.

The null hypothesis was rejected. There was a difference between the principals who received a master's degree while completing their principal preparation program and those who received a higher degree for factors 5, 9, and 13, hands-on experience.

Research Question #7

Is there a difference between principals who earned their degrees 10 or fewer years ago versus more than 10 years ago in their perceptions of the quality of their degree programs in addressing critical success factors?

None of the *t* tests showed a statistically significant difference in the means of principals who received their degree 11 or more years ago and those who received their degree 10 or fewer years ago. The effect size, as measured by η^2 , was small for each of the 26 comparisons. In other words, there was very little difference between those principals who earned degrees 11 or more years ago and those who earned their degrees 10 or fewer years ago in their perceptions of how well their degree programs prepared them for their leadership role as a principal. As with the findings for research question #4, this finding also supports the SREB's conclusions that universities have yet to make the necessary changes in their principal preparation programs and that they have not been including these 13 factors in their preparation programs (Fry et al., 2005).

The SREB's critical success factors were developed relatively recently. The fact that only five of the respondents graduated fewer than 5 years ago indicates that a majority of the respondents was not in a principal preparation program when the SREB published their findings. This type of data may be used as a baseline for further research on the subject.

Twenty-six null hypotheses were developed related to classroom experience and hands-on experience in the principal preparation program. Stated in summary forms, two null hypotheses were tested for each of the 13 critical success factors. A *t* test for independent samples was used to test each of the null hypotheses.

Ho7₁: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their classroom experience.

The null hypothesis was retained. There was no difference between the principals who earned their degrees 10 or fewer years ago and those who earned their degree more than 10 years ago in their perceptions of the quality of their classroom experience for any of the critical success factors.

Ho7₂: There is no difference between principals who earned their degree 10 or fewer years ago versus more than 10 years in their perceptions of the quality of their hands-on experience.

The null hypothesis was retained. There was no difference between the principals who earned their degrees 10 or fewer years ago and those who earned their degree more than 10 years ago in their perceptions of the quality of their hands-on experience for any of the critical success factors.

Conclusions

Based on the analysis of the findings from this study, it makes no difference in relation to how well respondents were prepared to implement the SREB's 13 critical success factors whether a principal graduated 10 years ago or more or less than 10 years ago or whether a principal graduated from ETSU's principal preparation program or another university's principal preparation program.

There was a significant difference between respondents who belonged to a cohort and those who did not in their perceptions of how well they were prepared during their principal preparation programs' classroom experience to improve student achievement based on best practices and curriculum that produces gains in student achievement (factor 1) and addressing

the management of change processes (factor 8). In both instances, the cohort group reported that they were better prepared to lead in these areas than those not belonging to a cohort.

There was a significant difference between respondents who received a master's degree and those who received a higher degree in their perceptions of how well they were prepared during their principal preparation programs' classroom experience to lead the faculty by managing the change process (factor 8) and to lead the faculty by keeping them abreast of new research and proven practices and by working with faculty to implement research based instructional practices (factor 13). In both instances, the higher-degree group reported that they were better prepared to lead in these areas than did those who only received a master's degree.

There was also a significant difference between respondents who received a master's degree and those who received a higher degree in their perceptions of how well they were prepared during their principal preparation programs' hands-on experience to address the use of data to develop or refine instructional activities (factor 5), to lead the faculty by providing meaningful professional development that positively impacts student achievement (factor 9), to lead the faculty by keeping them abreast of new research and proven practices, and by working with faculty to implement research based instructional practices (factor 13).

In each instance, the higher-degree group reported that they were better prepared to lead in these areas than were those who only received a master's degree. In these areas, those receiving a higher degree indicated that they were better prepared to be effective leaders than their master's degree counterparts were.

In contradiction to what was found in the literature review (Davis & Jazzar, 2005), respondents indicated that they received better preparation during their university-based principal preparation program when they were in the classroom rather than when they were receiving hands-on experiences. However, neither their hands-on experience nor their classroom experience, with the exception of two factors related to their classroom experience, approached the above average level.

