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Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators

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Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators

By

Suzanne M. Campbell

A DISSERTATION

Presented to the Faculty of
The Graduate College at the University of Nebraska - Lincoln
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Educational Studies
Under the Supervision of Professor Barbara Y. LaCost
Lincoln, Nebraska
June, 2006
More women are joining their male colleagues as higher education administrators. However, only a small percentage of these women possess an academic background as clinical laboratory scientists. This qualitative case study sought to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions.

Through face-to-face semi-formal interviews, the experiences of this purposive sample population were recorded. Areas of inquiry included a description of their career paths; an identification of the skills, training, and/or professional development opportunities that enabled them to be successful higher education administrators; a description of the barriers and obstacles they have encountered; and how being a woman has influenced their experiences.

Three major themes emerged from this study relating to the career paths of these clinical laboratory scientists turned higher education administrators: *Getting to the Right Place at the Right Time; The Right Navigational Skills are Required;* and *The Right Place Comes With a Price.* Several categories were identified to support the themes. The results of this study were consistent with those found in the literature describing the opportunities, obstacles, and necessary components for women in higher education administration. The findings indicated that even though these women possessed an academic background in clinical laboratory science, their experiences paralleled those of women higher education administrators with degrees in other academic areas.

Possessing a doctoral degree, demonstrating competence and strong leadership skills, having a good role model and/or mentor, and displaying the ability to see the big
picture were identified by this group of women as necessary requirements for obtaining and maintaining a position as a higher education administrator.
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Dedication

With all my love to Michael, Jessica, and Megan. Your support, understanding, and patience were so very important to my achieving this dream.
Acknowledgements

There are numerous people that I am indebted to for their encouragement, support, patience, love, and understanding while I completed this journey. However, none of that would be possible without the good Lord providing me with the guidance, strength, faith, and perseverance to achieve this dream.

My immediate and extended family provided love, support, and understanding. A special thank you is extended to Michael, Jessica, and Megan for allowing me to reach my goal and for understanding when I needed to study. I thank Leo and Joyce Mertens, my parents, for instilling commitment and a strong work ethic at an early age so that I could complete what I started. My sincere appreciation is extended to the late Guy (1927-2005) and Virginia Campbell for their love, support, and encouragement as I pursued this goal. To my extended family, Charles Ballenger and Tom and Joan Wood, I would like to say thank you for their encouragement and interest in my pursuit of this degree. I am especially grateful to Joan for being my traveling partner – what a road trip.

I would like to thank Sandy Lowe, my friend, colleague, and mentor for her contagious enthusiasm for life. May the good Lord give her courage and strength to achieve her dreams as well. I am eternally grateful to Lonnie Bailey for his continual encouragement and support from a far. His gentle nudging and belief in me kept me striving to attain my goal.

Now for my colleagues at Seward County Community College, I would like to say thank you for your support and encouragement. While there are many, I especially want to express my appreciation to Steve Hecox, Carmen Sumner, Ken Killion, Ed Anderson, Kelly Cook, Todd Carter, Cynthia Rapp, and Dr. Duane Dunn.

A very special thank you is extended to Dr. Barbara Y. LaCost for her guidance, direction, understanding, time, and expertise dedicated to this study. Her words of encouragement and guidance are greatly appreciated. I would also like to express my appreciation to my committee members: Dr. Marilyn Grady, Dr. Ron Joekel, and Dr. James King for their guidance and support.
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CHAPTER ONE

INTRODUCTION

In the 21st century, an increasing number of women are seeking and obtaining leadership positions in higher education (Ernst, 1982; McCarthy & Kuh, 1998; McFarland & Vidler, 1995). They have progressed from being unable to attend college to holding leadership positions that guide the vision and mission of institutions. A significant number of women are earning doctoral degrees and utilizing this knowledge as higher education administrators (Ballentine, 2001; Gale, 1988). As leaders in higher education, these women bring their own set of characteristics and skills to the table. Their collaborative leadership style, knowledge, skills, and commitment are valuable to the success of the institution. They demonstrate a willingness to pay the price to balance their careers and family commitments.

The career paths that women follow to obtain positions as higher education administrators are varied. The traditional path includes experiences as faculty, program director, division chair, and dean. At critical points in their careers, these women participate in various professional development opportunities. Through these experiences, they learn new skills, gain additional knowledge, and enhance the skills identified as those of a competent leader. However, it is not mandatory that women follow this traditional path.

Women clinical laboratory scientists add an additional component to their career paths. Their first career is as a clinical laboratory scientist (CLS) in the hospital setting. As CLSs, they perform a variety of laboratory tests that provide the physician with the necessary data to make a diagnosis and to determine treatment for the patient. A small number of these women move from the clinical setting to the educational setting. Their roles in the higher education environment are as faculty members in the CLS and clinical laboratory technician (CLT) programs. Additional opportunities to move up the career ladder are offered to those that display the necessary skills. The career paths of this unique group of women clinical laboratory scientists who have successfully transitioned to higher education administration are the focus of this study.
**Purpose Statement**

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held administrative positions at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

**Background of the Study**

Leadership has been studied since the time of the ancient Greeks. “Plato, Machiavelli, and Shakespeare offered images of leadership cast in the context of their times” (Shriberg, Shriberg, & Lloyd, 2002, p. 2). In 1979, James McGregor Burns stated, “Leadership is one of the most observed and least understood phenomena on earth” (Shriberg, Shriberg, & Lloyd, 2002, p. 2).

Modern day researchers such as Kouzes, Posner, Bass, Bennis, Stogdill, Bruce, and Avolio continue to research the topic of leadership. Much of the information resulting from the research has identified the delineation and overlap of management and leadership and the determination of a variety of leadership styles. However, numerous definitions of leadership and the qualities and skills one should possess to be an effective leader still remain.

Most of the earlier leadership studies looked at men as leaders; more recent studies focused on women as leaders (Ballentine, 2001; Brooks & Brooks, 1997; Brown, 2000; Ernst, 1982; Gale, 1988; McFarland & Vidler, 1995; McGrath, 1992; Moore, 1987; Murphy, 1990; Shavlik & Touchton, 1992; Weber, 1981). Some studies indicated that women are effective leaders yet have different styles than men. The leadership styles of women clinical laboratory scientists who have become higher education administrators were a component of this study.

Since the beginning of higher education in America, women have struggled to be considered equal to men (Ernst, 1982). Our society has identified male characteristics as those desirable of a leader (Weber, 1981). Even though women made up the majority of educators, few were encouraged to move their careers beyond the classroom. During the
last fifty years, educational leadership roles for women have changed. Women have proven that they possess the characteristics and competencies to be leaders in the academic arena. Women increasingly have moved into administration, and researchers interested in this phenomenon have identified requirements that assist women in gaining these positions. These requirements included: pursuit of advanced degrees such as a doctorate, participation in leadership development activities, formation of a relationship with male and female mentors, demonstration of high levels of competence, and the development of problem solving and team-building skills (Ballentine, 2001).

Clinical laboratory scientists/medical technologists (CLS/MT) and clinical laboratory technicians/medical laboratory technicians (CLT/MLT) perform a variety of laboratory tests. These tests include the typing and cross-matching of blood and blood components; drug monitoring (both for therapeutic monitoring of drugs and the detection of drugs of abuse); identifying anemia, leukemia, and other blood disorders; identifying infectious organisms and determining their susceptibility to specific antibiotics; and performing procedures for various blood and body fluid analysis. CLS/MTs and CLT/MLTs are the laboratory personnel who isolate and identify the anthrax bacillus and other biological weapons. It is estimated that 80% of all physician decisions are based on laboratory test results produced by CLS/MTs and CLT/MLTs. Without these results, physicians would be unable to accurately diagnose, and in many cases, effectively treat patients (Glenn, 2002).

In the early days of laboratory testing, personnel were trained on-the-job by pathologists. As advancements in the testing and correlation of results with disease processes and patient conditions increased in complexity, formal education programs were established. The first of these programs was located in a hospital setting. Clinical laboratory education (CLE) programs were developed in two-year and four-year academic settings. In both settings, there existed a need for a program director and didactic faculty. Since the majority of the laboratory workforce consisted of women, it made sense that the largest percentage of CLE program directors and didactic faculty also were women (Kotlarz, 1998a). When women moved to the education arena, new and different skills were required to conduct administrative tasks. These tasks included
recruitment of students, curriculum development and revision, budget preparation, maintaining national program accreditation, program evaluation and assessment, and ensuring program stability and viability through strategic planning.

As the need for formally trained laboratory professionals increases so do the challenges in higher education to continue to offer clinical laboratory education programs. As enrollment numbers continue to decline and higher education budgets are reduced, CLE program directors are called upon to demonstrate skills that will ensure academic quality deemed worthy of national accreditation and to produce enrollment/graduation numbers that satisfy the demands of higher education administration. An additional challenge of the academic programs is to meet the market demands of the medical community to provide competent, entry-level laboratory professionals.

Clinical laboratory education programs are under close scrutiny from higher education administration. With drastic budget cuts nation-wide in higher education, administrators are forced to review all academic programs to assess their benefits versus program costs. As most CLE programs require substantial financial support and have limited enrollments, they are often considered for program closure. The 2004 electronic survey of program directors conducted by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) indicated there are currently 232 accredited CLS/MT programs and 203 CLT/MLT accredited programs. Although the number of accredited programs has stabilized between 2002 and 2004, this period of stasis was preceded by a drastic decline in the number of viable programs. In 1994, there were 383 accredited CLS/MT programs, a 39% decrease in the number of viable programs. In 1995, the number of CLT/MLT accredited programs was 259, a negative change of 21% (Kimball, 2005).

To ensure program viability, the CLE program directors must demonstrate solid skills. The key skills include written and verbal communication, budget planning, student assessment strategies and analysis, the ability to work with advisory board members and clinical affiliate representatives, program promotion, student recruitment,
purchasing and inventory management, grant writing, curriculum and policy development, program accreditation, and strategic planning.

As these program directors develop an understanding of higher education and demonstrate success within their CLE programs, it would seem a natural step up on the career ladder to seek and obtain positions as higher education administrators. This unique group of women, in administrative positions at the dean’s position, including assistant and associate dean, was targeted for this study.

**Research Questions**

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?

2. What skills, training, and/or professional development opportunities enabled them to become successful higher education administrators when their initial academic area of study was clinical laboratory science?

3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?

4. How has being a woman influenced their careers as higher education administrators?

**Methodology**

To document the personal experiences of women clinical laboratory scientists who held positions as higher education administrators, a qualitative research methodology was selected. Three professional groups of individuals were contacted via email and asked to submit contact information for a female higher education administrator that possessed a background as a clinical laboratory scientist. These three groups included the members of the clinical laboratory educator’s list-serve, the contact person for member institutions of the National Network for Health Career Programs in Two Year Colleges, and program directors of NAACLS accredited CLT/MLT and CLS/MT programs in the predetermined geographic region. Members of these groups
were asked to identify at least one woman higher education administrator that had a formal degree as a clinical laboratory scientist that held a higher education administrative position at the dean’s level. Although individuals were identified in both the community college and university settings, the researcher narrowed the focus of the research to women in the university environment. A purposive sample was selected. These identified individuals were contacted by email to explain the goal of the research study, to request their participation, and to provide the informed consent document. Within one week, the prospective participants were contacted by phone to obtain their decisions to participate and to schedule the interviews. One week prior to the interview, each participant was sent a reminder letter by mail or electronic mail.

A preliminary questionnaire to collect demographic information, the informed consent form, and the interview protocol were electronically mailed to the selected participants along with date, time, and location details of the interview. I conducted seven of the eight interviews at the location of choice of the participant. One interview was conducted via phone. The participants responded to the ten open-ended questions in a semi-formal interview format. The interviews were audio recorded to allow for transcription. I read and reread the transcripts to become familiar with the data, to grasp the meaning of the whole, and to develop codes that were grouped into categories. The categories were grouped to allow for development of the themes. The themes were presented in a rich, thick description of the experiences of this group of women.

The data collected from the interviews were validated by conducting member checks; utilizing rich, thick description of the data; and using an external auditor to review the audio tape recordings, the transcripts, and the written narrative.

The final phase of the process involved identification of the implications for future women higher education administrators and higher education institutions. Recommendations for future research related to this group of women, to higher education institutions, and to women higher education administrators are outlined in chapter seven.
**Definition of Terms**

The following definitions were used in this study:

**Clinical laboratory science (CLS):** An allied health profession dealing with analysis of blood and body fluids in four major disciplines: hematology (study of cellular components), clinical chemistry (study of chemical blood components), blood bank (study of antibody/antigen interactions with regard to blood types), and microbiology (study of microorganisms and infectious diseases). This term is synonymous with medical technology.

**Clinical laboratory scientist /medical technologist (CLS/MT):** A person who holds a bachelor of science degree with studies in areas of the clinical laboratory. The terms are interchangeable.

**Clinical laboratory technician /medical laboratory technician (CLT/MLT):** A person who holds an associate degree with studies in areas of the clinical laboratory. The terms are interchangeable.

**Clinical laboratory education (CLE):** an all-inclusive term for both the associate and bachelors level of a formal program of study in clinical laboratory science.

**Pathologist:** A physician trained to examine tissues, cells, and specimens of body fluids for evidence of disease.

**Assumptions**

I made the following assumptions for the purpose of this study:

1. That the participants were truthful in their responses to the interview questions.
2. That the experiences of women higher education administrators are different than those of men.
3. That the experiences of women higher education administrators with a background as a clinical laboratory scientist are different than those of individuals with other academic backgrounds.
Delimitations of the Study

This study had the following delimitations:

1. The study involved only women clinical laboratory scientists who have become higher education administrators.
2. The higher education administrators must have held a position at the dean’s level, including assistant and associate dean positions or equivalent.
3. The participants were located in the Midwest and central regions of the United States.
4. The interviews were conducted in fall 2005.

Limitations of the Study

This study had the following limitations:

1. The sample for this study was a purposive sample thus not all-inclusive.
2. Only eight participants were interviewed for this study.
3. Researcher bias is brought to any research by the investigator.
4. Responses from participants may have been restricted by the method of research.
5. There may have been differences in the definition and perception of career paths by the participants.
6. Due to the qualitative nature of the study and the small purposive sample, the researcher is unable to generalize the findings to the general population.

Significance of the Study

Eighty percent of the positions within clinical laboratory science (CLS) are held by women (Kotlarz, 1994). Most of these women remain in the clinical setting, but a small portion move to the education arena. An even smaller number of these women seek and gain positions as higher education administrators. According to the May 2004 Bureau of Labor Statistics (BLS) Occupational Employment and Wages report, there are approximately 151,000 clinical laboratory scientists and 142,000 clinical laboratory technicians for a total of almost 300,000 formally trained laboratory professionals. Since research indicates that 80% of the clinical laboratory workforce is female, this would mean that there are more than 234,000 women laboratory professionals.
The BLS industry profile information indicated an estimated 4,200 CLSs and 8,000 CLTs were in the college and university setting for a total exceeding 12,000. These data from the BLS demonstrate that only 4.2% of clinical laboratory professionals are employed in the academic environment (Table 1).

**Table 1: BLS Occupational Employment and Wages Report**

<table>
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<th>Category</th>
<th>Total Employment</th>
<th>University and College Industry</th>
<th>Percent in Education</th>
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<tr>
<td>CLS/MT</td>
<td>151,240</td>
<td>4,220</td>
<td>2.8%</td>
</tr>
<tr>
<td>CLT/MLT</td>
<td>141,720</td>
<td>8,010</td>
<td>5.7%</td>
</tr>
<tr>
<td>Total</td>
<td>292,960</td>
<td>12,230</td>
<td>4.2%</td>
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There does not appear to be a single professional organization that documents and records faculty data for CLS and CLT programs. However, two studies in recent years provided information. In April 2000, Beck and Laudicina (2001) sent surveys to program directors of 509 NAACLS accredited CLS and CLT programs. One of the research questions included in the study addressed the current numbers and qualifications of faculty. Only 56% of the surveys were returned and usable, but they did provide data. If it is assumed that the 44% of programs that were not represented reflect similar faculty numbers, there are an estimated 800 full-time faculty in CLT and CLS university-based programs.

A more recent study was conducted by Bamberg (2004) in May 2003. A response rate of 47% revealed there were 288 faculty in 52 CLS programs. Again, if it is assumed that the 53% of non-responding programs mirror these data, there are more than 600 full-time faculty in university-based baccalaureate-degree CLS programs.

Another objective of the Bamberg (2004) study was to “identify the degrees held and the graduate majors or fields of study for faculty teaching full-time and part-time in university-based, baccalaureate CLS programs” (p. 209). The data derived from the study indicated, of the full-time faculty 47% held doctorates, 47% held master’s degrees, and 12% held bachelor’s degrees. The areas of study for full-time faculty that held doctorate degrees were science (31%), education (12%), and administration (2%). Of
those who held master’s degrees, the areas of study were science (20%), public health
(2%), education (25%), and administration (6%).

Summary

The field of clinical laboratory science is currently experiencing challenges. Through the last decade, the number of graduates has been decreasing and the market demand for laboratory professionals has been increasing and is expected to continue to rise. The median age of current laboratory professionals is 48 years of age; retirements and increasing numbers of individuals leaving the profession are expected to further exacerbate the need for new graduates in this field of study (Griffith, 2002).

Although the market demand for trained laboratory professionals is high, the ability for academic programs to meet this market demand has provided challenging times for CLE program directors. The typical CLE program is considered a high cost, low enrollment area of study. Thus, when higher education institutions experience budget cuts, CLE programs are closely reviewed and considered for program closure. Many program directors have waged personal and professional battles in an effort to maintain viable, successful programs. These CLE program directors are called upon to utilize their skills to plan and implement strategies to ward off program closure while attempting to meet market demands for competent, entry-level clinical laboratory scientists and technicians.

The women that hold CLE program director positions within their respective higher education institutions must demonstrate a vast array of skills to guide their programs into the future. Upon experiencing success as a program director and developing a sense of familiarity with higher education administration, a small percentage of these women sought to move up the career ladder to obtain higher education administrative positions.

The career paths of these higher education administrators were investigated and documented via this study. The oral interviews sought to identify the skills, opportunities, obstacles, and experiences of this select group of women. Through the availability of this study’s results, current and future women clinical laboratory scientists
seeking a position as a higher education administrator may be able to integrate these findings into their strategies to move up the career ladder.
CHAPTER TWO

A REVIEW OF THE LITERATURE

The literature reviewed to support this study included various arenas, i.e. the profession of clinical laboratory science, studies of women’s career paths in their pursuit of administrative positions in higher education, and research findings that focused on the skills required to be successful administrators.

An understanding of the history of the clinical laboratory profession, the role of women in this profession both as technologists and educators, and the evolution of the academic requirements for the profession is critical to understanding the career paths of women higher education administrators with a background in clinical laboratory science.

Purpose Statement

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists who have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

Research Questions

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3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?

4. How has being a woman influenced their careers as higher education administrators?
The History of the Clinical Laboratory Science Profession

The clinical laboratory science profession is grateful to Virginia Kotlarz for her work related to the history and evolution of the profession. Multiple references to her work are cited in this section.

In the early 20th century, laboratory procedures were few in number and were simple to perform. Initially, the pathologist, a physician trained to examine tissues, cells, and specimens of body fluids for evidence of disease, performed the laboratory procedures. This responsibility was later delegated to interns and residents. The infectious disease epidemics that occurred in the early 1900s prompted the hiring of a large number of bacteriologists, primarily women, to determine the presence of typhoid, tuberculosis, poliomyelitis, pneumonia, and diphtheria in specimens. The shift in duties also meant a change of location for the laboratory, from a corner of the physician’s home office to the hospital. Teaching hospitals and public health departments housed the first clinical laboratories (Kotlarz, 1998b).

In 1900, the laboratory staff consisted of a bacteriologist intern, a clinical microscopist, and a chemical intern. In smaller facilities, one person performed procedures in all of these departments and was labeled a generalist. Commercial laboratories began to operate at this time. Between 1912 and 1920, the role of the laboratory technician was established as a women’s occupation. The responsibilities of the occupation evolved to include performance of more complex testing, utilization of advanced instrumentation, and performance of supervisor duties. Between 1919 and 1925, the American College of Surgeons established minimum standards for clinical laboratories. The location of the clinical laboratories shifted from a commercial setting to the hospital. By 1925, most hospitals had a clinical laboratory under the direction of a pathologist and had the ability to perform testing in bacteriology, serology, chemistry, and hematology (Kotlarz, 1998a).

The advances in laboratory medicine, accompanied by a lack of formal training programs, produced a shortage of laboratory personnel. During World War I, the shortage of laboratory technicians was exacerbated by the establishment of Army and Navy medical departments that required additional laboratory personnel to work in these
departments. After World War I, the need for qualified laboratory technicians continued to increase. These positions were often filled by young, high school women who received on-the-job training. These laboratory technicians were employed by hospitals, public health agencies, and research facilities. They were permitted to perform only routine tasks and were not expected to advance in their careers (Kotlarz, 1998b).

Between 1928 and 1945, the field of clinical laboratory science became recognized as an area of specialization outside of pathology. During this same time, the American Society of Clinical Pathologists (ASCP) Board of Registry (BOR) played a major part in the development and recognition of the profession. The BOR sought to establish educational standards and technical competencies in addition to offering registration to those laboratory professionals meeting the minimum requirements (Kotlarz, 1998c). The BOR’s “actions helped transform the emerging field of clinical laboratory science from an ill-defined and unorganized trade into an occupation that possessed a defined body of knowledge, a consistent system for training, and objective methods of assessment” (Kotlarz, 1998c, p. 166).

The ASCP BOR was just one of the professional organizations that governed the clinical laboratory science profession. The American Society for Clinical Laboratory Technicians, which was renamed the American Society for Medical Technologists (ASMT), was recognized by the ASCP BOR in 1933. The American Medical Association and the National Committee for Careers in Medical Technology (NCCMT) also influenced the development of the profession (Kotlarz, 1998d).

From 1945 through 1962, the focus was on education and strategies to integrate the academic experience with the clinical practicum experience. These strategies included the establishment of academic degree requirements, identification of standards by which academic programs would operate, and the recognition that most clinical laboratory scientists had not been trained to become faculty. During the 1960s, additional laboratory personnel categories included the clinical laboratory assistant and the clinical laboratory technician. The purpose of these categories was to develop a career ladder within the profession. The evolution of the academic requirements for
clinical laboratory science education is explored in detail in a section that follows (Kotlarz, 1998d).