Six of the respondents reported that they participated in a formal mentoring program indicating that most of the public school systems in Northeast Tennessee are not using this tool to assist their novice principals in becoming more effective. Furthermore, those who did participate in a formal mentoring program reported that their formal mentoring experience never reached the above average level in any of the 13 critical success factors. This finding suggests that the formal mentoring programs that do exist are not addressing these success factors to the point that the novice principals who participated believe that they were receiving much more than satisfactory training in how to be an effective principal. Those receiving informal mentoring reported that this type of mentoring was less successful in preparing them for being effective educational leaders than was formal mentoring. The finding of formal mentoring being more effective than informal mentoring supports what was found in the literature regarding the effectiveness of a well thought out and organized mentoring program (Long, 1997). The fact that the respondents rated their formal mentoring programs as at least satisfactory somewhat supports what was found in the literature (Browne-Ferrigno & Muth, 2004) regarding the effectiveness of formal mentoring programs, but it also indicates that changes in these programs are needed in order for them to be more effective.

Recommendation for School Systems and Universities

The following recommendations are made based on the analyses of the survey instrument used in this study.

1. School systems should develop a well-thought-out formal mentoring program that has the goal of sharpening the talents of novice principals on the SREB's 13 critical success factors.
2. Mentoring programs should be structured, have adequate resources and training, and include a stipend for the mentors.

3. School systems should work closely with their local universities to provide effective internships to prospective principals.
4. Universities with principal preparation programs should develop classroom and hands-on experiences that will allow their principal candidates to be trained to lead faculty members in the specific areas that the SREB addresses in its 13 critical success factors.
5. Universities should work closely with school systems to develop effective internship programs for their students.

Recommendations for Future Research

The following are recommendations for future research:

1. Further research needs to be conducted on whether or not there is a difference in the amount of leadership experience between those with master's degrees and those with higher degrees and if differing amounts of leadership experience has a relationship with how novice principals perceive they are prepared to implement the SREB's 13 critical success factors.
2. Further research needs to be conducted on whether or not belonging in a cohort has an effect on how novice principals perceive they are prepared to implement the SREB's 13 critical success factors.
3. A study conducted with a larger sample of principals who have graduated within the last 3 years would prove interesting and would add to the knowledge base of how well universities and school systems are using the information of the 13 critical success factors.
4. A mixed methods study with rich descriptive analysis would provide a deeper understanding of the needs of novice and prospective principals in terms of leadership training to be effective principals.

REFERENCES

- Barnett, B. G. (1995). Developing reflection and expertise: Can mentors make the difference? *Journal of Educational Administration, 33*, 45-59.
- Bloom, G. (1999). Sink or swim no more. *Thrust for Educational Leadership, 29*, 14-17.
- Brady, L. (1993). Peer assistance in the professional development of principals. *Curriculum and Teaching, 8*, 91-98.
- Browne-Ferrigno, T., & Muth, R. (2004). Leadership mentoring in clinical practice: Role socialization, professional development, and capacity building. *Educational Administration Quarterly, 40*, 468-495.
- Bush, T., & Coleman, M. (1995). Professional development for heads: The role of mentoring. *Journal of Educational Administration, 33*, 60-73.
- Clutterback, R. (1985). *Everybody needs a tutor*. London: Institution Press.
- Conyers, J. G. (2004). Thinking outside to support newcomers. *The School Administrator, 61*, 18-21.
- Costa, A. L., & Garmston, R. J. (1994). *Cognitive coaching: A foundation for renaissance schools*. Norwood, MA: Christopher-Gordon.
- Crosby, F. J. (1999). The developing literature on developmental relationships. In A. J. Murrell, F. J. Crosby, & J. Ely (Eds.), *Mentoring dilemmas: Developmental relationships within multicultural organizations* (pp. 3-20). Hillsdale, NJ: Lawrence Erlbaum.
- Crow, G. M., & Matthews, L. J. (1998). *Finding one's own way: How mentoring can lead to dynamic leadership*. Thousand Oaks, CA: Corwin.
- Cushing, K. S., Kerrins, J. A., & Johnstone, T. (2003). Disappearing principals. *Leadership, 32*, 28-29.
- Daresh, J. C. (1988). *The role of mentors in preparing future principals*. Paper presented at the Annual Meeting of the American Educational Research Association. New Orleans, LA, (ERIC Document Reproduction Service No. ED297419)
- Daresh, J. C. (1995). Research base on mentoring for educational leaders: What do we know? *Journal of Educational Administration, 33*, 7-16.
- Daresh, J. C. (1997). *Research on beginning school leaders: Where do we go next?* Paper presented at the Annual Meeting of the American Educational Research Association. Chicago, IL, (ERIC Document Reproduction Service No. ED408678)