Between 1962 and 1977, CLS/MTs accepted new roles and responsibilities, expanded their scope of practice, and created new categories of laboratory professionals that supported the academic requirement of a baccalaureate degree (Kotlarz, 1999b). During the 1960s, dramatic changes were occurring in technology with the advent of automated instrumentation. CLS/MTs observed a decreased need for their technical skills and an increased need for scientific and medical knowledge. This new knowledge and technology led to new testing and methods. CLS/MTs needed to learn new complex skills and to increase their knowledge of physics, electronics, and instrumentation. Additional skills included the demonstration of independent judgment, critical thinking, problem solving, and specialization within the clinical laboratory. Other changes in the medical technology profession included an expansion into the management, education, research, and supervisory arenas.

During the 1970s, the responsibilities of the CLS/MT continued to expand. These responsibilities included analyzing and interpreting results and the evaluation and implementation of quality assurance programs and new methods. The number of opportunities in management/supervision, education, and research also multiplied.

The 1980s brought a vast array of different career paths for CLS/MTs. Up to this time, most CLS/MTs were employed in the traditional hospital-based clinical laboratory. Career options now available to individuals with a background in medical technology included technical positions, positions outside of healthcare, and advances into law and medicine. Technical positions were located in hospital, private, public health, and physician office laboratories. Additional technical positions included crime laboratories, research and development, fertility laboratories, and blood banks. Education, research, industry sales, marketing, technical writing, and government agencies offered employment outside of the healthcare setting (Kotlarz, 2001).

In the mid-1980s, the career choices of CLS/MTs were influenced by economic pressures, public policy, and new technologies. To control the escalating costs of healthcare, the federal government enacted the Tax Equity and Fiscal Responsibilities
Act and the Social Security Amendments Prospective Payment System. Under the new system, the clinical laboratories became cost centers instead of profit centers (Kotlarz, 2001). Additionally, due to changes in the demographics of the population in the United States, the focus of healthcare shifted to prevention, diagnosis and treatment of disease, and increased access to healthcare by the baby boomer age group (Kotlarz, 2001).

The Role of Women in Clinical Laboratory Science

The origin of clinical laboratory science dates back to the early 1900s. “Between 1890 and 1910, women were able, for the first time, to pursue careers in scientific professions…” (Kotlarz, 1998a). In the early 1900s, women who sought a career in science were met with male-dominated resistance, the need to prove their cognitive abilities, and limited career opportunities. This group of women often found employment as research assistants, “semi-professionals,” and faculty. Women had to create their own career path as they were unable to enter the male-dominated professions. Women were considered suited for work in areas such as statistics, social work, domestic science, and bacteriology. Women were not considered for important positions, were promoted at a slower rate than men, earned a lower salary, and encountered limited career mobility (Kotlarz, 1998a).

In the early 1900s, women scientists were hired by state and municipal government public health laboratories as the need for laboratorians increased due to advances in bacteriology, chemistry, and physics (Kotlarz, 1998a). Women were hired because men would not seek employment in the clinical laboratory due to low wages, few advancement opportunities, and medical technology was viewed as a female career. Women were willing to obtain formal training, would work at a lower salary, and would not challenge the authority of the pathologist while performing with greater quality than their male counterparts. In 1927, Hatcher’s book, Occupations for Women, described the laboratory technician as “mechanicians” whose tasks relied on accuracy and attention to detail. Laboratory science was also considered an acceptable occupation for women who did not intend on going to college (Kotlarz, 1998b).

Although the clinical laboratory science profession was still dominated by women, men continued to receive preferential treatment. During the late 1970s, the
ASMT performed a salary study. The results indicated that men earned 5.7% more than women in the same position. Men held a significantly higher percentage of jobs at the administrative and supervisory level than women. Men were 2.4 times more likely to hold positions at the management level versus a staff or senior technologist level. The ratio of men with post-baccalaureate degree in an administrative position to women was 6.7 to 1 (Kotlarz, 1994).

In 1992, the Medical Laboratory Observer conducted a study to determine women clinical laboratory scientists’ perception of their careers. Of the 619 respondents, 49% indicated that sexual discrimination had occurred, 41% believed that there were salary inequities, 43% stated the “glass ceiling” prevented their advancement in the profession, and 67% indicated that women in management must work harder than men to reach the same goals (Kotlarz, 2001).

In the 21st century, issues affecting the clinical laboratory science profession continue. These issues are identified as a shortage of qualified laboratory personnel, the maintenance of current knowledge and skills related to new technologies, a demand for higher levels of accountability, an increased demand for access to laboratory testing from the general public, compliance with federal government regulations, and limited reimbursement from Medicare/Medicaid (Kotlarz, 2001).

The Evolution of Academic Requirements for Clinical Laboratory Education

During the early 1900s, the “girls in the lab” were trained by physicians and pathologists. However, the quality of the training often produced poorly trained personnel. This substandard training resulted in decreased quality of patient care and decreased respect for laboratory professionals. As the market demand for laboratory professionals increased so did the need to develop a formal academic-based education (Kotlarz, 1998b).

In 1918, Philadelphia Polyclinic and Simmons College in Boston offered quality training programs for laboratory personnel. Philadelphia Polyclinic required a high school diploma and focused on techniques and practical training. Students with previous laboratory experience were given advanced standing in the program. Simmons College also offered collegiate level instruction. In 1923, a formal laboratory technician program
was started at Simmons College that included a clinical rotation. Most of the graduates from the Simmons College School of Science were employed as laboratory technicians since increased employment opportunities for women with scientific training were available (Kotlarz, 1998b).

The University of Minnesota awarded the first bachelors of science degree in medical technology in 1922. The program was based on a two-plus-two plan of study. The first two years were general education courses with the last two years focusing on technical courses (Kotlarz, 1998b).

In 1928, the ASCP BOR began to register qualified laboratory personnel and to identify training programs that met minimum standards (Kotlarz, 1998b). The BOR also played a role in registering academic institutions that offered quality training programs. In 1930, the BOR surveyed 137 laboratory training programs. The results of the survey indicated a vast array of differences in the training programs. With this in mind, the BOR developed specific recommendations for two-year and four-year programs along with more stringent standards for hospital-based programs. In 1933, the BOR raised the minimum criteria for registration, released its first list of approved schools for laboratory technicians, and increased the academic requirements (see Table 2). Between 1928 and 1945, the BOR continued to raise the academic requirements for program admission and to strengthen the standards of the training programs. In 1937, the BOR, under the direction of Dr. Israel Davidsohn, established a model curriculum by which medical technology students were to be trained. This model guided academic programs through the 1970s (Kotlarz, 1998c).

The educational standards established by the BOR were meant to increase operation efficiency rather than identify knowledge and skills needed to be a competent medical technologist (Kotlarz, 1998d). In 1958, the BOR increased the CLS/MT academic requirements to three years of college. The academic rigor of the university-based CLS/MT programs were more closely scrutinized and played an increasingly important role in training new CLS/MTs (Kotlarz, 1998d). Even though the BOR was providing direction for the profession, clinical laboratory scientists and pathologists differed in their views of the knowledge and skills required to be a competent CLS/MT.
These views differed with regard to what general education should be included in the medical technology curriculum. Dr. Merlin Trumbull identified the four necessary components of a medical technology curriculum as: determination of program objectives, selection of subject matter, curriculum organization, and evaluation of program effectiveness (Kotlarz, 1998d). By 1962, medical technology training programs were guided by six objectives suggested by Dr. Trumbull. The objectives were:

1. To develop technologists who can perform competently and expeditiously well established and ordinarily used technical procedures of a clinical laboratory.

2. To offer training of a quality comparable to that expected in senior collegiate levels.

3. To inculcate within the student during training the desire to develop a curious mind that would carry him beyond those needs ordinarily required for simply learning theory and technical procedures being immediately taught.

4. To help, preferably by example, technologists to develop the proper degree of compassion for patients.

5. To instill in the student the tradition of medicine whereby the older generation teaches the younger.

6. To have objectives consistent with those of the college with which the school of medical technology is affiliated (Kotlarz, 1994, p 158).

The curriculum included a plan of study that consisted of lecture and laboratory components. Additional program components included an admission process and identification of program objectives and policies (Kotlarz, 1998d).
<table>
<thead>
<tr>
<th>Year</th>
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| 1930 | High school graduate  
One year of didactic study  
Six months of clinical experience |
| 1933 | One year of college including biology and chemistry  
Twelve month training program |
| 1938 | Two years of college  
Clinical training |
| 1962 | Three years of college including 16 semester hours of biology and chemistry plus three semesters hours of math  
Clinical training OR  
Bachelor of science degree plus five years of work experience with two of those years under a pathologist |

Reference: Kotlarz, 1998d

In response to the shortage of qualified CLS/MTs from 1945-1962, the number of CLS/MT training programs increased from 243 schools in 1943 to more than 650 in 1958. From 1953-1959, enrollment numbers increased 56% while the number of schools increased 28%. However, the market demand still exceeded the number of graduates (Kotlarz, 1998d).

The increase in CLS/MT training programs necessitated securing qualified individuals to fill faculty positions in these programs. However, most CLS/MTs were not trained in educational methodologies. The first CLS/MT educator’s conference was held in 1960 by ASMT. The focus of the conference was on teaching strategies and preparation of CLS/MTs that included an educational component. CLS/MT educators were attempting to meet the demand for qualified educators (Kotlarz, 1998d).

In 1948, the Board of Schools (BOS) was established to oversee the BOR accreditation function. The BOS was the advisory board for the Council on Medical Education and Hospitals (CMEH) of the American Medical Association. The function of both organizations was to establish new schools and maintain high standards within the training program. The new schools submitted their application to CMEH for BOS evaluation. The BOS then made a recommendation to CMEH for a final decision. In 1951, the BOS was given total control of program approval and inspection. The accreditation decision was based on the BOS inspection and a review report from a
pathologist. This process was in place until 1971 when the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) assumed the accreditation function of clinical laboratory education programs (Kotlarz, 1999a).

During the 1960s, medical technology educators recognized the need for the development of a differentiation of laboratory employment categories based on the amount of academic preparation and job responsibilities. Individuals with associate degrees could perform technical tasks, while those with bachelor degrees assumed roles in supervision, management, and leadership. The development of this career ladder created a hierarchical system that supported teamwork and coordination of activities. To create this career ladder, occupational function and educational requirements were defined. Academic programs were delineated by goals and objectives. This resulted in an increase in vocational and technical training programs that were often offered by community colleges. These training programs were supported by the 1965 Medicare-Medicaid legislation and the Allied Health Training Act of 1966. The purpose of these government actions was to meet the market demand by providing additional training opportunities and to improve the educational quality in the allied health area. These federal funds were available to support special projects, construction, advanced traineeships, and curriculum development (Kotlarz, 1999b).

In 1967, the National Health Council and the American Association of Junior Colleges (AAJC) formulated guidelines used to develop allied health programs in community colleges. During the following year, the AAJC contacted ASCP and ASMT to develop curriculum at the technician level. The AAJC and the National Council on Medical Technology Education published a medical laboratory technician program planning guide in 1969. These guidelines addressed clinical responsibilities but did not address credit hours or length of the program (Kotlarz, 1999b).

In 1973, the ASMT House of Delegates approved a position paper that delineated entry-level competencies for the clinical laboratory assistant, clinical laboratory technician/medical laboratory technician, and the clinical laboratory scientist/medical technologist levels. This paper supported a career ladder format among laboratory professionals. Educators agreed that the establishment of a career ladder would prompt
career mobility that had not been a previous focus of the profession. Such a career ladder would “avoid dead-end careers and provide opportunities for self-improvement and professional advancement” (Kotlarz, 1999b, p. 215). The development of the career ladder also assisted in establishing certification exams, a defined scope of practice, and a delineated academic program of study for each level within the clinical laboratory.

This differentiation of employment levels within the clinical laboratory necessitated a defining of the academic preparation required for each level. The professional competencies for each position required varying levels of formal education plus professional experience. In addition, each position required a liberal education foundation. Late in the 1960s, a twelve-month program consisted primarily of technical competency in a limited number of procedures. This curriculum format became outdated and did not allow enough time for new skills and knowledge to be taught. The BOR had increased the biology and chemistry requirements but the technical knowledge component had not been revised. It was obvious that the clinical laboratory education programs needed a designated course of study. This defined course of study supported CLS/MT career entry requirements that were identified as:

- Apply specific methods to analysis and solution of problems,
- Responsibility for the development and application of science,
- Knowledge in service, in teaching, and in research,
- Originality in judgment,
- Ability to supervise the technical work of others (Kotlarz, 1999b, p. 216).

The revised CLS/MT curriculum included a minimum of two years of liberal education at the university-level with the CLS/MT emphasis during the last two years of study. Additional emphasis was placed on instruction rather than on the apprentice-type education as was the tradition in the hospital setting. The curriculum included instruction related to supervision/management, research, and teaching experiences. A need to coordinate the academic and clinical components prompted some programs to be structured in a three-plus-one plan of study comprised of three years of general education at the university-level and one year of clinical education (Kotlarz, 1999b).
Another need was to coordinate the academic and clinical education phases. The academic institutions needed to develop affiliations with the CLS/MT schools and to identify the shared responsibilities with regard to curriculum requirements and the standards that would guide the program. The academic institutions assumed responsibility for the clinical experiences (Kotlarz, 1999b).

As previously indicated, there were 232 CLS/MT and 203 CLT/MLT accredited programs in 2004. For these programs to meet accreditation standards, specific responsibilities and qualifications must be met for the CLE program directors to receive NAACLS approval. These responsibilities and qualifications were as follows (same for both program levels):

The program director must be responsible for the organization, administration, periodic review, planning, development, evaluation, and general effectiveness of the program. The program director must have input into budget preparation and must be responsible for maintaining NAACLS approval of the program (NAACLS 2001 Standards for CLS/MT and CLT/MLT Programs, p. 46, 58).

The program director must be a CLS/MT who holds nationally recognized certification and who has a master’s or doctoral degree and three years of experience in CLS education that includes teaching courses, conducting and managing learning experiences, evaluating student achievement, providing input into curriculum development, policy and procedure formulation, and evaluation of program effectiveness. The program director must have a knowledge of education methods and administration as well as current accreditation and certification procedures (NAACLS 2001 Standards for CLS/MT and CLT/MLT Programs, p. 46, 58).

The skills required of CLE program directors provide a strong foundation of knowledge that can be further expanded by pursuit of positions as higher education administrators.

*Career Paths of Women in Educational Leadership*

In 1920, women constituted 47% of the undergraduate enrollment in higher education. Thirty-two percent of college presidents, professors, and instructors were women in 1930. During the period from 1930 to 1960, the proportion of women
receiving bachelor degrees and their first professional degrees fell to 24%. During this same time, only 9% of doctoral degree recipients were women. In 1965, the Higher Education Act helped to increase the number of women undergraduates. Legislative actions such as Affirmative Action and Title IX also opened the doors of opportunity for women in higher education. During the 1970s, women faculty and administrators strived to find ways to improve their status within their professions (Ernst, 1982).

In 1978, women made up 52% of students at the masters level and 40% of students at the doctorate level (McDonald, 1979). Women constituted 51.6% of the total student enrollment in higher education in 1980. During this same period, women made up 25% of full-time faculty in higher education: 8% were full professors, 16% were associate professors, 28% were assistant professors, 29% were instructors, and 18% held deanships (Ernst, 1982).

During the mid 1990s, 39% of newly employed faculty were women and represented almost five times the number of veteran women faculty. Furthermore, research institutions hired women at twice the rate of comprehensive institutions (McCarthy & Kuh, 1998).

In the mid 1970s, the ratio of male presidents to female presidents was 20:1. By 1992, the ratio was 10:1 (McFarland & Vidler, 1995). During the 21st century, women continue to break through the “glass ceiling” of educational leadership.

The attitude of various groups on higher education campuses influences the hiring and promotion of women for leadership positions. One of the most influential groups, the higher education governing boards, has been comprised primarily of men (Ernst, 1982). Board members may need to adjust their attitudes to include women. Board members and search committee members often think that women lack budgetary and fund-raising experience (Ernst, 1982). According to Ernst (1982), these committee members need a clearer idea of candidate knowledge, skills, and experiences, without regard to the gender of the candidate. As more women enter the educational leadership pipeline, governing boards need to hire and promote women and to provide the support network for success.

Women were not readily accepted into the “old boy’s network” such as an administrative council. Women have been treated differently because of gender and have
often worked in a non-supportive higher education system. Typical male roles were defined by traits such as dominance, achievement, autonomy, and aggression (Weber, 1981). The female role was defined by emotionalism, passivity, timidity, deference, and self-abasement. The male role characteristics were accepted in leadership positions. The female role characteristics were not seen as those of people in leadership positions. Women were perceived as less competent than men. This perceived incompetence was a barrier to women obtaining educational leadership positions (Weber, 1981). To achieve positions as educational leaders, women have been required to perform at a higher skill level than males (Brooks & Brooks, 1997). Women must demonstrate to existing leadership that they are capable of leadership roles.

Men dominate education in the number of administrative positions held and the amount of money earned. Men also dominate the decision-making processes that may discourage women from entering administrative ranks (Weber, 1981). Women must hold a higher level of certification, i.e. advanced degrees, than men to obtain the same position (Moore, 1987). Women experience severe declines in participation rates at each step of the educational system - from their first degree to the doctoral level and then entrance and ascension among faculty ranks (Moore, 1987). In higher education worldwide, the higher the level of administration, the fewer the number of the women (Moore, 1987). It is vital that university leaders support women in leadership roles. Women must be aware that administration will promote those who demonstrate leadership characteristics. Presidents and other leaders must recognize and promote a climate that provides opportunities for qualified women.

Women have also battled an uneven playing field with regard to salary compensation, level of formal training, expectations of knowledge or skill level, and under-representation at all levels of higher education. In a 1986 study, female educational leadership faculty were under-compensated compared to males. In 1994, a second study demonstrated no significant gender-based salary discrepancy. The New Agenda discussed by Shavlik and Touchton (1992) called for correction of inequities in hiring, advancement, and salary of female faculty, administrators, and staff. For most women, earning a doctoral degree was seen as a benefit when their goal was to obtain an
educational leadership position (Ballentine, 2001; Gale, 1988). To increase the number of women in educational leadership positions, women must obtain the necessary credentials in educational administration, apply for these positions, and encourage other women to strive for positions in educational leadership (Weber, 1981).

Higher education institutions play a major role in bringing women into the educational leadership ranks. Institutions need to improve female representation in leadership positions. The availability of administrative internships provides development of formal and informal networks, allows women the opportunity to participate in administrative processes and budget preparation, and provides opportunity to observe the decision-making process. Institutions should identify women within their system that have potential leadership skills and a desire to hold leadership positions, provide opportunities to develop those leadership skills, and select from this group to fill administrative positions. The climate of the institution should reward one’s ability and competence devoid of social bias. The campus climate should provide an institutional atmosphere and environment to foster women’s personal, academic, and professional development (Ernst, 1982).

The keys to success of women in educational leadership roles include involvement and commitment of high-level administrators. The president of the institution must be willing to address concerns of women (McFarland & Vidler, 1995). Institutional leaders must commit to the identification, encouragement, and development of women leaders (Shavlik & Touchton, 1992). Also important is the work of campus women’s groups. These formal groups provide a forum to identify and create the necessary conditions for all women whether they hold student, staff, faculty, or administrative positions. The women’s groups should provide an avenue for respect, recognition, reward, and empowerment (McFarland & Vidler, 1995).

From the literature review, several themes emerged that contributed to the success of women as educational leaders: earning a doctorate degree, developing a mentoring relationship, participating in leadership development programs, and demonstrating high levels of skill and competence (Brown 2000; Cook, 1999; Murphy, 1990). Women who earned doctoral degrees were seen as highly credentialed and often were rated as more
competent than those that did not possess a doctoral degree. The doctoral degree is seen as essential for women to succeed in higher education (Ballentine, 2001). Development of a mentoring relationship with either a male or female mentor was identified as a successful strategy for women wanting to obtain educational leadership positions (Ballentine, 2001; Cook, 1999). These relationships helped develop self-confidence, self-esteem, and provided internship opportunities (Ballentine, 2001).

National leadership development programs are helpful to women in career development when pursuing a college presidency position. In 1992, the president of Kutztown University formulated an in-house leadership academy to develop leadership interests and capabilities of women in his own institution. The objectives of this program were for the participants to become aware of leadership profiles, to develop a sensitivity to gender-related issues, to be knowledgeable regarding key leadership roles on campus and within the state educational system, and to develop strategies to improve the campus climate to assist women in reaching their leadership goals. The rationale for women’s leadership programs in higher education must not be attributed to Title IX and Affirmative Action but because of what women have to offer in potential and talent (McFarland & Vidler, 1995).

A study by Murphy (1990) focused on the issues and concerns of women in vocational education leadership positions. The data obtained from this study indicated that successful women educational leaders are often the first-born child or an only child. As the first-born child, they learned skills such as negotiation, guidance, listening, and management in their family role (Murphy, 1990). Their parents stressed the importance of education. They were expected to attend college. The high expectations of their parents helped them to develop a strong sense of self-confidence and belief in their own abilities (Murphy, 1990).

An interview of North Carolina women community college presidents indicated that the majority followed the traditional career path: faculty member, division chair, dean, chief academic officer, and president. All of the female presidents had replaced male presidents. They had worked hard to get there and they commented that they were the right people for the positions (Ballentine, 2001). However, a study by Brown (2000)
demonstrated that fewer than 20% of 91 female college presidents of selected independent colleges followed the traditional career path.

Another identified theme related to the career paths of women in educational leadership was the development of an inner locus of control (Hall, 1997). This was defined as having high self-efficacy beliefs reinforced by successful performance leading to the belief that success was contingent on behavior in the job, not by luck, fate or who you know (Hall, 1997). It appears that women obtained educational leadership positions by different career paths.

Various authors (Gale, 1988; Hall, 1997; McGrath, 1992) offer a litany of characteristics, skills, and leadership styles that have been identified in successful women leaders. At times, it appears that the information is contradictory. However, it would seem that a balance of these attributes and their utilization in appropriate situations would support leadership success for women. These women leaders combined entrepreneurial characteristics with value framework and had a shared commitment to higher education and faculty as professionals. Effective leaders were autonomous and objective, understood faculty needs independent of their own, and maintained a sense of distance and personal integrity. Women leaders were capable of integrating masculine and feminine tendencies (Hall, 1997).

Successful women leaders demonstrated high levels of skill in communication, problem solving, organizational savvy, team building, and instruction and curriculum (McGrath, 1992). The women demonstrated a participatory leadership style (Gale, 1988). They utilized a team approach to formulate an atmosphere of openness, willingness to share power, and attentiveness to the needs of the institution.

Women need to be seen as leaders by presenting oneself as competent and task-oriented. Women need to communicate intelligence and expertise (Gale, 1988). Women must establish the legitimacy of their authority without damaging their acceptability. They must demonstrate control of various situations and themselves (Hall, 1997). They need to guard against discrimination of either men or women. Women need to understand the impact of gender on life in higher educational settings as a component of effective educational leadership (Hall, 1997).
Summary

The major themes of this literature review included the history of the CLS profession, the role of women in clinical laboratory science, the academic requirements in clinical laboratory education, and the career paths of women in educational leadership. Since the focus of this research study was to investigate and document the career paths of women higher education administrators with a background in clinical laboratory science, it was important to present a foundation of knowledge that pertains to the CLS profession with regard to the history of the profession and the role of women in that profession. Over the last 100 years, the CLS profession has grown from “the girls in the lab” performing procedures in a corner of the physician’s office to a recognized profession requiring formal higher education degrees.

As women make up the majority of those in the CLS profession, it makes sense that most clinical laboratory education program directors were also women. By experiencing success at the program director level and developing knowledge of higher education administration, a small number of these women sought positions at the dean’s level. These women started their professional careers in a female-dominated field and then moved into the male-dominated higher education administration arena. The literature demonstrates that for women to be successful in higher education administration, they must possess a doctorate degree, develop a mentoring relationship, participate in leadership development programs, and demonstrate high levels of skill and competence (Brown, 2000; Cook, 1999; Murphy, 1990).

It has also been documented that women in educational leadership positions have experienced lower status as professors, fewer presidential positions, sexual harassment, decreased salary, and slower promotion rates than men (Ernst, 1982; McGrath, 1992, Moore, 1987). The gender of an individual plays a major role in hiring and employment practices in higher education. To increase the number of women in educational leadership positions, women must obtain the necessary credentials in educational administration, apply for educational administration positions, and encourage other women to strive for positions in educational leadership (Weber, 1981).
CHAPTER THREE

METHODOLOGY

This chapter presents the qualitative research design of the study. A discussion of the procedures and methods implemented to explore and document the career paths of women clinical laboratory scientists who have become higher education administrators is offered.

Purpose

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

Research Questions

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?
2. What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science?
3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?
4. How has being a woman influenced their careers as higher education administrators?

Qualitative Research Design

The researcher that selects a qualitative research method “collects open-ended, emerging data with the primary intent of developing themes from the data” (Creswell, 2003, p. 18). This method of data collection allows for a study of an exploratory nature.
The exploration and discovery of data via a qualitative research method often indicates that there is not much written about the participants or topic of study. The data from the participants are used by the researcher to formulate ideas (Creswell, 2003). Rossman and Rallis (as cited in Creswell, 2003) listed the following characteristics of qualitative research:

- Takes place in a natural setting
- Uses multiple methods that are interactive and humanistic
- Is emergent rather than tightly prefigured
- Is fundamentally interpretive (p. 181-182).

The characteristics of the qualitative researcher are also identified by Rossman and Rallis (as cited in Creswell, 2003). They included:

- The researcher views social phenomena holistically
- The researcher is sensitive to his/her role and the personal experiences that affect the study
- The researcher uses complex reasoning
- The researcher adopts and uses one or more strategies of inquiry (p.182-183).

Creswell (1998) identified five strategies used in conducting qualitative research. These strategies include ethnographies, grounded theory, case studies, phenomenological research, and narrative research. Ethnographies allow the researcher to collect data by observation of members of a cultural group in their natural setting over a period of time. In grounded theory, the researcher is able to formulate a theory related to a process, action, or interaction grounded in participants’ responses and reactions. Research focused on the lived experiences of humans becomes the foundation of phenomenological research. Participant stories that are retold by the researcher in a narrative list of life events are known as narrative research. Case studies are conducted via the researcher who explores in detail “a program, an event, an activity, a process, or one or more individuals” (Creswell, 2003, p. 15). Researchers conducting case studies use a variety of data collection procedures and focus on a case bounded by time and activity (Creswell, 2003).
Case Study Research

Since the purpose of this research was to explore and document the career paths of women clinical laboratory scientists that held higher education administrator positions, the case study research design was selected. Yin (2003) stated, “In general, case studies are the preferred strategy when ‘how’ and ‘why’ questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context” (p. 1). The research strategies in psychology, sociology, political science, social work, and business and community planning commonly implement the case study approach. The use of case studies allows the researcher to secure knowledge about phenomenon, an organization, selected groups, or an individual. Case study research designs also allow the researcher to “retain the holistic and meaningful characteristics of real-life events” (Yin, 2003, p. 2).

The five different applications of the case study research method as identified by Yin (2003) included:

- To explain the presumed causal links in real-life interventions;
- To describe an intervention and the real-life context;
- To illustrate certain topics using a descriptive mode;
- To explore situations in which intervention has no clear set of outcomes;
- To conduct a meta-evaluation (p. 15).

This case study of women higher education administrators with a background in clinical laboratory science sought “to illustrate certain topics using a descriptive mode” (Yin, 2003) of the common themes developed from the data.

Merriam (1998) indicated that with the case study design, “The interest is in process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation. Insights gleaned from case studies can directly influence policy, practice, and future research” (p. 19). This case study design sought to provide an account of the career paths of the women involved in the study. Stake (as cited in Merriam, 1998) stated, “knowledge learned from case study is different from other research knowledge in four important ways. Case study knowledge is more concrete, more contextual, more developed by reader interpretation, and based more on reference
populations determined by the reader” (p.31-32). Gillman (2000) defined a case as a “unit of human activity embedded in the real world that can only be studied or understood in context” (p. 1).

Qualitative researcher essential characteristics identified by Merriam (1998) included tolerance for ambiguity, sensitivity, and being a good communicator. The issue of ambiguity relates to not having a standardized set of procedures or protocols for conducting case study research. The case study researcher must be sensitive to context. In addition, the researcher must remain aware and know when to remain silent during the interview, when to ask more probing questions, and when to change the direction of the interview. Being a good communicator allows the researcher to establish rapport with the participants, to demonstrate empathy, to ask good questions, and to listen intently. In this case study, I started with formal questions but allowed probes to vary with the responses of the participants.

“Qualitative case studies can be characterized as being particularistic, descriptive, and heuristic” (Merriam, 1998, p. 29). The design of this research focused on the particular situation of women clinical laboratory scientists with current experience as higher education administrators and the events that occurred along their career paths. The data were reported in a rich, thick description of the lived experiences of these women. The term thick description is one that was adopted from the field of anthropology and indicates that a complete, literal description was used to describe the data gleaned from the research design.

Merriam (1998) discussed the strengths and limitations of the case study design. The strengths of a case study qualitative research method included:

- A best plan for answering research questions
- A means of investigating complex social units
- A research method that is anchored in real-life situations
- Research that results in a rich, holistic account of phenomenon
- Research that offers insights and illuminates meaning that expands the reader’s experiences
- Research that plays a role in advancing a field’s knowledge base (p. 41).
The case study methodology for this research project allowed me to create a plan for answering the research questions. The investigation and documentation of the real-life situations of this group of women emerged from this research method. One of the intentions of this study was to contribute to the field's knowledge base.

Case study qualitative research limitations included:

- Researcher may lack time and funding
- Final product may be too lengthy, detailed, or involved to use
- Methodology can oversimplify or exaggerate a situation leading to erroneous conclusions
- Research is limited by sensitivity and integrity of the researcher
- A lack of guidance for writing up the research data exists
- Issues of researcher bias, reliability, validity, and generalizability are considered with this type of research (p. 42).

With an awareness of the strengths and limitations of the case study design, I attempted to enhance the strengths and minimize the limitations.

The case study methodology was selected for this research study because the participants were bounded by specific criteria. This purposive sample had to possess an academic background in laboratory science and to hold a higher education administrator position at the dean’s level, including assistant and associate dean level.

**Ethical Considerations**

To ensure proper and ethical treatment of the participants involved in this study, I completed two activities. I successfully completed the University of Nebraska-Lincoln training for the protection of human research subjects. This online training course presented the obligations of the researcher to ensure full protection of the rights and welfare of human subjects involved in the research study. I also obtained approval from the University of Nebraska-Lincoln Institutional Review Board (IRB). A copy of the IRB approval letter is found in Appendix A. The documentation submitted to the IRB office included the protocol summary, the protocol template, the scripts of communication with participants, the informed consent form, the participant demographic form, the interview protocol, and the transcriptionist confidentiality
statement. Denzin and Lincoln (2000) stated, “Because the objects of inquiry in interviewing are human beings, researchers must take extreme care to avoid any harm to them. Traditionally, ethical concerns have revolved around the topics of informed consent, the right to privacy, and protection from harm” (p. 662).

**Case Study Design**

The design for this qualitative research included a multi-site case study. Participants were located at eight institutions. The higher education institutions were at the university level. The universities were located in Nebraska, Illinois, Ohio, Tennessee, Missouri, and Texas. Data collection was guided by ten open-ended questions in seven face-to-face semi-formal interviews and one phone interview.

**Pilot Interview**

A pilot interview was conducted prior to the interviews intended for data collection for the study. The pilot interview allowed me to test the interview questions, to improve interview technique, and to become more familiar with the audio recorder and recording time for each side of the tape. The participant in the pilot interview stated she was comfortable with the process and the interview questions. She also appreciated having the questions prior to the actual interview to become familiar with them and to formulate responses. I discovered the need to focus more on what the participant was saying and less on taking notes. The tape speed had to be adjusted as the manufacturer recommended setting only recorded for twenty minutes per tape side. Twice during the pilot interview I failed to notice that the recorder had stopped. This did not occur during the interviews for the study.

**Purposive Sample**

Three sources were used to identify probable participants: a clinical laboratory educators’ list-serve, designated contacts for member institutions of the National Network for Healthcare Programs for Two-Year Colleges, and program directors of NAACLS accredited CLS/MT and CLT/MLT programs in the predetermined geographic region. Each source was asked to identify women who held a current higher education administrative position and possessed a background in clinical laboratory science. The
initial contact of these sources was via an email that included a request for each source to submit contact information of an individual suited for the study.

Upon approval of the study by the Institutional Review Board at the University of Nebraska – Lincoln, the women in higher education administrative positions at the time of the study that possessed a background in clinical laboratory science and met the study criteria were contacted to request participation in the study. The desired number of participants for this study was ten with a minimum of eight. Nineteen prospective participants were identified. Four of these individuals were retired so they did not meet the criteria of the study. I decided to focus on individuals that resided in the Midwest and south central part of the United States. This decision was based on the proximity of the participants to me and a desire to include universities of a similar higher education environment. Six prospective participants were eliminated based on their geographic location. One additional prospective participant was excluded as she was at the vice chancellor level. The focus of the study was at the dean’s level or equivalent. Eight women were identified, contacted, and asked to participate in the study. I determined that these eight prospective participants possessed an academic background in clinical laboratory science, held a dean’s position or equivalent at the university level, and resided in a geographic location close to me.

I contacted the prospective participants by electronic mail. A copy of the email script is found in Appendix B. I indicated that the individual had been identified by her peers or self as a higher education administrator with a background in clinical laboratory science. I explained the goal of the research project, asked the individual to consider voluntary participation in the study, and provided the informed consent information. Within one week, I contacted the prospective participants via telephone to ascertain their willingness to participate in the study, to schedule the details of the interview, and to answer any questions. A copy of the telephone script is found in Appendix C. I provided a reminder to the participants one week prior to the scheduled interview either by regular mail or electronic mail. A copy of the reminder letter is found in Appendix G. At that time, I provided the participant with the informed consent form, the interview protocol, and a demographic information form. Copies of the informed
consent form, the interview protocol, and the demographic information form are found in Appendix D, E, and F, respectively.

**Interviews**

Theories related to interviewing by Bodgan and Biklen (2003), Patton (2002), and Taylor and Bogden (1998) are described in the following section. Patton (2002) and Bogdan and Biklen (2003) described the interview process as a means of entering into the participant’s perspective and was used “to gather descriptive data in the subject’s own words so that the researcher can develop insights on how subjects interpret some piece of the world” (Bogdan & Bilken, 2003, p. 95). The interview process provided a mechanism to seek information about the participants’ feelings, thoughts, and intentions. “Qualitative interviewing begins with the assumption that the perspective of others is meaningful, knowable, and able to be made explicit. We interview to find out what is in and on someone else’s mind, to gather their stories” (Patton, 2002, p. 141). Bogdan and Biklen (2003) stated, “The goal of understanding how the person you are interviewing thinks is at the center of the interview” (p. 98).

Patton (2002) indicated four major reasons for using the standardized open-ended interview format:

- The exact instrument used in the evaluation is available for inspection by those who will use the findings of the study.
- Variation among interviews can be minimized where a number of different interviewers must be used.
- The interview is highly focused so that interviewee time is used efficiently.
- Analysis is facilitated by making responses easy to find and compare (p. 346).

Weaknesses of the standardized approach include the inability of the researcher to pursue topics or issues that were not expected. It also decreases the opportunity to investigate individual experiences and differences (Patton, 2002). Taylor and Bogdan (1998) identified limitations of the interview format. These included:

- People say and do different things in different situations.
- The researcher cannot assume that what a person says during an interview is what that person believes or will say or do in other situations.
• The researcher is not able to correlate the interview findings with participant observation.
• The researcher may misunderstand the informant’s language.
• The informant may be unwilling or unable to articulate important things.
• The assumptions by the researcher may be incorrect (p. 92).

The rules for interviewing, as cited by Bogdan and Bilken (2003) and Taylor and Bogdan (1998) included:

• Creating a comfortable atmosphere to encourage openness
• Being nonjudgmental
• Letting the participant talk
• Paying attention
• Being sensitive
• Listening carefully
• Asking for clarification
• Being flexible
• Being empathetic
• Maintaining good eye contact
• Taking the informant seriously
• Viewing the subject as the expert
• Encouraging them to share ideas and observations (p. 97, 99).

“Good interviews are those in which the subjects are at ease and talk freely about their points of view. Good interviews produce rich data-filled words that reveal the respondent’s perspectives” (Bogdan & Biklen, 2003, p. 96).

During the interviews of this group of women, the participants selected the location that provided a comfortable atmosphere. I made a conscientious effort to allow the participant to talk and not to interrupt with my own thoughts and feelings. I listened with interest and attention to what the participants were telling me. I asked for clarification when needed and utilized appropriate probes in response to the statements of the participants. I maintained good eye contact, although at times, it was difficult. I
demonstrated a genuine interest in what the participant was telling me and viewed them as the expert on the subject of their career paths.

Ten open-ended questions were used for the semi-formal interview format. The intent of this format was to ask the same questions in every interview. The interview questions were provided to the participants prior to the actual interview. This allowed the participants to have time to think about their responses and to provide more thoughtful answers. Some of the participants even jotted notes to remind them of their thoughts for each of the interview questions.

The interviews were conducted in the natural settings of the participants between November 2005 and December 2005. Seven of the interviews were conducted in a face-to-face method. The eighth interview was conducted via phone. This change in data collection methodology was due to time and travel constraints of both the participant and me. Each participant was allowed to ask questions related to the study prior to the start of the interview. The informed consent and demographic information were reviewed and collected prior to beginning the interview process. Each interview was guided by a semi-formal interview format that consisted of ten open-ended questions. Through the use of open-ended questions, I was able to ask “how” and “what” types of questions such that the interviewees would be more likely to share their experiences and knowledge. The interview format allowed for complete, accurate, and reliable oral documentation. The oral interviews provided the mechanism to gain rich data from the interviewees in short periods of time (Creswell, 2003; Marshall & Rossman, 1999; Ritchie, 2003; Yin, 2003). Participant curriculum vitas were also requested and provided to me. The information in the curriculum vitas was used to verify the information provided by the participants on the demographic information form.

With the permission of the participants, the interviews were audio recorded for transcription, data collection, and analysis. Recording of the interviews allowed me to listen and re-listen to the words and draw inner meanings from the responses. Two audio recorders were used for the first four interviews. The second recorder was not producing an audible recording so it was not used for the last four interviews. Extra tapes and batteries were readily available for each of the interviews. A conference call telephone
was utilized for the phone interview. This allowed both sides of the conversation to be audio recorded.

A professional transcriptionist transcribed the audio recordings. The transcriptionist signed a confidentiality statement (Appendix H) to ensure confidentiality with regard to participants’ information and their respective institutions. The transcripts were identified with the assigned pseudonym of the participant and the date. The transcript format included a wide right margin for my notes. I reviewed the transcripts to ensure accuracy and precision. The blanks left by the transcriptionist were filled in after I listened to the audio recordings. Any remaining need for clarification was sought from the participants.

The transcripts were sent to the participants for the member check that allowed them to review the documents to ensure accuracy and to provide an opportunity to add comments and to clarify information (Creswell, 2003; Marshall & Rossman, 1999; Ritchie, 2003). The participants were asked to sign a transcript verification form, which is found in Appendix I. The form was used by the participants to indicate their approval of the transcripts with or without corrections and the use of the assigned pseudonyms. Participants were asked to select their own pseudonym if they were not in agreement with the pseudonym selected by me. One participant requested a different pseudonym.

Marshall and Rossman (1999) referred to field notes as a “detailed, nonjudgmental, concrete description of what has been observed” (p. 107). My field notes were written the day of the interview or shortly after. These notes included a description of the university, the participant’s office, and my first impression of the location of the interview. Most of the interviews or initial meetings occurred in the participant’s office. I was intrigued by the array of items displayed in offices, including photos of children, grandchildren, and pets along with various awards. The bookshelves were lined with clinical laboratory science textbooks and notebooks containing various institutional reports.
Data Analysis

As indicated by Bogden and Bilken (2003), “analysis involves working with the data, organizing them, breaking them into manageable units, coding them, synthesizing them, and searching for patterns” (p. 146). Additionally, Hatch (2002) stated that Data analysis is a systematic search for meaning. It is a way to process qualitative data so that what has been learned can be communicated to others. Analysis means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories. It often involves synthesis, evaluation, interpretation, categorization, hypothesizing, comparison, and pattern finding (p. 148).

The data analysis phase consisted of reading and rereading the transcripts and reflecting on the meaning of the statements (Creswell, 2003). Data reduction involved the chunking of data into manageable pieces. Taylor and Bogdan (1998) suggested keeping track of hunches, interpretations, and ideas when looking for emerging themes. The coding process involved the grouping of similar topics in categories such as major topics, unique topics, and leftovers (Creswell, 2003). The open coding process as outlined by Strauss and Corbin (1998) indicated

…data are broken down into discrete parts, closely examined, and compared for similarities and differences. Events, happenings, objects, and actions/interactions that are found to be conceptually similar in nature or related in meaning are grouped under more abstract concepts termed ‘categories’ (p. 102).

After the initial categories were developed, the process moved to axial coding where the data were assembled and reassembled (Creswell, 1998). “The process of relating categories to their subcategories, termed ‘axial’ because coding occurs around the axis of a category, linking categories at the level of properties and dimensions” (Strauss & Corbin, 1998, p. 123). The axial coding portion of the data analysis included looking for descriptive wording for the topics, turning them into categories, and determining relationships between the topics. The last phase of coding involved the writing of the story line (Creswell, 1998).
The previously described data analysis processes provided a guide for the data analysis for this study. Once the data had been transcribed, I conducted the data analysis and reduction phase. I read the interview transcripts with the intent of checking for accuracy of the transcription and determining an overall sense of the interviews. The transcripts were then reviewed with the original audio-tape to fill in the blanks where the transcriptionist was unable to determine the words. While rereading the transcript, I underlined key words and phrases. During a third read of the interview, I indicated emerging categories by noting them in the margins.

Since the same questions were asked of each participant, the key words or phrases from each question were compiled in a word processing document so all of the responses to the same question were grouped together. The chunking of the material allowed me to grasp a sense of the whole. Since the replies to each question contained such a large number of key words and phrases thus involving numerous pages per question, the information was transferred to poster board. My ability to see each of the key words and phrases at a glance allowed the categories to emerge.

I proceeded to sort the developing themes through a coding process. Each of the key words and phrases were reviewed for their frequency and duplication among participants. As I sought to bring elements together, I looked for reoccurring words and phrases. I determined which data would hold together and which data were of different categories (Patton, 2002). These key words and phrases were then used to identify categories, sub-themes, and over-arching themes as indicated by the data. The coding worksheet is found in Appendix J. Information from the demographic information from the participants was also reviewed for similarities and differences.

*Data Validation*

Although qualitative research does not lend itself to reliability and generalizability as does quantitative research, validity can be confirmed. For the interpretation of the data to be seen as valid, it is the charge of the researcher to employ strategies to demonstrate the validity of the study. Creswell (2003) and Merriam (1998) identified various strategies to check for accuracy of findings. These strategies included:

- Triangulation
To provide credibility to the data, I employed a variety of validation mechanisms. For this study, member checks, rich, thick descriptions, an external audit, and awareness of researcher bias were utilized to determine validation of the data. A review of the participant curriculum vitae allowed for verification of the data indicated on the participant demographic information form. The member check allowed the participants to review the transcription documents for accuracy. A copy of each participant’s own interview was mailed to her accompanied by a postage paid return envelope. The participant was encouraged to read her interview transcript, correct any errors, and to fill in remaining blanks left by the transcriptionist and me when the words could be not determined. The participant was asked to sign the transcript verification form indicating approval of the document and the use of the assigned pseudonym.

The use of rich, thick description of the data was used as a second validation method. Descriptive narratives play a large role in the reporting style of qualitative research. The rich descriptions were developed from the interview transcripts and the field notes. The intent of the narrative portion of the findings of the study was reported in such a manner as to allow the reader to be present in the setting and to “give the discussion an element of shared experiences” (Creswell, 2003, p. 196).