- Daresh, J. C. (2001). *Leaders helping leaders*. Thousand Oaks, CA: Corwin.
- Daresh, J. C. (2004). Mentoring school leaders: Professional promise or predictable problems? *Educational Administration Quarterly*, 40, 495-517.
- Daresh, J. C., & Capasso, R. (2002). *Where are the future principals?: Explaining a lack of interest*. Paper presented at the Annual Meeting of the American Educational Research Association. New Orleans, LA, (ERIC Document Reproduction Service No. ED468676)
- Daresh, J. C., & Playko, M. A. (1989). *Administrative mentoring: A training manual*. Project paper of the Ohio LEAD Center, Westerville, OH, and the Center for Educational Leadership at the University of Northern Colorado. (ERIC Document Reproduction Service No. ED315844)
- Daresh, J. C., & Playko, M. A. (1991). Preparing mentors for school leaders. *Journal of Staff development*, 12, 24-27.
- Daresh, J. C., & Playko, M. A. (1992). Entry year programs for principals: Mentoring and other forms of professional development. *CATALYST*, 24, 29.
- Davis, J., & Jazzar, M. (2005). The seven habits of effective principal preparation programs. *Principal*, 84, 18-21.
- Dussault, M. (1995). *Effects of the peer assisted leadership program on professional isolation and informal networks of educational managers from two Quebec school districts*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA. (ERIC Reproduction Service No. ED 390133)
- Ehrich, L. C., Hansford, B., & Tennent, L. (2004). Formal mentoring programs in education and other professions: A review of the literature. *Educational Administration Quarterly*, 40, 518-540.
- Fry, B., Bottoms, G., & O'Neill, K. (2005). *The principal internship: How can we get it right?* Southern Regional Education Board. Retrieved June 24, 2005, from www.sreb.org/programs/hstw/publications/pubs/05v02_Principal_Internship.pdf
- Goodwin, R. H., Cunningham, M. L., & Childress, R. (2003). The changing role of the secondary principal. *NASSP Bulletin*, 87, 26-42.
- Gordon, S. P. (2004). *Professional development for school improvement: Empowering learning communities*. Boston: Allyn & Bacon.
- Grogan, M., & Crow, G. (2004). Mentoring in the context of educational leadership preparation and development-old wine in new bottles: Introduction to a special issue. *Educational Administration Quarterly*, 40, 463-467.
- Harris, T. (2001). How urban schools are solving the principal shortage. *Principal*, 81, 10-13.

- Howley, A., Chadwick, K., & Howley, C. (2002). Networking for the nuts and bolts: The ironies of professional development for rural principals. *Journal Research in Rural Education, 17*, 171-187.
- Jacobi, M. (1991). Mentoring and undergraduate academic success: A literature review. *Review of Educational Research, 61*, 505-532.
- Kachigan, S. K. (1991). *Multivariate statistical analysis: A conceptual introduction*. New York: Radius.
- Kelly, C., & Peterson, K. (2000). *The work of principals and their preparation: Addressing critical needs for the 21st century*. Paper presented at the annual Meeting of the University Council for Educational Administration, Albuquerque, NM.
- Krajewski, B. (2004). Veteran advice for new principals. *Principal Leadership (Middle School Ed), 4*, 19-24.
- Kram, K. E. (1985). *Mentoring at work: Developmental relationships in organizational life*. Glenview, IL: Foresman.
- Lauder, A. (2000). The new look in principal preparation programs. *NASSP Bulletin, 84*, 23-25.
- Leithwood, K., & Steinback, R. (1992). Improving the problem solving expertise school administrators: Theory and practice. *Education and Urban Society, 24*, 317-345.
- Long, J. (1997). The dark side of mentoring. *Australian Educational Research, 24*, 115-123.
- Lovely, S. (2004). Scaffolding for new leaders. *The School Administrator, 61*, 10-13.
- Matthews, D. (2002). Why principals fail and what we can learn from it. *Principal, 82*, 38-40.
- Mertz, N. T. (2004). What's a mentor anyway? *Education Administration Quarterly, 40*, 541-560.
- Mulhall, P. F., Flowers, N., & Mertens, S. B. (2004). Are middle level principals an endangered species? *Middle School Journal, 36*, 58-62.
- Norton, M. T. (2002/2003). Let's keep our quality school principals on the job. *High School Journal, 86*, 50-56.
- Playko, M. A. (1995). Mentoring for educational leaders: A practitioner's perspective. *Journal of Educational Administration, 33*, 84-92.
- Quinn, T. (2002). Succession planning: Start today. *Principal Leadership, 3*, 24-28.
- Ragins, B. R., & McFarlin, D. B. (1990). Perceptions of mentor roles in cross-gender mentoring relationships. *Journal of Vocational Behavior, 37*, 321-339.