A third method of data validation was the use of an external audit performed by a third party not involved in the research project. An experienced external auditor was contacted to perform this task. Information that was provided to the auditor included:

- IRB approval letter
- Participant demographic information
The auditor employed a method of checking the recordings with the transcription document and the conclusions determined by the researcher (Creswell, 2003). A copy of the external audit report is found in Appendix K.

**Researcher Bias**

One aspect of qualitative studies that I must be cognizant is researcher bias. I am identified as the “filter” or “primary instrument” through which data are processed (Merriam, 1998). Marshall and Rossman (1999) stated, “The qualitative researcher’s challenge is to demonstrate that personal interest will not bias the study” (p. 28). Strauss and Corbin (1998) stated, “The important thing is to recognize when either our own or the respondents’ biases, assumptions, or beliefs are intruding into the analysis. We emphasize that it is not possible to be completely free of bias” (p. 97). Since I possessed similar academic backgrounds, clinical experiences, and qualifications, I sought to maintain a mental awareness to avoid bias. To minimize the bias, I attempted to remain objective and neutral during the interviews. Although bias cannot be totally eliminated, I maintained a heightened awareness throughout the process to guard against and to minimize bias.

**Summary**

I asked peers to identify current women higher education administrators with a background in clinical laboratory science. Eight women were identified, contacted, and asked to participate in the study. It was determined that these eight women met the participant criteria and resided in the identified geographic regions. The data collection method utilized seven semi-formal face-to-face interviews and one phone interview. The interview was guided by the use of ten open-ended questions. The intent of the questions was to invite the women to share their career experiences related to the skills, training,
and professional development opportunities that enabled them to be successful higher education administrators, the barriers and obstacles they have encountered, and whether being a woman has influenced their career path.

The interviews were audio recorded and then transcribed. I repeatedly reviewed the documents to determine common themes and to garner an overall impression of these women’s career paths. The data were validated by member checks, rich, thick descriptions of the data, a comparison of the participant curriculum vitae with the demographic information, an external audit, and an awareness of my bias.
CHAPTER FOUR

INTRODUCTION TO THE SITES AND PARTICIPANTS

This chapter provides an introduction to the sites and participants. The demographic findings of the participants are presented.

Purpose

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career path of these women.

Research Questions

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?
2. What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science?
3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?
4. How has being a woman influenced their careers as higher education administrators?

Participant Demographic Information

The women involved in this study had a previous history of employment in the clinical laboratory. Seven of the eight participants were clinical laboratory scientists with a formal degree in the field. The eighth participant held a formal degree in chemistry but her employment was in a clinical laboratory setting so I determined she fit the research criteria.
Seven of the participants held the title of dean, assistant dean or associate dean. The eighth participant held the title of assistant vice president. I determined that, regardless of differences in the position titles, job functions were similar and thus the participant met the criteria of the study.

The participants were asked to complete a demographic information form. Five of the professionals were between 50 and 59 years of age, one was younger, and two participants were over the age of 60. Three of the participants held doctorates in philosophy, one was all but dissertation (ABD), one held a doctorate of arts, one held an educational doctorate, and two possessed masters degrees. The number of years as a faculty member for these participants ranged from 10 to 39 years with three women in the 20 to 39 year range. Five women were full professors, two were associate professors, and one was an assistant professor. Five of the eight participants were married. Seven of the eight participants were mothers.

Sites and Participants

Each of the eight participants was assigned a pseudonym and a university name that corresponded with a Greek letter. The selected pseudonyms and university names included: Ann at Alpha University, Brianna at Beta University, Debra at Delta University, Gwen at Gamma University, Kelly at Kappa University, Lynn at Lambda University, Olive at Omega University, and Teresa at Theta University.

Ann at Alpha University

A drive through the snow and on icy highways brought me to Ann at Alpha University. She was located at a major university medical center. There was a huge Christmas tree in the waiting area of the building. The facility was busy with the hustle and bustle of patients coming and going from their appointments with the various physicians and departments in the medical center. During my previous telephone conversation with Ann to schedule the interview, she suggested that I stop at the information center for directions to her office. The information desk was located in part of the building that appeared to have been newly built. The directions to Ann’s office included a winding path down several long hallways with final arrival in an older part of
the building. When I reached Ann’s office, the secretary indicated that Ann was in a meeting and would be available at the pre-determined interview time.

Dressed in a business suit, Ann escorted me to a technology classroom for the interview. Although it was apparent that Ann had a hectic schedule that day, she was willing to take time for the interview. She brought along the interview questions that had been provided to her and referred to them at times to review the notes that she had made. Once the interview concluded, Ann proceeded to further assist me by providing contact information for one other prospective participant for my study.

*Brianna at Beta University*

It was a long drive from Ann’s medical center to Brianna at Beta University. The rush hour traffic and streets in the downtown metropolitan region of Beta University presented a challenge with locating the building in which Brianna was located. A quick phone call from the parking garage to Brianna’s secretary provided the necessary directions for a quick walk in the bitter cold to Brianna’s office. I was struck by the obvious age of the building. Brianna’s office had very high ceilings with impressive heavily paneled dark walls. Her desk was a U shape that allowed for face-to-face seating and easy access to the computer for her. I noted her somewhat casual manner with regard to her position, her quick wit, and her sense of humor during our conversation. The importance of her family, especially her son, was evident by the number of photos displayed in her office.

*Debra at Delta University*

After a long drive and a night’s stay, I arrived at the destination for the interview with Debra from Delta University. To shorten my travel time, Debra volunteered to meet in a community more convenient for me. She suggested that we meet at a local restaurant for the interview. I was concerned about the amount of background noise that would be picked up during the audio recording but wanted to graciously accept Debra’s suggestion. I arrived early so I could have lunch prior to the interview. I wanted to be able to give my full attention to the interview. A few minutes prior to the interview time, Debra called to let me know she was running late and would be there as soon as possible. During the wait, I became more concerned about the noise since it was now lunch time. I
even moved to another table in an attempt to decrease the noise from the order and pick-up counters. Since it was a public place and we had not previously met, I described the clothes that I would be wearing so Debra could find me. She did not have a difficult time locating me when she arrived. Shortly after her arrival, her cell phone rang. It was her mother checking on her safety since she was meeting a stranger.

Although the background noise did present challenges to the transcriptionist and me, the interview with Debra was outstanding. She has had multiple experiences as a higher education administrator. She wanted to share those experiences and those of an African-American female. Her message was loud and clear – “you’re okay.” Simply, it’s okay to be a female in a male-dominated world.

_Gwen at Gamma University_

A check of my email the night prior to Gwen’s interview indicated a need to change the location of the interview. The previous plan had been to meet Gwen at Gamma University for the interview. A situation had arisen that would prevent Gwen from being in the office that day. However, she knew I had driven miles to do the interview and she still wished to participate and honored her commitment to participate. I made a quick phone call, and we agreed to meet at Gwen’s home for the interview. Her directions brought me to a quiet, pine tree-filled residential area. The sun was finally shining after several days of clouds, bitter cold, and snow. It seemed that the robins and squirrels were enjoying the sunshine as they played in Gwen’s neighborhood.

Gwen met me at the door and ushered me to the sunroom of her home. The friendly cat that was on Gwen’s doorstep now moved so it could peer at us through the windows of the sunroom. Gwen indicated that the cat was not hers although it seemed to think so. I was struck by the coziness of the sunroom and grateful that Gwen wanted to participate in the interview although she was presented with some challenges. Gwen had provided assistance to me during the process to identify participants for the study. She had gone out of her way to provide suggestions and offered assistance at any time. It was a pleasure to finally meet her.
Kelly at Kappa University

After a couple days at home for some much needed rest, another long drive took me to Kappa University where Kelly was located. I arrived in the city after dark and was completely turned around in my directions. I had to solicit assistance to find the hotel that was located within a few blocks of the university. On the following morning, a quick tour of the streets near the campus enabled me to find the building where Kelly’s office was located. I chose to park on the side street instead of dealing with the parking garage. This area of campus was surrounded by black wrought iron fence. The religious affiliation of the campus was evident as reflected by the bell tower and church steeple that was part of the campus scene.

In the early morning frigid temperatures, I hurriedly walked to the college of health sciences building. I passed several statues of children playing leap-frog and on the teeter-totter. I sensed a commitment to visual art but also a sense of playfulness and an awareness of the happiness that watching children at play can bring to one’s heart. I appreciated the light heartedness of this selection of art for the campus.

I made my way to Kelly’s office suite and was met by her secretary, with whom I had spoken during my initial contacts for scheduling the interview. Kelly’s secretary was one of those individuals that everyone should have as a guest relation person. She was cheerful, welcoming, and willing to assist in any way possible. I was quickly escorted to Kelly’s office.

Kelly suggested that we conduct the interview in the cafeteria over a cup of coffee. Since it was still early morning, I was not concerned about the privacy or amount of background noise. We proceeded to the cafeteria to visit over a cup of coffee for Kelly and hot tea for me.

After completion of the interview, we returned to Kelly’s office so she could print a copy of her curriculum vitae. Kelly’s office was adorned with photos depicting family celebrations and the pride she had for her grandson. She explained that it was a miracle she had the photo of him in his suit. I also noticed several clinical laboratory science textbooks in her bookcase. Her continued love of microbiology was evident by the number of textbooks relating to that area of study.
Lynn at Lambda University

After another long drive, I arrived in the community where Lambda University is located. Lynn’s office was located in the building closest to the main entrance of the university. The university seal, indicating its existence for over 100 years, was proudly displayed above the glass entry way. The foyer of the building allowed for a fifteen foot Christmas tree adorned with purple ornaments and gold ribbon. As I ascended the curving staircase to the second floor, I assumed that purple was a school color. Upon arrival at Lynn’s office, a short wait provided me the opportunity to read the school newspaper that included articles about final exams and the holiday break. After a few minutes, Lynn invited me to her office to begin the interview. More purple was evident in Lynn’s office in the flower arrangements and even her outfit for the day.

I sensed from Lynn that being a female in higher education administration was no big deal. She had been interviewed other times about her position. Although she had challenges along the way, her words of advice were to “quickly become one of the boys.”

Olive at Omega University

Another overnight stay and several hours of driving allowed me to meet Olive at Omega University. After such frigid temperatures and snow during my previous travel, it was a welcome relief to have warm, mid 80 temperatures even early in the morning. After determining that the main street to the university was not a through street, I finally found parking on campus. Since I was actually on the backside of the campus, I had to ask for directions to Olive’s building. I found it unusual that the secretarial office that connected to Olive’s office opened directly to the outside.

Olive was immediately available for the interview. As I was seated in her office, she explained that the door would need to remain open since the secretary was out and she would need to assist anyone entering the office. Within a few seconds, it was evident that Olive was a happy, positive person with a quick smile and lots of laughter. Her office was decorated with plaques displaying her awards for involvement in various professional organizations. It was obvious that Olive was truly dedicated to the clinical laboratory science profession both as a member of the profession and as an educator of the next generation.
Teresa at Theta University

The seven previous interviews, accomplished by driving over 7,000 miles in two and a half weeks, were conducted face-to-face. However, with the end of the semester looming, the desire to complete the interviews prior to the holiday break, and the approval of my advisor, I decided to conduct the eighth interview via phone. I used a conference call speaker phone so both sides of the conversation could be audio recorded. Teresa at Theta University was gracious enough to schedule the interview at the end of a long day of meetings to complete the interview prior to leaving campus to be with her family for the holidays. A phone call at the designated time indicated that Teresa had not yet returned to her office from the last meeting. After a wait of a few minutes and another call to her office, she was available for the interview. Although I found myself wanting to see her face and gestures at the other end of the line, I believed the phone interview produced valuable data and did not detract from the information that was obtained. Teresa seemed uninhibited with the conference call procedure and was quick to describe her career path and experiences.

Summary

This chapter presented the demographic information for the eight clinical laboratory scientists that held positions as higher education administrators. Five of the women were over 50 years of age. Six held degrees beyond the master’s level. Their current administrative positions were at the dean’s level, including assistant and associate dean positions or the equivalent. Seventy-five percent of the participants have been faculty for over 20 years. As faculty, five of the eight held the rank of professor. With regard to length of time at the administrative level, four participants had ten or less years. The other four had more than ten. More than half of these women were married. All but one had children. A description of the initial meeting and interview setting for each participant was included.

The initial visits to campus and my first impressions of all the participants were described in this section. The face-to-face interactions of seven of the participants were presented in this chapter.
CHAPTER FIVE

Major Themes and Categories

This chapter presents the major themes and categories that emerged from this multi-site case study research project. The words of the participants are used extensively to describe these themes and categories.

Purpose

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

Research Questions

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?
2. What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science?
3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?
4. How has being a woman influenced their careers as higher education administrators?

A Description of the Coding Process

The themes, categories, and codes for the reporting of findings for this study were developed by disassembling and reassembling the data. The first step of the coding process included reading the interview transcripts with the intent of gaining an overall sense of what the participants were saying. Then I reviewed the transcripts with the
audio recordings to fill-in the inaudible words of the participants. In the second reading of the transcripts, key terms and phases were identified. These were bracketed in the original text and notes were made in the right hand margin of each transcript. This process was repeated through three passes of each interview transcript. The key words and phrases from each participant responses were then grouped together by question and transferred into a table format. This produced over 80 pages of text. I determined it was too difficult to see the big picture with so many pages. I transferred only the key words to four large poster boards to allow for better visualization of the data. I sought commonalities and differences among the participants’ responses. The visual aids assisted me in formulating the themes, categories, and codes. The coding notebook indicated the location of the data for each code. This document is found in Appendix J.

There were three major themes that emerged from this coding process that described the career paths of these clinical laboratory scientists that were promoted to higher education administration:

- **Getting to the Right Place at the Right Time**
- **The Right Navigational Skills are Required**
- **The Right Place Comes with a Price**

Three categories were developed under the **Getting to the Right Place at the Right Time** theme: The Clinical Laboratory, Professors in Higher Education, and Higher Education Administration. Two categories were developed under the theme **The Right Navigational Skills Are Required**: Don’t Wait for Opportunity to Knock and Communication is the Key. The theme **The Right Place Comes with a Price** was supported by four categories: The Price Women Pay, Gender Considerations, The Right Place Requires a Balancing Act, and The Road Block to the Right Place Has a Crack. Figure one outlines the relationship between the major themes and categories.
Figure 1: Major Themes and Categories

**Getting to the Right Place at the Right Time**

This theme emerged from the voiced experiences of the participants at each juncture in their career paths. These women experienced three career opportunities: a laboratory professional, a faculty member at a university, and a higher education administrator.

**The Clinical Laboratory**

Each of these participants had experienced three career stops in their journey. The first stop was the clinical laboratory. Since clinical laboratory science is an often overlooked career choice, it was interesting to discover how this group of women obtained entry into the field. Ann, Gwen, Kelly, Olive, and Teresa indicated a love for math and science when in high school. Ann stated, “I liked chemistry…and I thought working in a laboratory sounded like a fun thing to do. I decided to go into chemistry and I never regretted it. I think it has been a fun career for me.” Kelly discovered the clinical laboratory science profession after talking to her high school counselor. She found out...
that she could be involved in healthcare and not be involved in direct patient care. Kelly indicated that the clinical setting “…just seemed to be a perfect mesh for me. I loved the science.” Indicating that a career day at the local hospital piqued her interest in the clinical laboratory, Olive said,

You could visit the various areas of the hospital and - you’re going to laugh - but I signed up for physical therapy and maybe pharmacy. One of the two couldn’t accommodate me so they sent me to the lab. I really had never even thought about the lab…didn’t know it existed, but I fell in love with it.

Brianna and Gwen discovered the profession during their college experiences. Brianna gave credit to her mother for finding the profession, “… my mother saw an article in a magazine that said ‘careers for women in science’ and it had medical technology. It appealed to me because I was very interested in laboratory work.” Gwen commented, “I started to college as a humanities major [in] French. I’ve learned that I like more practical applications. I knew about medical technology. It just didn’t interest me until I learned that about myself.”

Debra, a liberal arts graduate with no employment prospects, decided to switch from medical school to another profession. She indicated, “I kind of fell into medical technology as a fluke. I called around and found a couple of hospitals that had medical technology schools, so I applied to the ones that paid a stipend.”

Lynn and Teresa discovered the clinical laboratory through participation in Girl Scouts and volunteer work as a candy striper. Lynn had been involved in Girl Scouts “all the way from the little bitty ones …through a senior in high school.” Although their troop service project at the local hospital started when she was too young to be a candy striper, a whole new category was created and the girls were called “pinkies.” The girls were too young for patient contact so the adult volunteers at the hospital found other areas in that they could be involved. Lynn helped in the reception area of the laboratory. She “just developed an interest from there [and] met the professionals there in the laboratory.” Although she entered college as a pre-veterinary major, she met Mr. Right very early on and “decided I needed something I could finish in four years.” Teresa also became aware of the laboratory through volunteer work as a candy striper.
[I]. . . didn’t really know anything about the field. I was volunteering in one of the hospitals and was assigned to the laboratory because they needed someone in the laboratory to run errands. I became very intrigued with what they did and became familiar with the educational route to go through clinical laboratory science.

The bachelor’s degrees and the means of obtaining them varied for these women. Ann “decided to go into chemistry and I never regretted it. I went two years to . . . college majoring in chemistry. Then I went to school part-time and then finished up full-time.” Debra earned a degree in liberal arts with the intention of attending medical school. She stated,

I couldn’t get a job because I had this liberal arts education and I could do nothing. I kind of fell into medical technology as a fluke. I called around and found a couple of hospitals that had medical technology schools so I applied to the ones that paid a stipend.

The other remaining participants earned degrees in medical technology. Lynn earned an institution-awarded dual degree that met the requirements for both biology and medical technology.

These women completed the professional phase of medical technology training in either a three-plus-one or two-plus-two university-based program or a hospital-based program. The sequence in a university-based program consisted of two or three years of general education courses followed by one or two years of the professional phase of the program. Although the clinical practicum occurs in the clinical setting, the degree is granted through the academic institution. To complete a hospital-based program, the student first enrolls in the required general education courses and then completes the professional phase in a hospital setting.

Brianna transferred after her sophomore year to attend a university that had the clinical rotation incorporated into the program. Kelly had a unique situation in that she had been a student, faculty member, program director, and now an administrator at the same institution. Olive started out as an education major in biology but then was not sure she wanted to teach. Olive had “always been attracted to the medical technology major because they were side by side with biology education with the same track. I remember
visiting the lab and switched my major.” Olive completed her medical technology training via a hospital-based program. Once she completed her academic requirements at the university, she completed the year-long clinical training at the hospital. Teresa attended the university “to do what [she] regarded as a pre-medicine track for the first two years and then transferred back to the medical center because that was where the medical technology program was.”

Upon completion of their clinical laboratory science training, each of the participants was employed in the clinical laboratory. Most of the participants had experience in clinical chemistry, one of four major departments within the clinical laboratory. Hematology and coagulation, blood bank, and microbiology were other areas that provided clinical experiences. Ann, employed as the clinical chemist in the lab, described her time in clinical chemistry as “… a very, very exciting time to be in the lab, because it was just going from manual to automation. I participated in that whole process, because I would be the one who would set up the new method.”

After graduation, Brianna worked in clinical hematology for a year. She commented, “I was dissatisfied … with the level of responsibility compared to what you were trained to do.” Brianna was “recruited into a specialty coagulation laboratory” under the direction of a cardiovascular surgeon. Brianna stated,

The concept was [that] you had to do a whole coagulation profile to get a true picture of what was going on with patients. We were one of the first that were doing whole profiles and one of the first hospitals to do heparin or anticoagulant intervention for burn patients.

She added, “This work was just much more challenging [with a] much greater level of responsibility to physicians.”

Gwen’s clinical experience was a bit unique. She “… worked for a year in nuclear medicine. I did [thyroid] uptakes and scans.” Gwen further stated, “I used to work graveyard shift in blood bank which was fun but mostly [I worked] with chemistry and hematology. I was never a microbiologist.”
Lynn stated,
[I] went right to work for nine straight years in a hospital with a large trauma center. I spent the first three years in bench work in microbiology. Then a supervisory position came open in special chemistry so I switched and changed my focus to chemistry. [I] decided at that time I liked management-administrative type [work] so I started to work in the evenings on my MBA.

Olive commented, “[I] worked weekends in chemistry and then was asked to move to blood bank, which is actually my favorite area.” Teresa stated, “I worked in clinical chemistry for a while and also in microbiology. [I] also set up the histology/cytology laboratory because we had histology and cytology as part of our curriculum.”

*Professors in Higher Education*

After a time in the clinical setting, this group of women had opportunities to make the transition from being a clinician to being an educator. Becoming a faculty member at the university level represented the second career stop for these participants. For some of the participants, these moves were opportunities that were provided when they were identified by others as quality candidates for faculty position. For the remaining participants, they actively looked for a career change.

Some of the participants had experience as a clinical instructor. University- and hospital-based programs included a clinical rotation for students to experience the real world of work and to learn and improve the necessary skills to competently perform as a clinical laboratory scientist. Kelly shared, “They implemented a hospital-based medical technology program so everyone taught. I did some teaching and lecturing in that program as well as bench teaching.” She stated,

The director of the program here called me. They were changing [the program format] and moving some basic courses throughout the curriculum and they were adding faculty. They called me and asked if I was interested in teaching. I said, ‘Sure, why not?’

Teresa was a clinical instructor for students that were from the local medical technology program. Teresa commented, “They had an opening in their medical technology program.
They approached me as to my interest in becoming the director of the medical technology program.” Olive stated,

I’d really like to go into education. They were opening a new position in the laboratory and [the laboratory manager] said if I would agree to stay he’d promise it to me. I became the first education coordinator who was a medical technologist at the hospital-based program.

Although some of the participants progressed from the clinical area to higher education because they were identified as candidates for the faculty position, other participants actively sought positions as faculty at higher education institutions. Once Gwen completed her master’s degree, she sought a teaching position at the university level. She decided, “I loved teaching. I loved being part of the university system.”

Debra replied, “At some point I determined that working every other weekend and working holidays was not conducive to children. I started looking for a job at the community college. I applied and got a teaching position.” She added, “I taught part-time. A full-time position opened up [and] I applied and got it. My chair was promoted [so] I applied for that position and got it.”

Lynn stated,

A position came open at this university at the instructor level. I had finished my masters so I switched to the university. [Just when I arrived] the program director position came open. I moved into being the medical technology program director and instructor. [I] immediately knew this was what I wanted to do for the rest of my life - was the university work. I had no idea I wanted to be an administrator at that point in time, but knew I wanted to teach and do research…

Olive had experience as the program director at a hospital-based program. During that time, Olive attended “a ten day institute [that] was a crash course in education specifically for people from allied health who had no education background.” She formed a network with another participant and they became good friends. Olive stated,

When I was looking for a job, I applied for a position at Omega University. I got a phone call [from] the gentleman I had gone to the institute with. He had moved
to Omega University and had stated a new program there and that’s how I ended up here.

Ann worked part-time as a clinical chemist at the hospital. However, this position was vulnerable because the hospital was reducing the number of employees. She also worked part-time at the university medical center. Ann stated, “I was faculty in the pathology/microbiology department and even though I was faculty status and taught, my job was not to teach full-time. My job was to develop laboratory procedures and then teach some.”

After the hospital purchased the specialty coagulation laboratory, Brianna found herself without a job when “they started to downsize the lab.” She commented, “… so being the highest paid, I was the first to go.” Brianna stated, “I wanted the same kind of level of independence, so I came here actually as a technician and ran a pediatric coagulation lab. I was the chief and only.” She commented, “I’d like to do some research and I’d like to get graduate credit for it.” After completing her doctorate and post doctoral fellowship, Brianna returned to Beta University. She indicated, “I ended up in the medical technology department, never thinking I would go back to med tech. They wanted somebody to come in and do research and could also teach and lecture in the hematology section.”

Higher Education Administration

Although program directors, department chairpersons, and division chairpersons are viewed as administrators, for the purposes of this study, only positions at the role of dean, including associate and assistant dean, were labeled as administrative positions. Becoming a higher education administrator represented the third career stop for these participants. The experiences of transition from faculty status to administrator differed among the participants. For some, the move to the administrative level occurred at the same institution in which they had been a faculty member, while others sought positions at the administrative level in other institutions.

Ann was considering another employment opportunity and was traveling to complete the second interview when the dean of the college of pharmacy called her. He
said, “Ann, are you interested in the associate dean’s job because I would like to nominate you?” Ann replied, “Well yes I am.” Ann commented that this was God’s way of telling me to stay here. So I went back for the second interview and did not accept the job. Which if [the dean] hadn’t called me that morning, I probably would have accepted the job. So it was fortuitous.

Although Ann’s immediate supervisor is the dean of the college of medicine, she acts as a chief executive officer for the school of allied health. Ann commented, I’ve been the [associate] dean for – I’m in my 11th year – and I have not had 11 meetings with the dean of the college of medicine. I do it but it is an associate dean position because it is under the dean. [My position] functions as a dean. We don’t have our own separate college [so] I can’t be the dean.

Brianna stated, I was interim department head and then an assistant director for the school. I became the assistant director in charge of operations and that was all the financials and budget planning. The director of schools stepped down and I became the interim director. I had been in charge of budget and finance and it made sense that I would just keep the school running. I came on then as half-time department head, half-time associate dean with the idea they were grooming me so when [the dean] retired…I could step in.

At the time of this interview, she was the executive associate dean. In this position, Brianna was responsible for “the day-to-day operations… budget, finance, human resources, marketing and communication, information technology, promotion and tenure, academic affairs, and curriculum.”

Debra has held numerous positions in higher education administration both at the community college and university level. Debra indicated, I was the director of the medical laboratory technician and medical assistant programs. [After] the college re-organized, the president asked me if I was willing to move to another campus as division head of mathematics and technology and I said yes. At the west campus, the position as associate dean of instruction opened up and I applied for that and got it.
After additional administrative changes, Debra stated, “I became the dean of instruction for a year and a half as a temporary assignment.” Her varied experiences have come about due to her proven skills and knowledge, reorganization of various institutions, and her willingness to relocate to regional campuses.

Gwen had spent 20 years in higher education as the education coordinator for the medical technology program and as department chair. She was actively involved in assessment, faculty professional development, and the regional accreditation process. At that time in her career, Gwen stated, “[I] realized that I wanted to move into administration and to be able to take all these skills that I had learned over the years and apply them differently.” She commented, “I looked around to see what jobs I’d be eligible for and had quite a few interviews.” At the time of the interview, Gwen was the dean of the college of health sciences at Gamma University.

Kelly accepted a position as a faculty member in the clinical laboratory science program where just a few years prior she had been the student. After two years as faculty, she was asked to become chair for the department and she accepted. Kelly replied, “The director of planning wanted a sabbatical and the dean asked me if I would step into that position. I did that for six months and then she offered me the assistant dean position.” She stated, “I was the next person in line. I didn’t come in here thinking I would be a dean someday. It hasn’t been the way I plotted the course.” Kelly’s role as the assistant dean was considered administration and student affairs. Kelly explained that she accepted this position for two reasons, “I was very close to the faculty member that died, and I knew her philosophies, and I wanted to see that happen” and

This would be a good thing for the department. The person that was in the department had worked very closely with me in administration. I knew it was really her time. This would allow me to move up - and for her - to take the chair position. It just seemed right.

Lynn stated,

They had remodeled the clinical laboratory science portion of it. I was no longer just the medical technology program director. We now had several programs in that department, histology and medical laboratory technician, so they transformed
it into a department. As I finished my doctorate, [I] immediately went into a department chair position.

After three years as department chair, the associate vice president position became available. A previous dean had told Lynn, “…you have a knack for this - you need to go into university administration.” He provided the type of reinforcement to make those decisions easier, more comfortable, and more certain. Lynn was an assistant vice-president at the time of the interview.

Olive had maintained her status as the clinical laboratory science program director, while assuming responsibilities as an assistant dean. Olive stated,

[Administration] decided to do some re-organization and [we] later became a college. We had our first dean [but] there were no assistant deans or associate deans. I ended up taking on a pseudo-assistant dean role. [When the dean left], I was appointed the acting administrator for the college.

Olive did not move to a permanent administrative position at that time. After further re-organization and administrative personnel changes, Olive was again asked to become the assistant dean. She stated,

I was first an interim and then the assistant dean. I have stayed on as the assistant dean with [the current dean] which actually is a very good match. We were both approached about taking over as interim dean. We will both do it. Neither one of us really wanted to be dean, because there’s no way I could have run the program and been dean also.

Olive and the current dean work very closely together. Olive stated, “He gets to make all the tough decisions and I get to do the things I like.”

Teresa followed a traditional academic path – that is, moving from faculty to program director to department chair to associate dean and finally to a dean position. Teresa stated,

I was offered the chairmanship of [their] medical technology department. I did accept the position. I was in that position for a little over ten years. Then they asked me to consider taking the associate dean’s position in an acting role. They decided we really needed an associate dean, so [the dean] said he felt like it was a
waste to do a national search if I would consider taking the position [as] he was pleased with my work. I took the associate deanship for the school of allied health and stayed in that position for a little over six years.

At the time of the interview, Teresa held a dean level position.

Although the career paths of these women have varied, they have several experiences in common. They have had previous experience as laboratory professionals, they have acted as faculty at the university level, and they held positions as higher education administrators. Brianna summed up the sentiments of the group when she stated,

I feel like I am on my third career. I was a medical technologist, a research scientist, and now I am an administrator. Each one fit my life at the time. I would probably say I would make the same choices because they fit my life as it was. Everything colors things and everything changes things.

She further added, “…the choices you make influence where you go. I’ve been lucky that I’ve been happy with each career path.”

*The Right Navigational Skills are Required*

This theme is supported by two categories: *Don’t Wait for Opportunity to Knock* and *Communication is the Key*. Each of these categories is supported by numerous codes and each is explored. A fact evident in the data was that these women obtained their administrative positions by seeking and accepting opportunities that broadened their knowledge of and visibility throughout their entire organizations. They did not sequester themselves just to their faculty duties and teaching responsibilities. Instead, they looked for opportunities for personal and professional growth; they volunteered for committee work, professional development opportunities, and they worked hard and did their assignments well. They stayed visible on campus, sought the big picture, had and served as mentor, took the opportunity to learn at all levels, and earned an advanced degree.

Their keys to effective communication included communication skills, listening skills, being of service, leadership training, team work, interpersonal skills, use of humor, displaying trust, honesty, respect, and commitment, and mentoring others.
Don’t Wait for Opportunity to Knock

Seek and accept opportunities  From the first interview through the last, every participant indicated that seeking and accepting opportunities was a key component to obtaining positions as higher education administrators. Ann stated, “I took advantage of every leadership opportunity that was available in professional organizations.” She has held several positions in various national organizations. Ann advised to take advantage of every opportunity to grow. She commented,

I know some people tell young faculty to focus on a particular research project or something, on a research area, and essentially to get narrower and narrower. Maybe that is where you should go if research is going to be your number one goal. But as a faculty person, I think getting lots of experiences is a little bit better. The opportunities to serve on different committees, to find out more about the organization, that’s what you are going to need to know if you get in an administrative role. If you focus too much, you won’t have any of those experiences.

Ann stated, “[I] was taking on all of this extra work that I didn’t need to take on, but I wouldn’t have this job if I hadn’t done that.” Ann knew that academics had provided her the opportunity to publish and to participate in professional organizations.

Brianna, struggling with decisions about continuing her research, had specific administrative opportunities offered in small enough increments to allow her to assess her own interests and “likes”. She commented,

At a point in time when I was trying to decide whether or not I would continue my research, I had administrative opportunities provided to me and they were small enough at first that I could see if I liked it.

She found that she both liked and was good at administrative work. Moving to administration proved to be the right decision. Brianna stated,

Once I made that decision to become acting dean, I could really come into the dean’s office on a part-time basis. I knew where my trajectory was going. So it was like the stars and the planets all aligned and it was good.
Debra’s outlook on accepting opportunities was to “…have no fear about any assignment.” She stated, “I am not one to say that I can’t do it. Like automotive, I [had] no fear and I learned a lot about it.” Debra said, “I’ve never said no to a supervisor or boss who’s asked me to do something. I look at it as something that is expanding my knowledge level. So I look at it as a challenge.” Debra advised,

I think that any project, any job that someone asks you to do, do it, volunteer for it. If there is anything special going on the college or university campus, volunteer. Get as much experience as you can in various areas.

Gwen further supported the idea of becoming involved with things that are campus wide. She stated, “I took advantage of things that were university-wide. I made a point of doing that. So I never said no.” Gwen, actively involved in assessment processes, faculty development, and program and institution accreditation, believed that those experiences provided skills that she applies daily in her administrative role. She further stated, “I was running three programs, [had] difficult faculty, limited resources, and I was doing all of that. I was doing it so I could build my career so I could move on but I would caution against that.”

Olive cited attending an advising institute and training on core curriculum as an example of seeking and accepting opportunities to enhance her knowledge and skills. She stated, “Be open to change and just try to learn as much from different people who’ve been through that road before.”

Teresa believed that accepting opportunities should fit your career goals. She stated, “I’m a person that pretty much thinks, ‘oh yeah, I can do this’.” Teresa commented,

I will step forward and take what I consider reasonable risks and take as many opportunities as I can. There may have been opportunities there that I have not recognized as opportunities and maybe didn’t pursue them where I could have. But generally speaking, I’ve been willing to make the next step into an opportunity. Unless… it was something that just did not fit with the career goals of where I was going.
Brianna saw the opportunity to serve on a high-visibility committee as a necessary professional development opportunity. She perceived that exposure and the chance to obtain a sense of the feel of the campus and how things work were vital. She stated, “Being on various high level committees. There’s no replacement for that. It is training in and of itself.”

Not only was Ann involved in professional organizations, she also volunteered for committee work on campus. She believed that by volunteering for those kinds of things one is able to learn a lot more about the workings of the university system and the larger issues. She stated,

…the opportunity to serve on different committees, to find out more about the organization, that’s what you’re going to need to know if you get in an administrative role. If you focus too much, you won’t have any of those experiences.

Olive suggested, “Volunteer for various committees on campus. Don’t always look for the committee that is perceived as not having a lot to do. Look for opportunities where the committees may involve additional training.” Seeking informal opportunities on campus committees and involvement in campus projects and special assignments provided this group of women with some advantageous experience and exposure to others on campus.

*Seek professional development opportunities*  This group of women administrators was quick to point out that taking advantage of formal professional development opportunities was important. Ann spoke highly of her 20 years of involvement with Toastmasters. She stated,

I joined Toastmasters to be less afraid of speaking in public. It helped in so many ways. It helps you know how to organize meetings, it helps you work with volunteers, and essentially if you can work with volunteers and have volunteers buy into your vision, then when you are working with a group of people, those same skills come forth. You can learn leadership skills and speaking skills. You practice speaking extemporaneously. You practice prepared speeches. You
practice introducing people and running a meeting. All of these skills that are going to be used if you are going to move on in administration.

Ann was active in various professional organizations. She stated, I became involved as the secretary, chair, and chair-elect. I was on the house of delegates for the national organization. If you take advantage of these things and do the work well, it is amazing what opportunities open for you.

Brianna was nominated to be a Committee on Institutional Cooperation (CIC) fellow. This professional development opportunity consisted of two to three day workshops offered three times per year. She indicated the focus of the workshops was “leadership, budget, finance, management, and visioning.” Brianna stated, “They sent me to be a CIC fellow because I was being thrust into administration from this heavy research background.” She was being groomed for a future position in administration. The experience “was fabulous. It was really, really very hands on, very good. So that helped me in this whole process.” Brianna indicated,

The big issue was getting me known on campus. I was very well known in the college but really [needed] campus exposure and getting the campus perspective. So I [was] sent out to every committee and every meeting known to man.

Debra shared the experience of participating in an ethnic leadership development opportunity. It was sponsored by one of the professional organizations affiliated with laboratory professionals. She commented, “…seeing other women who were in leadership positions really helped.” Debra also participated in program and institution accreditation processes as a site visitor for the respective accrediting bodies.

Kelly’s initial reply to the question related to professional development told of her opportunity to complete her master’s degree. She commented,

Whatever I’ve been interested in doing exterior to the university, there has always been financial support to have that happen for me. It started with my masters that I did get here. That was [available] through tuition remission. Communication I think is a real important skill and I think that masters helped me a lot with that.

She has had opportunities to attend various professional meetings. Kelly described the opportunity to attend a workshop for deans and chairs that was sponsored by the
American Council on Education. Kelly stated, “That was very helpful. I brought [the information] back for the department and honed my skills in those areas.” Other professional development opportunities have allowed her to “…look at my own personal skills and those things that I needed to improve. That was very, very helpful.”

To assist her in adjusting to the academic environment, Lynn attended a seminar and a workshop presented by the education coordinating board in her state. She commented,

It’s a five day workshop for managers and academic leaders. That one was particularly valuable particularly with the academic influence. Evaluating faculty is very different from evaluating staff technologists. Faculty are far more creative and autonomous. Those were very helpful in that type of changing a leadership style from a more rigid bureaucratic structure like hospitals and labs are, to a much more relaxed professional environment in academia.

The second workshop that Lynn mentioned was “most helpful in adjusting environments and different leadership styles for different environments.”

Olive’s university offered a leadership program that paid the tuition for doctoral course work. She explained, “The leadership program at [Omega University] was an effort to develop faculty. They paid for your graduate tuition and time away.” By being accepted into this leadership program, Olive was able to begin her doctoral degree. Olive commented,

[I] met with [a mentor] periodically and that’s probably the first thing that I think made me think about looking beyond the CLS program. [That] probably was the first introduction to the other parts of the university and how they function and work together.

Teresa has also actively participated in various professional development opportunities. She stated,

The leadership models are very different not only for deans and provosts but the president’s role in universities. They are changing from more of an on campus to off campus, and external type of public relations. I have tried to follow those trends and seek workshops and things in administrative skills.
Teresa commented, “I have taken the Covey series and have worked through the seven principles and the first principles of learning. I was actually training other faculty and administrators and was at the coach level.” She further stated,

I’ve taken diversity workshops because there’s a real difference in diversity and how we address all of those types of things. I’ve been interested in the changes - even in instruction with the multi-medias with distance learning. I was one of the first ones that did distance learning.

She has “tracked the trends and tried to take workshops, hear speakers, and go to conferences that worked around the life-long learning in the administrative level.”

To achieve a position as a higher education administrator, these participants indicated that their prior involvement with professional organizations and campus committees allowed them to demonstrate skills that are desirable for academic leaders. The opportunity to display these qualities made them more visible to other higher education administrators. Ann stated, “…if you take advantage of these things and do the work well, it is amazing what opportunities open for you.” Brianna further supported this notion, “I just think they need to get out there and do the work and if they are good at it, people will snap them up.”

Being visible/visibility These participants reported that by being visible or having a reputation as someone who possessed the desirable skills and traits of leaders they were able to obtain their administrative positions. Ann advised “…reach out and learn new things” meaning new things outside of her assigned area. She stated,

I developed a course on research methodologies. I’ve never had a courtesy faculty person volunteer to do those things. So I guess it was pretty unusual that I volunteered to do them. It seemed like the thing to do and a good idea so I did it. Those things helped tremendously. If I hadn’t had that background, I probably wouldn’t have gotten the job in allied health. The faculty had experience with me. I ran the research forum well and organized it well. So all these little things fit together.

Ann believed that, “I probably wouldn’t have gotten the job in allied health” had she not volunteered. She further supported this theory by describing her experience as the co-
chair for a non-profit organization. Ann shared, “Take advantage of things like being the
[non-profit organization] co-chair. I would personally go visit everyone in our pathology
department. I started to learn who the people were and just more about what was
happening.”

In an effort to become better known on campus, Brianna indicated she was “being
sent to every committee meeting known to man. They were important committees and I
met a lot of people on campus.” Brianna indicated,

The big issue was getting me known on campus. I was very well known in the
college but really [needed] campus exposure and getting the campus perspective.
So I [was] sent out to every committee and every meeting known to man.

Seeing the big picture The opportunities that were sought or presented to these
participants played a role in their ability to see the big picture. Several of the participants
indicated that their roles in professional organizations and on campus committees
provided a mechanism for them to become known across campus. As a faculty member,
department chair, and division chair, the view can be somewhat narrow and focused on
specific areas. A transition to the administrative arena required these women to see the
big picture, to see beyond their CLS programs, and to fully comprehend the institutional
mission and purpose. Ann commented,

I’d say detail work is not my forte and yet if you are going to be good in the
laboratory, you have to be good at detail work so I can do that. I am also a big
picture thinker. Especially now in this position, [I] spend more time thinking of
the big picture than I did in the laboratory.

Her knowledge of people and the organization had served her well for the role as an
administrator.

Brianna observed that in serving as an acting dean “…you really get a global view
of campus and you just don’t get that kind of insider information as a faculty member.”
She noted a key item to her success as an administrator was the ability to “…see the big
picture and to help other people see their role in it.” The opportunity to serve on various
high level committees allowed Brianna to grasp “…the sense of the feel of the campus
and how things work.”
Lynn stated, “The most valuable thing for me to do is to be able to conceptualize how new projects, new events, and future plans need to be.” The institutional mission, to move from a regional institution to a more prominent institution within the state, required her ability to guide that direction. Lynn commented, “So in the curriculum scope, what new degree programs does Lambda University want to have that’s going to fit into our big picture plan?”

Olive’s doctoral course work experiences prompted her to look beyond her CLS program and to be introduced to the other divisions in the university. The opportunity to learn “as much as I can about other programs” and “just paying attention” was key to understanding how the university operated.

_Having a mentor_ Seven of the eight participants gave credit to an individual that acted as a mentor at some point in their careers. The position, gender, and level of involvement of the mentor varied among the participants. Ann spoke of an individual that she viewed as a mentor even though they never really sat down to discuss her career path. She commented,

I noticed how he ran meetings, how he would get a group of people together who had all kinds of different views about how the whole department ought to function. He came in, organized a series of meetings and got the whole place organized, running, and going in the same direction. It was just amazing. He had some tools for developing consensus.

Ann later learned that his tools were based on the quality management principles. She mimicked his organizational skills and group dynamics with her own team members.

Debra’s experience with a mentor reflected what most individuals envision when thinking of a mentoring relationship. Debra was an adjunct faculty member when her mentor was the dean of instruction. Debra’s mentor, “took me under her wing. She proceeded me. She left the position, then I applied and got it.” She assisted Debra in moving up the administrative ladder. Debra’s relationship with her mentor was informal but very beneficial. Debra offered this description. “If she saw that I was getting ready to do something that she didn’t feel was good for my career, she would let me know.” Debra commented on her mentor’s influence even after retirement. “Even now, if I’m
getting ready to make [a move] – before I went to Delta University, I talked to her. I still call her.” Debra described mentoring experiences from provosts and vice presidents as well. These individuals were instrumental in “giving me projects that really expanded my experience level. It’s really been very helpful.”

Kelly noted a couple of individuals that she considered mentors at various points in her career. She commented,

I had a faculty member who was a radiologist and she would take me to general meetings in education. She encouraged me to get involved with the university overall – not only the groups that are representing specific interests groups but also the idea of university governance.

A fellow CLS faculty member worked to get Kelly involved in the professional society. Other faculty members worked closely with her to familiarize her with administrative roles and accreditation processes. Although Kelly did not come to the university thinking she wanted to be a dean when she grew up, she “felt very much mentored and worked with.”

As a medical technology student, Lynn had a mentor type relationship with the program director. When sharing her mentoring experiences, Lynn stated, “there’s usually only a handful of them in your life, where you say, ‘When I grow up, I want to be you’.” Lynn commented, “That was one of those types that would really be interesting. That’s what drew me to the position at Lambda University in the program director position here in the first place.” Once Lynn joined the faculty ranks within the university, she was mentored by a dean who was interested in the CLS program. Lynn’s mentoring relationship with this dean was grounded in his support for her advancement. “When the opportunity came to turn that program into a department and take on a department chair position, he was there along the whole way saying ‘you need to do that’.” When he found out she had applied for the vice president position, he called her and said, “I’m glad you’re doing that.” Lynn commented, “These two individuals were important in influencing those types of decisions along the way and that made those decisions easier, more comfortable, more certain.”
Olive was “groomed” by the first dean of the college. Olive commented, “I would say she was a mentor. I learned a lot about all aspects of higher education administration. I was taking courses in higher education administration. They dovetailed together very nicely.” Olive and her mentor possessed similar characteristics and backgrounds, which attributed to their mentoring relationship. Olive described her mentor as someone that “knew quite a bit about how various organizations function and how to do things in a more aboveboard manner that’s very fair to everyone.” Olive highly respected her mentor because, “she never asked more from the people that worked for her than she was going to give herself.” Olive indicated that it takes “a commitment to doing things well” to be in administration and that was what she learned from her mentor.