- Riede, P. (2003). Electronic mentoring. *The School Administrator*, 60, 26-29.
- Schein, E. (1978). *Career dynamics: Matching individual and organizational needs*. Reading, MA: Addison-Wesley.
- Shapiro, E. C., Haseltine, F., & Rowe, M. (1978). Moving up: Role models, mentors, and the patron system. *Sloan Management Review*, 19, 51-58.
- SREB. (2002). *SREB leadership initiative: Creating effective principals who can improve the region's schools and influence student achievement*. Atlanta, GA: Author.
- Ubben, G. C., Hughes, L.W., & Norris, C. J. (2004). *The principal: Creative leadership for excellence in schools*. Boston: Allyn & Bacon.
- Wasden, D. F. (1988). *The mentoring handbook*. Provo, UT: Brigham Young University College of Education.
- Wolf, H. B. (Ed.). (1979). *Webster's new collegiate dictionary*. Springfield, MA: Merriam.

APPENDICES

APPENDIX A

Letter to Directors of Schools

December 9, 2005

Dear Dr. :

I am a Doctoral student at ETSU in the Educational Leadership and Policy Analysis Department. I am respectfully requesting your permission to survey the principals in your system regarding how well their principal preparation program and/or mentoring program prepared them to be an effective principal according to the Southern Regional Education Board's 13 Critical Success Factors. Your permission, cooperation, and support are very important to this study and are greatly appreciated. A copy of the survey instrument is enclosed for your information. I would greatly appreciate you completing the information at the bottom of this form and either returning it back to me through email or by faxing it to me at (XXx) xxx-xxxx.

My committee is chaired by Dr. Nancy Dishner (XXX) xxx-xxxx and the ETSU Institutional Review Board has accepted the prospectus for my dissertation. Very little research exists on how well prospective principals are being trained and new principals are being mentored on these critical success factors and I believe that this study will provide valuable information on how to help new and prospective principals become effective educational leaders.

Thank you for your consideration of my request. If you have any questions, please feel free to contact me at (XXX) xxx- xxxx or by email at bdodson@statesvillechristian.org. The results of this study will be available to you upon your request.

Sincerely,

Bob Dodson
Principal
Statesville Christian School

Yes, I am providing my permission for you to survey the principals in my school system.

No, I prefer my school system to be excluded from this survey.

I would like to receive a copy of the executive summary of this study.

Yes No

APPENDIX B

Letter to Principals

My name is Bob Dodson and I am a doctoral candidate in educational leadership at East Tennessee State University and am currently a principal in Statesville, North Carolina. The title of this study is called “The Perceptions of Public School Principals Regarding the Effectiveness of Principal Training and Principal Mentoring Programs and the Use of the Southern Regional Education Board’s (SREB) 13 critical success factors”. This survey is designed to collect information about the perceptions of principals with at least 2 years experience on how well they were prepared for their position of principal, based on their first year’s experience. The purpose of the study is to measure how well principal mentoring programs and university principal preparation programs are training principals and principal candidates in each of the SREB’s 13 critical success factors. These factors are based on current research that is associated with being an effective and successful principal. I invite you to complete this survey, as your participation in this study is important to adding to what we, as educators, know about effectively preparing principals to be effective educational leaders. Your participation in this survey is completely voluntary and there is no penalty or adverse consequence for choosing not to participate.