A vice president with numerous years in administration acted as Teresa’s mentor. She stated,

I had worked with him on other issues, other committees, and a number of projects. I did meet with him on various occasions about particular issues or just about leadership in general. We analyzed some of my specific things that I might be doing or decisions I had made and how I arrived at those decisions. He would offer advice regarding her decision making skills, team management skills, and dealing with decisions that were not always popular with the faculty. Teresa described him as “very, very experienced.”

Although these women considered these experiences as forms of mentoring and referred to the identified individuals as mentors, a term that may more accurately describe this process and the individuals involved is modeling. The participants, especially as evidenced by Ann, identified leadership strategies in the administrators that they worked with and modeled those characteristics and practices.

*Learning at all levels* Five of the eight participants responded that to achieve their position as a higher education administrator, they had demonstrated the ability to take on a variety of projects and experiences. They were not afraid to explore unfamiliar areas and willingly accepted the opportunity to expand their knowledge of the institutions where they were employed. The main thrust of their responses indicated a need to volunteer, to be active on campus committees, to participate in professional development
opportunities, and to “never say no” when asked to take on a special assignment or project. These women indicated that they were often very busy with their existing responsibilities but were able to take on additional tasks and to do them well. The ability to do this assisted them in getting to where they are now.

Ann shared a variety of experiences throughout her career that allowed her to learn at all levels. She was learning via participating in faculty development opportunities, volunteering as a co-chair for a non-profit organization, getting to know her colleagues and their laboratory equipment, being active in professional organizations, and publishing. Ann stated, “You never know what opportunities are going to be the ones that make the difference.”

Debra took advantage of a variety of experiences as they were offered. She held various administrative positions, volunteered as a site visitor for program and institutional accreditation agencies, and eagerly accepted opportunities to expand her knowledge. “I look at it as something that is expanding my experience level. So I look at it as a challenge,” said Debra.

In addition to the learning experiences previously mentioned, Gwen stated, We run two clinics so we serve the public and that’s been new. I love that experience. There [are] all kinds of things that I’m getting involved in that I never would have been involved in the small university. I go out to the community and I recruit. I’ve done some fundraising and that’s been a wonderful experience.”

Gwen further supported these efforts by saying, “I feel like I’m taking the best of what I’ve learned and I’m taking it to a new level and I enjoy that.”

Olive shared, Maybe I was fortunate when I was at a small university. You had more of an overview – the coordinating board funding, how they fund – there are a lot of chairs who still don’t understand how higher education is funded. I think learning those things is key to understanding how the university operates. Really, just paying attention. I try to learn as much as I can about other programs. When they’re talking, I don’t tune them out.
This philosophy had assisted her with her responsibilities as an assistant dean. Being an advocate for the other programs was vital to demonstrating the knowledge required of successful administrators. Olive shared the following, “I think if you want to move up, you really need to do that. You have to start thinking beyond your little program.”

Teresa supported this philosophy by her statements regarding her educational and career experiences. She stated, “I’ve learned at each stage things that made me ready for the next step. I certainly don’t do everything correct. I still make mistakes. I still hope to learn from those.”

*Earning an advanced degree* Numerous studies (Ballentine, 2001; Brown, 2000; Cook, 1999; Gale, 1998; Moore, 1987; Murphy, 1990; Weber, 1981) have indicated that it is necessary for women to obtain an advanced degree to increase their likelihood of joining the ranks of higher education administration. These results were strongly supported by the findings of this study. Five of the eight participants had earned doctoral degrees. They told of the struggles of balancing family, being a full-time employee, and earning the advanced degree. Brianna and Lynn pursued degrees in a science field. They shared their experiences about very stressful times when they were in the laboratory trying to produce publishable results. Brianna stated, “it was fun and exciting, stressful and all the above.”

Lynn further supported this theory. She indicated, “I knew right away that if I would have wanted to stay in the university and ever get ingrained into the mainstream of academia, I needed that doctorate.” Lynn earned her doctorate in molecular biology and biochemistry. She described her experience. “That was a terribly difficult five year period. I had [an older] child, two children less than five, and trying to crank out research data and teach classes, and it was tough.”

Debra, speaking of earning her doctoral degree stated, “I should have gotten my PhD much earlier in my career. I think I would have been more open to some of the opportunities that came my way.” Debra advised women to get the advanced degree for themselves. Gwen shared her challenges of completing her dissertation. She commented,
I spent one summer at my computer eight hours a day seven days a week. It was a nightmare. I am so glad it is over. I mean I’m glad I did it. It’s tough getting your doctorate when you are already working.

Teresa experienced challenges with completing her dissertation, while accepting a new position as a chairperson of a clinical laboratory science program and relocation to a new town. Teresa commented, “I accept[ed] the position so I moved to a new job, a new town, and tried to finish a dissertation. It was challenging but I did it.”

Participants that had not earned an advanced degree cited this as one of their suggestions for future women administrators. Ann had completed her coursework and just needed to finish the research component. At the time, she had three young children and she decided that she did not want to stop working to devote time to the research project. She reconsidered completion of the degree when her children were in high school. Again she decided to focus on taking care of her family. Since Add did not complete her doctoral degree, she quickly advised, “get your PhD, that’s the number one thing.”

Olive started a doctoral program that was sponsored by a leadership development opportunity. Personal situations prevented her from completing the degree. Olive simply stated, “Finish your doctorate.” When discussing the need for an advanced degree, Kelly said, “It’s something that you really, really, really need. Some of it is for credibility with other faculty. If I were to go back, it would be number one on the list.” Additionally, Kelly stated, “It’s [the PhD] a must in today’s market.” When asked about her career choices, Kelly quickly indicated that earning a PhD would be the one item that she would do differently.

**Communication is the Key**

The second category that supports the right navigation skills is *Communication is the Key*. The data related to this category includes communication skills, listening, being of service, leadership training, team work, interpersonal skills, humor, commitment, and mentoring others.

*Communication skills* Ann described her necessary communication skills as formal public speaking and conducting meetings along with the informal communication
with volunteers and faculty. The ability to communicate with faculty was one aspect that Ann thought was very important in her nomination for the associate dean position. Ann noted, “faculty at least had experience with me from the research forum.” Faculty had the opportunity to work with Ann when she “would personally go visit everyone in our pathology department.” She had made an effort to get to know people in her department and it had paid off.

Gwen identified a lack of good communication skills among her clinical laboratory science students. The students with diverse language skills had seen the laboratory as a place where they did not need to be able to speak or write effectively. Gwen stated, “I found that a lot of these students were coming because they perceived that working in the lab meant they didn’t have to communicate.” Even American born students did not value communication. For all healthcare professionals to be effective, communication is the key. Gwen became very interested in communication skills. Gwen commented, “I started doing a lot of lecturing about [the importance of communication]. I did a fair number of workshops talking about communication.” Gwen admitted, “Not to say that I’m a good communicator, but I sure learned a lot about it, and I sure learned how to help people become better communicators, to frame their message both verbally and in writing.” Gwen was adamant that this skill assisted her as an educator and now as an administrator.

Kelly earned a master’s degree in educational counseling that required effective communication skills. She had transferred her communication skills as a counselor to her position as an assistant dean. She stated, “I think communication is probably one of my biggest areas. I think that communication skills are so important.”

Listening During the interview, when Gwen spoke of communication skills, she also mentioned the importance of listening. Gwen said, “I think I listen well. My faculty have told me that I listen well.” Gwen further added,

I have learned through the peer coaching process that I do that you can’t just go in and tell somebody ‘This is what you did wrong. Redo it.’ You have to help them realize it themselves and find a way that they can figure out a way to become better over time.
Her ability to listen and offer examples of her experiences helped them sort through things.

Kelly viewed listening as one aspect of her position as an administrator. She indicated “…there are things that you cannot resolve and cannot work through, but I think to listen is important….” She went on to say

maybe that’s communication skills but I see that as an important part of what I do. I have no problems working with people to resolve their issues or listening to what they see as an issue and seeing if there are ways to work that through.

Olive believed that her ability to listen to the faculty and department chairs was key to her success as an assistant dean. Olive commented, “…just paying attention. I try to learn as much as I can about other programs. When they are talking, I don’t tune them out.” By possessing the background knowledge of the various programs in her college, it allowed her to be an advocate for them. She indicated that was important.

Teresa indicated that she was a very participatory leader. She liked to get involved and commented that some people may have even considered her a micromanager. However, she stated,

I don’t think I can be the best advocate for people if I don’t understand their programs or their positions…hear their concerns. I also think that when you’re at the dean’s level or associate dean and really even at the chair level, you need to hear the concerns of the people under you. Even if you don’t agree on the outcome or agree with everything, it is important that you hear that. I think that to communicate means to be able to not only be articulate in talk but to have very good listening skills.

Being of service  Brianna believed that communicating with people and convincing them that you can provide them with a service was vital to being a higher education administrator. She sensed a mentality of “us versus them” between faculty and department heads and the dean’s office. Brianna “really tried to change the perception of the dean’s office to a culture of service. We are here to facilitate, to help guide you.” Additionally, she stated, “So [I am] trying to get the shift from us versus them to a shift of ‘we are here to help you’ and ‘come to us with your problems.’ We are not going to
yell at you but we are going to help you fix them. That’s a key thing to recognize and to build upon.”

Kelly’s response also supported Brianna’s message. She described her position as one of service. Kelly is a former student, faculty member, department chair, and now assistant dean at Kappa University. She stated, “I have a lot of tenure here at the university so I’ve got a lot of information as far as how the system works. I’ve been able to do a little bit of problem solving because of that - just knowing who to call and who to talk to and to work things through. I see administration in general as a service position. I don’t know that everybody agrees with that.” Kelly has provided service to the faculty, to the administration, and to the students.

Teresa’s vision of providing service to her people was to gather information and to make a decision. She described herself as “one that can make a decision and be firm” when required to, while hoping that she is always fair. Teresa stated, “I think that it is devastating to morale and to people even if they don’t like your decision, if they know a decision will be made and they know that there’ll be some indication of why you made that decision. Then they can accept it and move forward.”

Leadership training The majority of these women shared their experiences related to learning to be a leader. For some, it was on-the-job training in a very informal manner. In the previous discussion related to the importance of having a mentor, these women described their mentoring relationships as informal opportunities to develop their leadership skills. For others, it was attending structured conferences and workshops to develop their leadership skills. Brianna described the Committee on Institutional Cooperation fellow training as a “series of two to three day workshops at three locations throughout the year, and it is leadership.” Debra participated in an ethnic leadership development opportunity. She stated, “It consisted of a year of meetings. Seeing other women who were in leadership positions really helped me. Just being nominated [helped me] because I was nominated by my mentor.” Lynn spoke highly of her experience with an educator’s seminar. She stated, “This was one that was particularly valuable with the academic influence.” Teresa completed the Covey series training, which assisted her “in training with other faculty and administrators from the coach level.” A grant-funded
leadership program at Omega University allowed Olive to complete many of the courses required toward a doctoral degree.

**Team work** Another component of communication was the ability to form viable, effective teams. Debra shared, “…really being able to work with people to get them to work together and being able to go from A to Z on a project” is important in her role as an assistant dean. Olive recognized that every “organization is made up of a variety of people and that everyone has different contributions to make.” The challenge is “finding what they are good at and what they like to do.” She noted that this “is a much better way to utilize people than to go against the grain.” She added “…putting those people in those areas where they have strengths, I think is very important.”

**Interpersonal skills** When asked to list skills and characteristics that enabled her to succeed at the administrative level, Debra indicated that her interpersonal skills were important. She commented that she had been able to get over the “female thing” and worked effectively with her male colleagues. Debra stated, “When I went west, [to the west campus] they were very concerned that a female was coming as a division head and one who did not teach in their area. [I was] able to eliminate their concerns.” She stated that her personal experiences of dealing with diversity issues based on race and gender have assisted her in dealing with students and staff.

Gwen described her interpersonal skills as “essentially how to work with people, how to listen to what they’re saying and incorporate their ideas, how to respect what they’re doing, and yet lead them to where they need to be.”

Lynn was responsible for assessment of student learning at Lambda University. This issue is usually not well received by faculty as they often view it as a threat to their level of autonomy. However, assessment is a vital component for any higher education institution and is mandated by the Higher Learning Commission. Lynn advised,

An important part of assessment is charming people into doing it. And having those types of diplomatic skills it takes to convince people to do things, first of all that they don’t want to do, and to do things that they consider go against academic freedom. It takes diplomacy and kind of a gentle management style instead of a hammer or sledgehammer to get those things done.
Other components that could be considered interpersonal skills are trust, honesty, and respect. Brianna stated, “Really dealing with people on an honest basis so that you build this level of trust. The department heads have to trust that you don’t have a hidden agenda and that you are telling them the skinny.” She further added, “It’s like you are really being straight with them. And I think that once you develop that level of trust - it is extremely important.” Brianna’s sage wisdom was “trust, honesty, and humor.”

Gwen indicated,

I think the more important part is developing strong relationships with the people that you work with. Respecting them and getting them to become better at who they are. And that’s a tough challenge but I think it’s the most important. It’s the most important part of what I do.

Humor  When asked about their leadership skills and characteristics, I was surprised when three of the participants identified humor as a skill. The humor described is not slapstick or being funny. However, it was more related to seeing things in perspective and not taking yourself or your position too seriously. Brianna stated, “Humor is an important thing.” She proceeded to provide an example of this type of humor. She explained,

When I stepped up as acting dean, we did a little roast for the man that was retiring. It was all about Darth Vader and the dark side and when [Darth] came to the dark side – meaning the dean’s office.

Brianna added, “I’ve been keeping that kind of perspective.”

When asked for advice for the next generation of female administrators, Debra replied,

You have to have a sense of humor. Everything that happens between you as a female with a male colleague is not necessarily based on gender. And if it does, develop strategies and mechanisms by which you can deal with that individual – so you don’t have an enemy – you have a colleague.

Gwen was the third participant to indicate that humor was appropriate and important in her daily routine as a dean. She stated that humor is not cracking a joke but
more as “being of good humor, having an openness and willingness to laugh, being willing to bring some lightness into somebody else’s life.” She added,

People come to work with all of their problems and all of their issues, and they don’t need somebody yelling at them. I truly believe that most people come to work wanting to do a good job and thinking they are doing a good job. Trying to work with people so you can help them be better at who they are is so very important when you are in a management position.

At another point in the interview, Gwen iterated the importance of humor as an effective leadership tool. “The humor is important and it’s hard to say how that works. Everybody does it differently but being of good humor, being open, and being honest is viewed as important.”

Commitment  Commitment was a necessary behavioral characteristic addressed by three of the participants. Gwen demonstrated her level of commitment by describing her relationship with her staff.

Some people you’re just never going to change. You have to get them to focus on the things that are really important and let go of the other stuff. Sometimes it is hard, but I love what I do. If I moved up, I wouldn’t be able to do the kind of things that I really love doing.

Teresa discussed her commitment to the job and the necessity of others considering a move to administration to develop an awareness of the position requirements. Teresa said,

They [future women administrators] need to consider whether they like that. It’s very challenging but can be very exciting. If you don’t like decision making, if you don’t like conflict – not that any of us like conflict, but you may feel uncomfortable of trying to work through conflict. [It is like] being in the middle of the sandwich because you have people below you, you have people above you, and you have to advocate for both groups. They just really need to understand what they’re getting into. And not go into it because ‘I’m the best thing they’ve got’. Those
are things they really need to avoid and know that they are going to make a commitment.

Olive’s commitment was to the clinical laboratory science program and was the reason that she turned down previous opportunities to move to an assistant dean position. She commented, “Being torn between the CLS program [and administration] is probably why I am still the program director.” After being offered another opportunity to accept an administrative position, Olive found a compromise. She remained the CLS program director and also became the assistant dean.

Mentoring others  During their career paths, the mentoring experiences of these women has varied. However, the majority of the participants have been involved in mentoring both students and staff. Brianna described experiences mentoring her graduate students. She commented,

One of my own students was all but dissertation, had a baby, and then disappeared. I tracked her down and got her to continue writing. She was almost there when she got pregnant again. I didn’t hear from her. I [contacted] her and said ‘You have to finish this for yourself.’ She was getting no support from her mother or her husband. I dragged her through by her teeth. I hounded her.

Brianna also mentored her CLS faculty. She used the same tactics with them as she had with the student. She indicated,

I dragged those others through it. I beat them up. I said, ‘You have to finish.’ You have to finish for a variety of reasons and I dragged at least four people through. I kept telling them ‘You’re going to need it later whether it’s just self accomplishment or whether it’s professional advancement. It’s a life jacket. It’s a life vest.’

Brianna also had several new department heads that made regular visits to her for guidance and advice. They seemed more comfortable visiting with Brianna than with the dean. In her mentoring activities, Brianna attempted to provide “opportunities for grant writing and management; things that they might not normally have gone to.” Brianna also provided promotion and tenure workshops. These workshops assisted faculty in
developing a good set of papers. Brianna laughingly referred to her workshops as “P and T are us.”

Debra had mentored an assistant professor at her campus. The professor was also a female African-American so there appeared to be a special mentoring relationship between them. During her tenure at a previous institution, Debra stated, “I wrote a proposal that was funded for mentoring adjunct faculty. I mentor almost all new adjunct faculty on campus at the moment.”

Even as an administrator, Debra still found time to mentor students. Debra commented, “I also mentor students on campus. I’ve always done that.” She added, “I feel that all of my students [that] I’ve had in class have felt that I have helped them. I’ve given them my home number. They could always call me no matter what the problem was or concern.” It was obvious by the smile on her face during the interview that Debra took great pride in mentoring students. Debra beamed when she described these experiences “…when you see a former student and they can tell you how you helped them. And sometimes you don’t even realize it.”

Kelly described mentoring as a very important piece of a chairman position. She shared examples of mentoring new faculty in the CLS program. One of these faculty members went on to assume the CLS chair position when Kelly became the assistant dean. Kelly’s philosophy as it related to mentoring was “just helping people understand what’s required and then pointing out their strengths.” In addition, mentoring is “giving them an opportunity to enhance their weaknesses, things that you can grow in.” One of her CLS faculty member’s strength was administration. Kelly’s mentoring of this individual enabled her to “step into that position without any question. She knew exactly what she was getting into” when she accepted the CLS chair position.

Lynn also mentored her CLS faculty in their transition from the clinical arena to the academic setting. When referring to her faculty, Lynn commented, The faculty were always in transition roles. They were at a disadvantage from people who had entered academia straight through a doctoral route. They often don’t have the background they need to put together promotion and tenure
packages, and how to set up research for promotion and tenure, and have a significant research path.

While Lynn’s mentoring had been conducted in an informal manner, she had effectively mentored both faculty that have served under her and the current department chair.

Olive described a mentoring relationship with one of her CLS faculty members. She stated,

I think back to one of my faculty who is still with me. When she came to us, she had never taught, maybe taught one course part-time but was working in the hospital. At that point, [she] had young children. She really has become my right hand. When she first came to the university, as many women are, [she] was focused on children and family. She has really taken over a lot of the responsibility within the program, which has allowed me to move into administration. She has officially taken the title of clinical coordinator. [She] has become recognized throughout the university.

This faculty member often says to Olive, “You’ve taught me well.”

Being very mindful in thinking that she should really help others has been the premise of Teresa’s mentoring process. She believed that she should work with people to help them as much as I can. Some women are not very helpful to other women. They get to where they are and then think ‘well I got here so you need to figure out how you can get here on your own.’

Teresa commented that some of that was a good learning experience; however, it does not promote women reaching the top. She believed some women do not want the competition.

*The Right Place Comes with a Price*

The third major theme that evolved from this study indicated that women can and do achieve positions in higher education administration, but they pay a price for that achievement. There are four categories that support this theme: *The Price Women Pay, Gender Considerations, The Right Place Requires a Balancing Act, and The Roadblock to the Right Place Has a Crack.*
This first category was supported by one main code - *personal sacrifice*. Almost all of the participants commented they had made personal sacrifices in earning the position they held as a higher education administrator. Some of the participants truly believed the sacrifices made were a result of being a woman, and others were not so sure.

For centuries, society has viewed the responsibilities of a woman as motherhood and maintaining a household while the man secured the financial resources to support the family. This societal expectation began to change during World War II. Many men were called to serve and protect the nation. Their departure left vacancies in the workforce. Women filled those vacancies. Although women had been employed as nurses and teachers before the war, during this era, women moved into factory and manufacturing jobs. More and more women began to join the workforce as the decades passed.

The increasing number of women earning college degrees and even advanced degrees, contributed to an increase in the number of women in the workforce. Career options also were beginning to open for women in areas that had been traditionally male-dominated, i.e. engineering, medicine, and dentistry. Although women now are employed outside the home and contribute to the financial stability of the family, they are still expected to carry the responsibility of the children and the household. The ability to balance these areas of responsibility often required that the women pay a price for maintaining a professional career.

Seven of the eight participants in this study believed that they had paid that price. Ann stressed, “You always pay a price for choosing a professional career. It demands more of your time.” Ann had less time available for friends and social things. However, she made a conscientious effort not to give up time with her children when they were growing up. “I think I have paid more attention to the family. I don’t think I have neglected the family but probably neglected the grandchildren.” Furthermore, Ann said, “I think that women, in order to succeed, have to work harder. You have to be better than the rest of the group that were applying for the position. Noticeably better.”
When asked about the price she had paid, Brianna identified instances in the workplace and at home. She indicated that being an administrator and making those kinds of decisions was a stressor. She commented,

You feel like you are leaning forward all the time trying to keep that positive energy and that positive outlook is very difficult and it can be very wearing. In terms of whether you pay a price - that’s in all the increased stress. When you are closing a program, when you are writing someone’s promotion papers, or you are dealing with ethics issues through researchers, it’s very tough to separate out the personal from the professional.

At one point in her career, Brianna had received major grant funding, had had a new baby, and was being asked to move into administration. She stated, “Trying to do all of those things was a bit of a challenge. It was a wild couple of years.” When presented with these opportunities almost simultaneously, Brianna said, “It was almost to the point that I had beaten myself up so badly getting funding, getting tenure that I needed to step back and enjoy the other part I had tried so hard to get – my son.” She had to make a difficult decision. She decided to move to administration and not continue the grant-funded research.

In her position, Kelly had experienced adversity from colleagues although she was not sure whether it was strictly related to being a female. Kelly commented,

I guess if I talk about this position, there have been some people that are surprisingly adverse to my taking this position. That’s been within the college as well as outside the college. There has been some lack of cooperation that has occurred. It’s definitely on a personal level, but I don’t know if it’s because I’m a woman. I think some of that may be questions about the [lack of a] PhD.

Lynn shared her experiences of paying a price with her family and time for her children while completing her doctorate. She stated,

I told you early on we chose not to use day-care. As a result, we worked opposite shifts for many years to keep our children at home. At the point where I needed to be working on both a doctorate and working full-time, we chose to hire in-
home child care. [This] put us at an extreme financial disadvantage. Just absolutely nothing else could happen at that point in our lives. This resulted in what Lynn referred to as “single parenting time.” Although Lynn or her husband had been in attendance at events for the children, she regretted not having been there for each event.

Olive also supported the theory that women pay a price when they choose to have a professional career. She stated,

I think any administrative position is going to require support from your family. I think men by nature expect they’re going to work long hours and they’re going to work weekends. I think with women - that’s not always true. I think that it takes someone who understands the demands of higher education and be accepting of that. I guess in some sense you do sacrifice some opportunities.

Olive indicated,

the environment can be somewhat intimidating to be quite honest. I was dating someone very seriously, we were talking marriage, and that ended very suddenly. He was very used to more of a traditional relationship. So in essence, I guess that is a price you pay.

Teresa hoped that women “knew they were going to pay” when they accepted the administrative role. However, Teresa thought it was possible not to realize the full price paid until years later. Teresa commented, “From my experience, women that have moved into administrative roles and have been very successful, have moved up, have worked extremely hard, and have worked extremely long hours.” Paying the price with her personal and family life had been Teresa’s experience. Teresa tried to be super mom when she worked “extremely long hours and worked to obtain her advanced degree, while working hard in her position.” However, Teresa also worked “… equally as hard to try to find quality time with my family, to go home and do things with the family, and then work late after the children had gone to bed or after the ball games.”

**Gender considerations**

This category includes several supporting areas that relate to gender issues. The gender related issues that are discussed included: gender roles/stereotypes, being a
woman, playing with the boys, knowing you are okay, and separating personal from professional.

**Gender roles/stereotypes** Ann experienced obstacles and barriers in her career because she was a woman and not a physician. During her tenure in the clinical setting, she was “never recognized as an official part of the management system. The only people they would give those positions to were physicians.” Because these physicians were recent graduates without management experience, Ann observed some disastrous situations.

Debra was not readily accepted as the chairperson for the automotive technology program. She stated, “They [faculty] were very concerned that a female was coming as a division head and one who did not teach in their area.” This was seen as a position that should be assumed by a male. Debra was able to eliminate those concerns by demonstrating her ability “to work with people to get them to work together. Being able to go from A to Z on a project.”

Debra also discussed the challenges of female doctoral students when selecting research topics when the majority of the department was male. “A lot of the times the areas that women want to study may not be their [men’s] interests.” It has been demonstrated that the issue of differing interests between men and women has affected the tenure process. Debra commented, “You read in *The Chronicle of Higher Education* all the time about how women go through tenure process and they don’t get tenure.”

Teresa’s experience with gender stereotypes occurred during her time in the science department as a faculty member. She commented, “I was exposed to a number of things that [were] probably sexual harassment. I was the only female in the department [and] was very skeptical at first when I moved. The previous two females in that department had not succeeded. There were some real problems and the men thought the last thing they needed was another female in the department. I worked with the men and [did] not make a big deal of it. [I] just interacted with them and served as their token female on many of the committees.” She also commented that it was hard for a female to work into administration if there was a “male-dominant administrative team.”
**Being a woman** The majority of the participants shared experiences unique to them because they are female. Ann’s experience took place when she was in college. During her physical chemistry class, the professor announced to the class “women didn’t take classes like this” and “what was she doing - to think that she could take this class?” At point one in her biochemistry class, the professor called her up and said, “I don’t know what I am going to do about this because you are getting a higher grade on this test, a higher grade in the course than your husband.” Ann’s reply was to give the earned grades for both. The professor replied, “I can’t do that.” Ann got an A and so did her husband.

Debra had experienced barriers and obstacles because she is an African-American female. Her theory was “basically all the persons in positions of authority are generally white males, and they may want to see people like them.” Additionally, she stated, “until women and people of color get into those positions, it is a normal thing to want to see people like yourself.” Debra shared,

The barriers are always there. When you walk into a room and people see you, all of the things that they feel about you as a woman and if you are a woman of color just comes out. Whatever their experiences have been, they’re there until they get to know you. They can confirm them or they can be changed, but you have to have an open mind to be able to be changed.

Debra raised the issue of women shying away from competition. She believed it was “because we’re not raised to compete.” As a former athlete, she was comfortable with the competition and desired to be successful both on and off the court. This does not mean that women can’t handle the tough times but “it’s just that we’re not used to the battle.” She further stated, “We lose a lot of good administrators because it can get really tough and dirty.” On the other hand, men were taught to compete and were more comfortable in that setting.

Salary inequity was also an item that Debra addressed. She stated,

I had a pathologist tell me one time that my raise was not as high as a young man in our department. I asked him why my raise wasn’t as high as this young man’s. He said ‘well he has a family’ and I said ‘well I do to.’ I had two sons and he said
‘yes, but you have a husband.’ I said ‘well he had a wife.’ Those kinds of things are still out there. You just can’t say it. In those days, you could say it.

As Debra mentioned during her interview, Teresa also addressed the salary inequity issue. She indicated that women “have not been paid at the same salary” and this was due to attitudes about women and their ability to balance family and work responsibilities.

Women may respond to the added pressure to be better than their male colleagues by believing they have to be perfect. Debra cautioned women not to buy in to “perceptions that people have of you.” She indicated, “no one knows you better than you know yourself.” She is adamant that women realize “they’re okay.” She stated,

I have a mirror on the back of my door in my office. When things get really bad, I shut that door, and I look in that mirror and I say ‘you’re okay.’ I think it’s very important for women to realize that they’re okay.

Kelly expressed bewilderment with regard to the reason she received resistance from colleagues. She questioned,

Is it because I’m a female? Is it because I’m black? Is it because I don’t have a PhD? Is it because it is clinical lab science and they think we’re less than biology? I don’t know. I don’t know what their concerns are.

She went on to share specific instances of discontent between the CLS department and another department. She described the struggle between the two departments as “a war.” Instead of referring to this specific group of males as the “good old boy’s network” she used the term “secret board.” She explained,

They were a group of men. They were biologists, physicists, and chemists. They were very reluctant to put anybody else into that situation. Even with a dean who’s female, they have ways. They have boards and then they have the secret board. The secret board is the one that gets things done and makes the rules.

Lynn referred to two instances in which being a woman put her at a disadvantage. She stated,

I don’t play golf and that puts you at a distinct disadvantage for Thursday afternoon business conversations that occur on the golf course. That’s my
problem. I could learn to play golf. I just don’t choose to because I don’t see beating a little ball with a big stick as entertainment. During a building phase on campus, it was evident the construction supervisor “thought you couldn’t understand what he was telling you and would talk to someone else [a male] sitting at the table.”

Lynn also brought up the situation of women being able to take an extended maternity leave from the academic setting. Although she thought a year-long leave would have been nice, she “never took longer than a six week maternity leave.” Upon reflection, if that opportunity had been available to her, she was not sure she would have taken it. She stated, “If I would have made those choices, I wouldn’t be where I am today.” Although the option to take a year-long maternity leave may exist for faculty, Lynn did not believe it was available to women in administration in her higher education system. She indicated, “I don’t think they would have let me vacate a department chair position for a year and still [have held] it open for me.” She indicated that women taking the extended leave would have to make sacrifices when seeking tenure. “Those types of things are still grossly unfair. You should be able to do both things but you still can’t,” commented Lynn.

Olive’s experiences occurred during her college years. As a science major, she found herself in a predominantly male area of study. Although there were females in the science and engineering courses, the “career paths were still dictated.” Before changing to CLS, Olive had been a biology education major. Olive commented, It wasn’t traditional for females to think beyond or even go to graduate school - let alone medical school or dental school. I like science and it’s been really good. I think I might have considered medical school, if that was a lot more common. To demonstrate her abilities as a woman, Teresa commented, “I built a trust to show that I could do the job and I could do it well.” She further added, I think women have to sometimes work twice as hard to prove that point - where [with] a man, it’s just assumed. It took me a long time to really [see that]. People have laughed at me and said ‘Teresa – I thought you thought there was no difference?’
However, her perception has changed over the years. She provided the example,

Joe down at the end of the hall is just a good old humorous guy and a difficult guy to work with. Oh well, he didn’t get the report in but that’s okay. He’ll get it in.

Where, at least, [in] my perception, if I didn’t get mine [in], it was because [I] didn’t have the capability of doing it.

Playing with the boys  Brianna described her experience at a Research One institution as “swimming with the sharks.” She even had sharks in her laboratory office. She stated, “If you are going to play with the big boys, you’ve got to learn how to play with the big boys.” This was particularly applicable when Brianna was seeking major grant funding for her research. She described the feelings of devastation when your proposal is not funded. Women internalize, cry, and even “curl up in a ball for a couple of days.” In contrast, her male counterparts would be “what the hell are they talking about, they’re idiots.” She suggested that women have to “learn a different way of dealing with things emotionally and have to learn how to play with the big boys and to give it back as good as you get it.” Brianna indicated that women have to be “tough, tough minded.” Often times obtaining grant funding is tied with promotion and tenure, so it is a huge issue.

Debra provided this advice to young women, “You can’t do what the boys do because the boys will call it in on you. They won’t call it in on their friends or someone else.” She advised that women have to walk the straight and narrow and to be able to explain what you do. She further stated, “People will let you think you’re okay and that you’re doing the same thing. But when the bill comes down, you’re the one that stands out, primarily because you are the only woman or only person of color.”

Teresa described the differences between male and female reactions to conflict resolution. The men “get very mad at each other, cuss each other out but they get over it.” Women, on the other hand, “tend to hold a grudge.” She indicated that this has been detrimental to the career opportunities of women. The men realize how women respond in these situations and “even play off that.” With this in mind, Teresa had always attempted to make another woman’s road a little bit easier. She commented, “People get
tagged with female [terms] - like they’re emotional or they’re over-reactive - terms that they would not use with their male colleagues.”

Lynn suggested a different strategy for working with the boys – just fit in. Her simple advice was this “just get over it and become one of the good old boys as quick as you can. Just fit in.” She advised, “Yes, you do need to watch the Saturday night football games so you can talk on Monday - at least [attend] the campus one. If they head to the game, you need to [go] too.”

Knowing you are okay Even though it has been documented that more and more women are seeking and obtaining higher education administrative positions, there are still gender considerations with which to contend. Debra shared her experience of being a finalist in two presidential searches and not being offered the position. “I think it is really important that women don’t get discouraged. It is very important for women to realize that they’re okay.”

Kelly suggested “keep who you are in mind and work within that. People will start to respect that.” She strongly urged women to “be yourself and to be consistent with who you are.” To know who you are and that you are okay may require some place or someone to bounce things off. This someone became her listener. She also stated that sometimes you just “need to get out and scream – that primal scream - to someone else.”

Separating personal from professional One coping strategy that was identified by the participants was the ability to separate the personal from the professional. Brianna found herself in a position that required her to close the department where she had close personal ties. The members of this department were her friends and it was very difficult. She stated, “That’s the hard part of being in administration. You have to separate how you feel about people personally from the kind of vision [that is] … the bigger picture of the college.” She shared the internal struggle with making that type of decision. The department faculty,

don’t see how you agonize about the decisions and how you understand that you have people’s careers and jobs in your hands. They don’t see that. Sometimes people think it’s a frivolous decision or that she likes one department over another.
Brianna said, “I don’t think there’s an appreciation and that takes a toll. There’s no appreciation for the fact that you have to go through this personal agony. That’s hard, that’s really hard.”

Kelly had words of advice for women pursuing administrative positions in higher education. She indicated that women are still going to have issues but that you “have to not take it personally. You have to do what you know you can do, make that happen, and walk away from it.” There was some slinging of arrows that can be very upsetting but women can not take it personally. She was adamant in the fact that this should not discourage women from seeking these types of positions. She believed that women “have a real collaborative ability that academia needs.”

The Right Place Requires a Balancing Act

A need for balance Six of the eight participants discussed the need for balance in their lives. They were higher education administrators, mothers, and wives. To be successful in each area, a careful balance of time and effort was necessary. Ann’s strategy for balance was to put the family first when the children were still at home. She commented,

I only had my thesis to do in biochemistry. I had the course work done but I had two children – I ended up with three – they were preschool. I would have had to quit the working position for a year or two to do the thesis. I did start doing some more work when my children were in high school but decided against it again at that time. It was so time consuming with them in high school that I wanted to spend more time with them. I did make the choice that family would come first when they were at home. [When] they were gone, it [was] my turn to really focus on career.

Even now that the children are grown and out of the home, she balanced her family and career commitments with the agreement, “I promise my husband that I will be home by 7:30, and if I’m not home by 7:30, I’ll call him and tell him why.”

Brianna shared the struggle of “leav[ing] it at work,” dealing with the demands on your time, and trying to carve out time for the family. For her, this is an added stressor. She said,
I leave work and [employees] call me all the way home in the car. I get home, have dinner, do homework, and have some hour of quality time - there is no time left for me. That’s the biggest stressor in my life.

She commented, “I was up until two o’clock last night because I decided I had to read a book, or make a Christmas list, and I had to have two hours where nobody was asking me to do something.” Brianna further added, “I think that’s huge because when you have a family and you have work, everybody’s always – it’s the mommy syndrome at work and at home – do this for me, do this for me, do this for me.”

Gwen’s need for balance was with her work responsibilities. She was program chair,

was asked to develop the assessment process and then to get involved in faculty development. I was doing all of that. I was doing it so I could build by career so I could move on but I would caution against it.

Women have to realize “you can’t do everything.” In her current position, Gwen commented, “I work like a dog, and you just can’t do that when you have a family.”

For five incredibly long years, Lynn balanced earning her doctorate with raising two young children. She stated,

I had two other children by then. When I started my doctorate, my youngest child, my third child, was four months old. I was determined to finish that before he started kindergarten, because I wanted to be able to do that stuff again.

She described her attempt to balance work hours with the laboratory hours required for her science-based dissertation. She stated, “It’s horrible to have academic course work and to do research when you’re trying to get your doctorate in the sciences.” Lynn commented,

I would teach a class for Lambda, go over to do my research, and then take a class. Between the two institutions, I said I’m going to put in about ten hour days and they both said, ‘We can be happy.’

Olive described two specific instances in her career when she made choices based on the need to balance work and family. During her tenure as a clinical laboratory scientist,
they closed the program temporarily as many hospitals do. I ended up taking a job [elsewhere]. It was one of those things where you take a job that your gut feels [isn’t] good but you do it for family reasons. I had two job offers and ended up going to … where my folks were.

At a juncture in her career as a CLS program director, Olive made another move that eliminated commuting that had previously taken time away from her daughter. She commented,

It was one of the most difficult decisions I’ve ever made. I enjoyed [the university] immensely and I was tenured. [I was] quite happy with the environment. I really had to do some soul searching because I was going to take a big cut in salary. There were some personal reasons why I felt it probably was a good idea. My daughter was in high school at the time and I was commuting. The hours I was putting in were long. After some soul searching, [I] decided that Omega University is where I belonged.

Teresa balanced her personal goals with her career goals when it came to accepting or deferring career opportunities. She had been in several searches but would decide “this is not the place for me.” She indicated that she was willing to take “reasonable risks and take as many opportunities as I can” but those opportunities had to fit her goals. Teresa also mentioned that she had taken the opportunity to attend professional development sessions related to women and their ability to balance the issues in their lives. The one area that she recognized that she did not balance well was the ability to “balance and protect the house of yourself in the fact that you can’t do all things.”

Support systems The majority of the participants in this study indicated the need for some type of support system. Brianna gave her husband the credit for her ability to balance being a wife, mother, and a professional woman. She stated, “The man I married had a huge family history of professional women. He wasn’t intimidated by my pursuit of my PhD. All his sister-in-laws are professionals. So I was just another professional in the family.” Brianna further commented, “My husband has always been very supportive. In fact, before we were married, I moved to do my post doc and he followed me. We’ve
always been a partnership.” They formed a partnership and have always been full partners in managing their professional careers and their parenting responsibilities. 

Brianna shared, “I had opportunities for faculty appointments around the country and we decided to come back as a joint decision.” Since Brianna’s husband is self-employed, they both have flexible schedules that allowed both of them to balance their career and family duties. She added, “By the same token, I have to be the give and take for him, too. That’s hard when he’s got evening meetings and then I have to wait for him.”

Brianna was also quick to point out that Beta University is a female-friendly institution. She commented, “The former director of the school brought me a play-and-pack crib for my office. They said there is no reason you can’t come in. You bring the baby. It is entirely supportive.” There are several females that held administrative positions at Beta University, thus providing an acceptance and openness for professional women with family responsibilities.

Debra was a proponent of women having both a career and a family. She stated, “I know that woman feel that they have to make a choice – family or career type of thing and I just don’t believe it. I think you can have both of them. I think a lot of it depends on the other person and your relationship with that other person. I refuse to believe that young women have to say ‘I’m either going to be a wife and a mother and not be a president’ or they have to make a choice. I really believe that women can have both.

She indicated that educational opportunities and the availability of childcare provided a support mechanism to allow women with children to obtain college degrees. Debra brought to light the changes in society that allow professional women to be more readily accepted. She stated, “The great thing about being a woman today is that you have that choice. We don’t celebrate that choice. Women should come together to celebrate.”

Gwen’s perspective of the need for support systems was from a different point of view. She lost her husband several years prior and did not remarry. She did not have any children. Her view of women attempting to balance their lives is one of observation versus personal experience. However, she did state that she thinks it is extremely difficult and almost impossible for a single woman to make it all work. Gwen believed
“it’s hardest for women because of the other constraints due to the need to have somebody to take care of the house and the family.” She further stated, “I work like a dog, and you just can’t do that when you have a family.”

Kelly’s parents were her support system since she was divorced with one daughter. When she returned to Kappa University to assume a CLS faculty position and eventually the department chair responsibilities, her parents assisted with the care of her daughter. There were times when Kelly was presented with outstanding opportunities for professional development that required travel and extended time away from her daughter. Having her parents in the same community and the assistance from a close friend enabled her to take advantage of those learning opportunities. Kelly described the difficult times of having to make choices between her family and career responsibilities. She was an only child and was sandwiched between her parents and her daughter. Another support strategy that Kelly utilized was moving her daughter from the school on campus to one closer to her parents. However, when her daughter was on campus, CLS students would often assist with picking her daughter up from school.

Kelly proceeded to share her thoughts about having these support systems in place. She stated, “I felt so blessed because I do have some flexibility.” Her parents were available to provide care for her daughter. As her daughter grew and her parents became ill, the roles reversed and her daughter was able to assist with the care of her parents. She further stated, “I had to find ways. I had to find creative ways to make these things happen.” Additionally, Kelly said,

It was a balancing act and there was a lot of support. People would take the time to fill in for you, to do what they could, students picking up your children, and the little things. I think there’s something about a small program and CLS being very much family. That has always been true here, very much a family concept so people really work together.

Lynn identified her parents and grandparents as a “particularly valuable early influence.” Her parents had instilled a philosophy of always being able to pay upfront for something that you wanted, and it was the same way with college. Lynn completed her bachelor’s degree and entered the workforce. She did not pursue advanced degrees at
that time because the financial resources were not in place. However, her parents instilled a driving ambition and were always encouraging. She was encouraged early on in her life to just keep going and to “do anything you want to.” Having that type of drive and tenacity instilled by her parents enabled her to complete her master’s and doctoral degrees, while balancing her work and family responsibilities.

As an assistant vice president, Lynn still managed to balance her work and family duties. Her vice president supported this endeavor. He allowed and encouraged her to take off work to attend her children’s functions. She stated, “I don’t know if I could or would work for someone who had a different attitude than that.”

Olive also spoke of previous and current supervisors that “have been very understanding about family commitments.” When she decided to relocate to her current university, being able to better balance her career and family responsibilities was the driving factor. She stated, “I think no matter how understanding your boss is there sometimes can be conflicts in academia. It’s not someone else [causing] the conflict, it’s always an internal conflict.” Her current boss is very family-oriented and leaves every day to pick up his children. She indicated, “I have been fortunate.”

People that have become her extended family have provided additional support systems for Olive. She was a single parent and 1500 miles from home, but her next-door neighbor had become her extended family. They had been neighbors for over 20 years. As two single moms, they helped raise each other’s children. Olive’s neighbor provided the support that she needed to balance the care of her daughter with the responsibilities and opportunities as a woman with a professional career. Olive identified the ability to make tough choices as a necessary skill. She stated, “sometimes you choose one and ultimately I do believe that family has to come first. You can have a real commitment to your job but ultimately family has to come first.”

As did Brianna, Teresa had a very supportive husband. He wanted her to be where she could be independent with regard to her career ladder and the ultimate completion of advanced degrees. She stated, “He thought I was good and needed to have a career so he was very supportive in that and in moving forward.” At the point in her career when Teresa was considering a chair position, her husband said, “I think you have
to take opportunity when it knocks, and you should look at some of these things.” She was called for an interview and offered the position.

Three balls in the air at all times  Seven of the participants shared their experiences of “keeping three balls in the air at all times.” This was the phrase that Lynn used to describe her attempt at balancing her career goals with her marital and family commitments. She further stated, “those three balls are in the air almost all of the time for a woman. And knowing how to keep them all balanced [is difficult].” Lynn indicated, I will leave at noon, no matter what, because Christmas parties will happen at my children’s elementary school, and I will be gone. I do not feel guilty, because all day Saturday, I will be in commencement. I feel no guilt about that at all because it’s just balancing the same thing. I do it guilt free. I tell both of them [other associate vice presidents] ‘I won’t be here because I went to a pep rally this year.’ I’m going to be gone, because I’m going to watch my kid jump in the air and throw a pompom.