First, please take a moment to complete the demographics section of this survey. Then, read each critical success factor and tell me the level that you think you were prepared in your principal preparation experience and/or mentoring experience by circling the number on the rating scale that best describes your training or professional development for that particular critical success factor. For the purposes of this study a formal mentoring program is a structured program that is established by a local education agency for the purpose of giving professional instruction and guidance to novice principals . An informal mentoring program is a mentoring

situation in which you entered into a mentoring relationship with out the prompting of your local education agency. A practical (hands-on) experience can include any field based training or internship that you may have participated while completing your principal preparation program requirements. The survey should take no longer than 10 minutes to finish. Please complete the questionnaire and click send. Thank you for participating in this study.

APPENDIX C

Principals' Survey

Demographics:

Are you: Male _____ Female _____

Were you part of a formal mentoring program? Yes _____ No _____

If yes, how many hours per week did you meet or consult with your mentor? _____

Were you part of a cohort in your principal preparation program?
Yes _____ No _____

What degree did you earn in order to be licensed as a principal?

Masters _____ Specialist _____ Doctorate _____

At what institution did you earn this degree? _____

In what year did you graduate with this degree? _____

How many years were there between completion of your principal licensure program and the time that you became a principal? _____

During the time between becoming licensed as a principal and the time that you took a position as a principal, what role did you play?

Teacher _____ Assistant Principal _____ Central Office Staff _____ Other _____

The SREB, through research, has played an active role in improving school leadership in the Southern United States. Through this research the SREB has identified 13 factors that they believe are essential for school leaders to perform well if they are to be successful in improving school achievement.

Please review each of the SREB's 13 critical success factors and relate them to how well you were prepared to meet the demands of these factors through your university based principal preparation program; through any formal mentoring program in which you participated; and through any informal mentoring program in which you participated. These critical success factors, used with permission from the Southern Regional Education Board, are noted in bold print.

| | | | | |
|-------------|------------------|-----------------|------------------|-------------------|
| 4: Superior | 3: Above Average | 2: Satisfactory | 1: Below average | NA: Not Addressed |
|-------------|------------------|-----------------|------------------|-------------------|

Critical success Factor 1:

Led the faculty in activities that are designed to improve student achievement, such as defining and adapting best practices based on current research that support the school’s vision and implementing curriculum that produces gains in student achievement.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 2:

Led the faculty by setting high expectations for students to learn high-level content by developing or overseeing academic recognition programs and using and/or evaluating rubrics, projects, and end-of-course tests.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 3:

Led the faculty by encouraging the implementation of good instructional practices that motivate and increase student achievement by analyzing and evaluating the quality of instructional practices, working with faculty to develop assignments that are aligned with standards, map curriculum across grade levels, or working with faculty to select and implement instructional strategies that address identified achievement gaps.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 4:

Led the faculty by assisting in developing an attitude and organization within the school that fosters and understanding that every student counts by working with staff to identify student needs, or collaborating to provide mentors and increased parental involvement.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 5:

Led the faculty by using data to initiate and continue improvement in school and classroom practices and student achievement by analyzing data to develop or refine instructional activities or by facilitating data desegregation for use by faculty and other stakeholders.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 6:

Led the faculty by keeping everyone informed and focused on student achievement by analyzing and communicating school progress and school achievement to teachers, parents, and staff or by gathering feedback regarding the effectiveness of personal communication skills.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 7:

Led the faculty by assisting in making parents partners in their student's education and create structure for parents and educators to collaborate by working in meaningful relationships with faculty and parents to develop action plans for student achievement.

| | | | | | |
|---|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
|---|---|---|---|---|----|

| | | | | | |
|--|---|---|---|---|----|
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 8:

Led the faculty by managing the change process effectively, such as working with faculty and staff in professional development activities, mentoring new teachers, or by assisting in building a learning community that includes all stakeholders.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 9:

Led the faculty by advancing meaningful change through quality sustained professional development that benefits students by having problem-solving sessions or by scheduling, developing, or presenting professional development activities for faculty that positively impact student achievement.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 10:

Led the faculty by using time in innovative ways to meet the goals and objectives of school improvement by scheduling classroom and/or professional development activities in a way that provides meaningful time for school improvement activities or by scheduling time to provide extra support for struggling students so that they have the opportunity to learn to mastery.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 11:

Led the faculty by acquiring and using resources wisely by writing grants, developing partnerships that provide resources for school improvement, or by developing schedules that maximize student learning in meaningful ways with measurable success.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |

Critical Success Factor 12:

Led the faculty by gaining support from central office and all stakeholders for their school's improvement agenda by working with faculty to communicate with the school board and other stakeholders in a way the supports school improvement and its agenda.

| | | | | | |
|--|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |

| | | | | | |
|---|---|---|---|---|----|
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
|---|---|---|---|---|----|

| | | | | | |
|--|---|---|---|---|----|
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |
|--|---|---|---|---|----|

Critical Success Factor 13:

Led the faculty by continuously learning and seeking out colleagues who keep them abreast of new research and proven practices by working with faculty to implement research based instructional practices and by working with professional groups and organizations.

| | | | | | |
|---|---|---|---|---|----|
| Your classroom experience in your principal preparation program | 4 | 3 | 2 | 1 | NA |
|---|---|---|---|---|----|

| | | | | | |
|--|---|---|---|---|----|
| Your practical (hands-on experience) in your principal preparation program | 4 | 3 | 2 | 1 | NA |
|--|---|---|---|---|----|

| | | | | | |
|---|---|---|---|---|----|
| Your participation, under the guidance of a mentor, in a formal mentoring program | 4 | 3 | 2 | 1 | NA |
|---|---|---|---|---|----|

| | | | | | |
|--|---|---|---|---|----|
| Your participation, under the guidance of a mentor, in an informal mentoring program | 4 | 3 | 2 | 1 | NA |
|--|---|---|---|---|----|

In retrospect, if you could list up to three things during your principal preparation program or mentoring experience that would have made a significant difference in your ability to be a successful principal, what would they be?

APPENDIX D

Follow-Up Letter to Principals

February 7, 2006

Dear :

My name is Bob Dodson and I am a principal and a doctoral candidate at East Tennessee State University. As a doctoral student at ETSU in the Department of Educational Leadership and Policy Analysis, I am currently in the information gathering stage of my dissertation.

I recently sent you an email questionnaire in reference to my dissertation research on principals' perceptions regarding how well they have been prepared to be effective educational leaders. This would include principal preparation programs and mentoring programs they may have participated in as a new principal. As a principal myself, I realize how valuable your time is. However, I am convinced that this survey instrument will provide important data determining training needs in the area of educational leadership for the East Tennessee region. In order to provide the most accurate data possible, I need your assistance in promptly completing this online survey. Please know that I have the approval and support of your superintendent for your participation in this study.

The survey consists of 13 questions and asks for some demographic data. It should only take about 5 or 10 minutes to complete. Participation is completely voluntary and there will be no consequences for non-participation. Your responses will be maintained in strict confidence. If you have any questions please feel free to contact me at (XXX) xxx-xxxx) or email me at bdodson@statesvillechristian.org. Thank you again for willingness to participate.

Sincerely,

Bob Dodson
Principal, Statesville Christian School
ETSU Doctoral Student

VITA

ROBERT B. DODSON

Personal Data: Date of Birth: January 21, 1963
 Place of Birth: Alexandria, VA
 Marital Status: Married

Education: Appalachian State University, Boone, NC;
 BS in Political Science-Public Management
 1985

 University of North Carolina-Asheville, NC;
 Fulfilled requirements for teacher certification
 1988

 Western Carolina University, Cullowhee, NC;
 MA in Educational Leadership
 1996

 East Tennessee State University, Johnson City, Tennessee;
 Educational Leadership and Policy Analysis, Ed.D.;
 2006

Professional Special Education Teacher, Buncombe County Schools;
Experience: Candler Elementary/Sand Hill-Venable Elementary;
 1990-1996

 Assistant Principal, McDowell High School;
 McDowell County Schools, NC;
 1996-1999

 Principal, North Cove Elementary
 McDowell County Schools, NC;
 1999-2000

 Principal, Appalachian Christian School, NC;
 2000-2003

 Principal, Statesville Christian School, NC;
 2005-Present

Awards and Recipient of Principal Fellows Scholarship
Honors: WCU Graduate Assistant
 Pi Gamma Mu Social Science Honor Society
 Kappa Delta Pi
 Church Deacon, Sunday School Teacher, AWANA Commander