Ann also had small children when she began working at the medical center. To balance her family responsibilities with her career aspirations, she worked part-time for ten years. Her original position at the medical center was to research and develop new procedures, so she did that on a half-time basis instead of a full-time basis. Ann explained, “That was a wonderful thing and I am so thankful that I had a job that I could do that with.” After the children were grown and she had moved in to the administrative role, she had to balance her career time with her husband. Ann’s strategy was, “I promise my husband that I will be home by 7:30 and if I’m not home by 7:30, I’ll call him and tell him why.”

Two years ago Brianna, currently an executive associate dean, was offered a position as the vice provost for programs and planning. This was a fairly prestigious position on campus. She was promised flexibility in terms of hours and family commitments but she just did not believe it. In her position, she was involved in “a lot of very interesting projects and a number of things that [she] was really vested in.” She was really interested in the position but yet was unsure about “doing what I see as the more interesting part of the job.” The decision to turn down the position came when she “was
just sitting on the porch one day with my son in my lap and I said, ‘Why am I even considering taking on more responsibility now?’ He is too young.” She was the top candidate for the position. When she pulled out, administration tried for weeks to convince her to reconsider. Her decision to remain in her position was her strategy for balancing her career needs with her family needs. Her philosophy was, “the devil you know is better than the devil you don’t.”

When asked if she had faced conflicts in balancing her career goals with family and marital commitments, Debra replied, “Yes, definitely - particularly when my children were younger. I went from the lab to teaching at the community college because the schedule that you have in higher education is much more conducive.” Debra indicated that she went through the “super mom, super wife, super career person” phase. At some point in her career, she was able to find a happy medium. When juggling the three balls, Debra thought, “I was able to do it all, really.” She indicated that time management and the support from one’s significant other was very important.

Gwen had to balance two balls instead of three, as she did not have children. However, when asked if she experienced conflicts in balancing marriage with her career, she responded, “absolutely, absolutely.” Her resolution of this conflict was to give up work and to spend more time with her husband. After her husband died, she “needed something to fill that time so that’s why I work too much and too hard.”

Even though Kelly considers her position in academia a blessing, it also presented some challenges. She said,

Academia requires long hours sometimes and evenings are not your own. You take a lot home with you. Although it allows me to run off in the middle of the day to attend a play or something that she [her daughter] was doing and still - there was evenings and weekends.

When afforded the opportunities to attend conferences, the issue was “What do you do? Who keeps this little girl?” Kelly was able to balance her commitments with the support of her parents and close friends.

Olive’s challenge at one point in her career with keeping the balls in the air at all times involved a lengthy commute to and from work while attempting to spend quality
time with her daughter. When she was contemplating the relocation to her position at Omega University, her previous vice president called her in the office and said, “What would it take to get you to stay?” She replied, “Short of a helicopter, it’s not going to happen.” Olive also mentioned the conflicts in academia that were first identified by Kelly. Olive stated, “No matter how understanding your boss is, there can be conflicts in academia. At times it looks really nice when faculty leave at one o’clock in the afternoon.” Olive knows as an administrator, there was usually no leaving early. Upon reflection, Olive replied, “I think I’ve been fortunate because I’m sure there are times when [the conflict] is not a self imposed conflict.” Olive indicated that she was aware of professional women that dealt with conflict to a greater extent than she had experienced.

At one point in her career, Teresa was attempting to be “super mom.” Since then, she and her children have laughed about it. She was working extremely long hours to obtain her advanced degree and for her various positions. However, she worked equally as hard at finding quality time with her family. Her strategy was to spend time in the evenings with her family and then work late after the children had gone to bed. Teresa indicated, “I think that’s one of the prices that we’ve paid.”

The Road Block to the Right Place Has a Crack

The glass ceiling is now Teflon One of the interview questions asked the participants to share their experiences related to the existence of the glass ceiling for women. It has been said that the glass ceiling is breaking for women in the business world and women are now obtaining executive positions. When asked if this was also occurring in higher education, Debra replied, “I disagree. I don’t think it is happening in business either. I think the glass ceiling has turned into a Teflon ceiling and Teflon is much harder to break than glass.” Debra believed that the studies tended to look at the numbers and did not consider the salaries and other related issues. She further explained that progress had been made but women still had a long way to go. When questioned about personal experiences that supported her thoughts, she indicated that her knowledge was based on observations of situations in which some women presidents have found themselves. She did not believe that women were allowed to play by the same rules as
the boys. Being a woman in such a highly visible position provided the opportunity for harsher scrutiny and criticism.

*The glass ceiling has a crack*  The majority of the respondents indicated that progress had been made with regard to the number of women in higher education administration positions. However, most indicated the process had been slow and that the increase in numbers of women administrators did not go all the way to the top.

Ann provided examples of women being included in various governance councils at Alpha University. However, the number of women was still a small percentage when compared to the number of men. She stated, “There are a few of us but there aren’t very many of us yet.” When asked if she had broken the glass ceiling by holding the associate dean position, she replied, “there is always a ways to go.” She commented that the real glass ceiling at Alpha University was at the vice chancellor position.

Brianna was in good company with several other women that held key positions at Beta University. In fact, she shared information about an article that was written about Beta University having no glass ceiling for women. During her tenure in administration, Brianna had seen an increase in the number of women obtaining PhDs. When attending national meetings, Brianna noted, “there has been a huge shift in the number of women that are [in attendance] – you’re not just the tag-a-longs anymore. You are the leaders. You’re the sources to be reckoned with.” Beta University was very welcoming to women. When coming to this university, Brianna replied,

I think it was just fresher, more open, more diverse, more dynamic. I think you see it more and more in terms of the number of women deans that you see. They are recognized as forces to be reckoned with.

Gwen indicated that she believed the glass ceiling is slowly being broken as she was seeing more and more women university administrators. She gave the example of Condoleezza Rice being a provost at Stanford University. There were three women presidents in the state where Gamma University is located. Even though Gwen affirmed the breaking of the ceiling, she also noted that, “women are still more traditionally [in] academic affairs, rather than business, finance, and things like that.”
Kelly had 30 years experience at Kappa University as a student, faculty member, department chair, and now as an associate dean. She agreed that women were breaking the glass ceiling at Kappa University. Kappa University has had several women in very influential positions, i.e. provosts, associate provosts, deans, and vice presidents. She stated, “I think they’re at the table in all of the higher levels so I do think that’s happening.”

Lambda University is one institution in a large university system. When Lynn looked around the system, there were not too many women presidents. There was only one female president within the system. However, about 50% of the vice presidents of academic affairs were women. This was notably different than at the flagship institution where there were no women in upper administration. She advised that being a woman in administration at the flagship institution “might be a disadvantage on that campus.”

Omega University is in a geographic region that Olive described as “very definitely macho-oriented.” But interestingly enough there were female presidents at two of the universities within the system. One of the female presidents was new to the position. However, the other woman had held the president’s position since 1981. This president was very dynamic and had very high goals for an institution that was essentially a community college that suddenly became a four-year university. Olive stated, “She’s probably the first female that I really, really respected. If you had to choose someone to represent your institution, she would be the one that I would choose.” Olive further noted, “I think they definitely have shown us where women can go in higher education.”

Teresa’s response indicated that women were breaking the glass ceiling but one still exists. As Teresa indicated, “I think we’re seeing many more women in administrative roles. More women are deans, provosts, and presidents.” Teresa’s belief that the glass ceiling still existed was based on her observations of women’s salary levels and the labels that are often applied to women, i.e. emotional, over-reactive, etc. She did not believe these terms were applied to the male colleagues. Teresa stated, “I think you’ve still got some differentiation. I do think that over the last several years that we have seen a crack in that ceiling.”
Summary

Three major themes emerged from the data. They were: *Getting to the Right Place at the Right Time*, *The Right Navigational Skills are Required*, and *The Right Place Comes With a Price*. Each of the themes was discussed in relation to the data that supported the categories.

The *Getting to the Right Place at the Right Time* theme was discussed via the three different career stops experienced by each of these women. They shared experiences in the clinical laboratory, as a higher education faculty member, and as a higher education administrator. Their experiences related to their high school academic strengths, college experiences, clinical laboratory science training, and clinical experiences were outlined. During their time as faculty, their teaching experiences were presented. And finally, their experiences as women higher education administrators were described.

*The Right Navigational Skills are Required* theme was developed from two categories: Don’t Wait for Opportunity to Knock and Communication is the Key. Time and time again these women described the opportunities they had sought out and accepted. They stated the skills, knowledge, and experience they gained from these opportunities assisted them in moving to the administrative level. They also described the need to be visible on campus, to do everything well, to possess the ability to see the big picture, their experience with a mentor, and the opportunity to learn at all levels.

*The Right Place Comes With a Price* theme was based on three categories: The Price Women Pay, Gender Considerations, and The Road Block to the Right Place Has a Crack. This theme told the stories of these women with regard to being female in a predominantly male environment. These women described their personal sacrifices, their struggles with gender stereotypes, being a woman in a man’s world, how to play with the boys, knowing that you are okay, and possessing the ability to separate the personal from the professional. They further described the need for balance, the support systems they had during their career path, and how they managed to keep three balls in the air at all times. Their experiences and observations with regard to the glass ceiling in higher education were also presented.
CHAPTER SIX  

RESULTS  

This chapter presents the results of the study in relation to the purpose of this case study as guided by the research questions. The investigation and documentation of the career paths of this select group of women are discussed in relation to the available literature from previous studies involving women in higher education administration. A summary of the results is included.

Purpose  

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

Research Questions  

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?

2. What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science?

3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administrations?

4. How has being a woman influenced their careers as higher education administrators?

For this study, eight women who held formal degrees in clinical laboratory-related areas were interviewed. Seven of the eight women had earned degrees in clinical laboratory science. The eighth woman earned a chemistry degree and was employed as a
clinical chemist in a hospital laboratory. Each of these women held a position in higher education as a dean, associate or assistant dean, or the equivalent. They have held faculty positions within the higher education arena as well.

Through their participation in a semi-formal interview with me, I investigated and documented their career paths. Seven of the eight interviews were completed in a face-to-face format. The eighth interview was conducted via phone due to time constraints. Through a rigorous coding process, the data were used to form categories that were then grouped according to common themes. A thorough description of the themes is found in the previous chapter. The following discussion answers the research questions with the results of this study. Furthermore, the experiences of this group of women are compared to the experiences of previously studied women in higher education administration.

Brooks and Brooks (1997) conducted a study that included senior-level women in female-friendly organizations. The purpose of their research was to determine if the participant’s positions were a result of their own characteristics, political savvy, or organizational support. Most of the women indicated that “high energy, tenacity, a certain amount of toughness, a sense of humor, and flexibility” (p. 7) were contributing factors to their success.

The seven learned strategies that contributed to one’s success, as identified by Brooks and Brooks (1997), included:

- Successful people realize the importance of a mentor or an advocate.
- Successful people know how to increase their visibility.
- Successful people know how to develop an effective network.
- Successful people have learned to communicate effectively.
- Successful people can balance home and work.
- Successful people know when to take smart risks.
- Successful people understand the politics of the organization (p. 7).

The women in this study affirmed several of these strategies as contributing factors to their success as higher education administrators. Strategies described during the interviews included:

- Mentoring experiences
• Becoming visible within the organization
• Building a network
• Communicating effectively
• Balancing marital and career responsibilities

They did not specifically identify taking risks and understanding the political atmosphere of the institution. However, they demonstrated risk-taking as they progressed through their careers. I believe it could be assumed that their ability to read the politics of the organization was implied in their tenures at their current administrative positions.

Research question one: What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths? One of the commonalities with this group of women was the fact they had three different careers. The majority of the participants followed a traditional career path with experiences as a clinical laboratory scientist, a university faculty member, a department chairperson, and finally as a higher education administrator. One participant transitioned from a position as a part-time procedure writer to an associate dean position.

These women discovered clinical laboratory science as an area of study in various stages of their academic careers. Some discovered the profession while in high school, and they chose to continue their college education pursuing their love of science. Others became aware of the profession during their college careers. One participant enrolled in a hospital-based clinical laboratory science program when she decided she would not pursue admission to medical school. The path by which seven of the participants earned their degree in CLS varied somewhat. For some, their training was university-based; others gained their education via a hospital-based program. The eighth participant earned a degree in chemistry. However, she was employed as a clinical chemist in a hospital laboratory. Upon earning their degrees, all had experience in a clinical laboratory for varying lengths of time.

They began their careers as laboratory professionals working in a full-service hospital laboratory. In this setting, they honed their skills as detail-oriented professionals who were highly organized and guided by strict policy and procedures. Their critical thinking and communication skills enabled them to carry out their responsibilities with
accuracy and precision. As a vital member of the healthcare team, they played an important role in quality patient care.

During their tenure in the clinical laboratory, they became involved in the teaching and training of CLT/CLS students from local colleges and universities. By working as a clinical instructor for the academic program, their professional skills and their ability to teach and to relate to students was evaluated by the CLS/CLT program directors. When a CLT or CLS faculty position became available, several were hand-picked for the position. However, a few actively sought opportunities in higher education.

The second career stop, for seven of the eight women, was as a faculty member within a clinical laboratory science program. Ann’s role was to write procedures for the pathology/microbiology departments although she was associated with the CLS students through a research course that she taught. As they progressed in their careers, these women demonstrated the necessary skills to move up the career ladder and into the department chair position. This position afforded them experience in management, leadership, budget development, curriculum development, recruitment, grant writing, professional development, assessment, faculty evaluation, and mentoring.

By displaying the desired leadership and communication skills and competencies, these women were groomed for positions in higher education administration. During their climb to the administrative offices, they actively sought and accepted numerous opportunities to expand their knowledge and experiences. They promoted themselves by participation in campus committees so they could be more visible and to gain the “big picture” perspective of the institution. To increase one’s visibility, Brooks and Brooks (1997) suggested taking advantage of working on a team or committee, volunteering for projects, developing a network, and taking advantage of interaction with senior management. Learning the skills and education required for promotion was a necessary task.

Mentoring was identified as a necessary component of the success of the women involved in this study. Johnson (2002), Portner (2002), and Zachary (2000) defined mentoring as
A personal learning partnership between a more experienced professional who acts as a guide, role model, coach, teacher, and/or sponsor and a less experienced professional. The mentor provides the protégé with knowledge, advice, challenge, counsel, and support for the protégé’s pursuit of achieving professional and/or personal goals (as cited in Searby & Tripses, 2005, p. 3).

Sinetar (1998) define a mentor as the keeper of selected wisdom valuable to the protégé (as cited in Searby & Tripses, 2005) who embodies hopes, casts light on the way ahead, interprets obscure signs, warns of impending dangers, and points out unexpected insights (Daloz, 1999 as cited in Searby & Tripses, 2005, p. 3).

Wisker (1996) stated, “Successful women had mentors who put opportunities for challenge and development their way and then recognized their success” (p. 108). Brooks and Brooks (1997) pointed out the benefits of mentoring for women. Mentors are beneficial when they facilitate the process of developing a leader, aid in the socialization process, provide opportunities to increase the visibility of the individual, teach the organizational do’s and don’ts, assist in promotions, and provide advice and effective feedback. The results of Wisker’s study suggested that individuals with mentors usually advance more rapidly.

A study by Barbour, Tipping, and Bliss (1994) further demonstrated the “importance of influential mentors and positive role models as a help to successful women leaders” (p. 173). Additionally, Warner and DeFleur (1993) stated, “women who have good mentors are more successful in their career advancement. This is particularly true of those who have male mentors since they can help women become known in the “old boy’s network” which is still a significant force in these occupations” (p. 7).

Bower (1993) studied women and mentoring in higher education administration. The findings suggest “mentoring for women becomes a requirement rather than a nicety” (p. 91). The study demonstrated “having a mentor has been linked with faster promotion and higher pay, greater knowledge of both technical and organizational aspects of
business, and higher levels of productivity and performance of both mentors and protégés” (p. 91).

Historically, mentoring “has been more available to selected males than to women, minorities, and males not matching organizational leadership stereotypes” (Searby & Tripses, 2005, p. 4). Keeping white males in power has been the traditional role of mentoring. “Mentoring is associated with power, privilege, and social stratification” (Gardiner, Enomoto, & Grogan, 2000 as cited in Serby & Tripses, 2005, p. 4).

This group of women had been mentored through various stages of their higher education careers. Four of the participants were mentored by men; three were mentored by women. Most described their mentoring relationship as an informal arrangement. Their mentors encouraged them to seek learning opportunities at all levels of their careers. Debra spoke fondly of her mentor as they had formed a friendship once her mentor retired. Debra’s mentor provided advice to her as she contemplated career moves. Lynn shared memories of mentors in her life. Her first mentor was the CLS program director when she was a student. This mentoring relationship prompted Lynn to accept the faculty position at Lambda University. Lynn’s second mentor was a previous dean who encouraged her to seek opportunities to move to the administrative level as he thought she possessed the necessary skills and expertise.

Brooks and Brooks (1997) indicate that a barrier to mentoring for women included a lack of access to female mentors because there were not enough of them. A lack of access to information networks was also identified due to the existence of the “old boy’s network.” Bower (1993) stated, “…women have few women role models and when they are mentored by men, they often get into conflict with what is expected and their own values and work styles” (p. 95).

All of the participants held a minimum of a master’s degree, six had earned doctoral degrees. Early in their faculty careers, they recognized that an advanced degree was a necessity. Ann and Olive had completed course work toward earning their doctorates but did not finish the program requirements. During the interviews, when asked about their career choices and if they would do anything different, both individuals
indicated that they would obtain the doctoral degree. They identified possessing a doctoral degree as “a must” in today’s higher education administrative arena.

When further queried about whether they would repeat their career choices, the participants overwhelmingly indicated that they would not change their career paths. They were adamant that being laboratory professionals had served them well. This position served as a springboard that moved them into higher education - first as a faculty member and then as an administrator. They reported that their CLS skills, such as being detail-oriented, being able to organize and prioritize, and possessing a strong work ethic with no fear of commitment, served them well in their administrative roles. As Gwen stated, “I never met a procedure that I didn’t like.” In a moment of reflection, Ann commented, “I am just amazed that I got to do such exciting, fascinating things my whole life.”

Although Ann strongly urged young women striving for an administrative position in higher education to earn a doctoral degree, she chose to put her family responsibilities first. Kelly also indicated that having an earned PhD is necessary in today’s higher education environment. She replied that it was not “a must have” during her era so she did not pursue it. Debra did earn her PhD but, due to her family situation, did so later in her career. Lynn balanced family, work, and doctoral research. She spoke of the difficult years with having such young children, teaching CLS courses, and trying to produce publishable research data for her doctorate. Lynn indicated that if she could redo her career choices, she would follow a traditional path with regard to earning the advanced degrees. She believed it would have been much easier on the children. Teresa spoke of her education as a means of providing her with “a wonderful background.” Her “experiences along the way have been a rich learning ground.”

Gwen and Teresa both spoke about making mistakes along their career path and the lessons learned from those mistakes. Teresa stated, “I certainly don’t do everything correctly. I still make mistakes. I hope to learn from those.” From her own experiences, Gwen is able to draw on that knowledge and guide her department heads when they are dealing with difficult issues.
Although these women identified choices that they wish they would have done differently, as a whole they appeared happy with the career choices that had led them to their positions at the time of the interviews. Gwen said, “I am where I am because of the choices I made.” Lynn realized if she had not made the choices that she did, she wouldn’t be where she is today.

**Research question two:** What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science? This select group of women higher education administrators provided a plethora of information when asked about their skills, training, and professional development opportunities. They indicated that communication, listening, interpersonal skills, and leadership skills were vital to their success. They further stated the need for strong leadership capabilities especially when they sought buy-in for the vision of the college and university. Surprisingly, one skill they mentioned was humor. Additional items included being committed to their positions and the institution, the opportunity to mentor others, and being able to separate the professional from the personal issues.

It is important to effectively communicate through spoken and written word. However, these participants believed that the ability to listen well was also a necessary skill for their position. As administrators, they must be able to hear what each of their constituent groups was telling them. As individuals in a dean’s position, they were caught between upper level administration and the faculty, while dealing with student issues as well. Being able to listen to concerns and suggestions from these various groups was important. By possessing the listening skills, they were better able to be of service to these groups. Brianna and Kelly specifically mentioned the importance of their roles as being one of service to students and faculty. They stated their role was to listen to the wants and needs of these groups, to offer support and encouragement for their endeavors, and to formulate mechanisms to provide the necessary support systems.

Brooks and Brooks (1997) stated that one of the most desirable skills for successful people was effective communication. The desired communication skills included socialization patterns, leadership strategies, and verbal and non-verbal
behaviors. Additional communication skills were identified as learning to be a proficient
negotiator, practicing self-promotion, and understanding that the rules of the game aren’t
always the same.

It would seem that individuals in administrative positions in higher education
possess strong leadership skills. Although leadership was once thought to be an innate
skill, it has been demonstrated that leadership can be an acquired skill. These women
actively participated in opportunities to learn and enhance their leadership skills. Their
involvement may have been volunteering for a highly visible campus committee or
attending a national conference. Either platform provided value to their experiences and
assisted them in their daily responsibilities as higher education administrators.

In a study by Wisker (1996), successful women leaders had “integrated their
femininity into their sense of identity” and were operating as “creative individuals” (p.
113). These women had learned to recognize the strengths they had as a woman that
gave them increased productivity. Wisker (1996) suggested that good leaders identify
successful characteristics and behaviors and then recognize and reward them.

In a study by Madden (2002) on transformative leadership of women in higher
education administration, it was determined that “leadership … involves promoting
effective communication and trust, listening, open processes, and creating
interdisciplinary, self-directed teams” (p. 119). Furthermore, “good leadership requires
good listening, facilitating effective work of others, promoting interdependence of people
and units, and proposing initiative that others pursue” (p. 137).

The leadership styles of men and women differ in many aspects (Madden, 2002).
Women were more likely to use collaborative leadership, were expected to be more
concerned about people, engaged in more positive social behaviors, used less direct
language, and combined warmth with competence to overcome resistance to their views.
For women, an authoritative leadership style was ineffective (Madden, 2002).

These clinical laboratory scientists turned higher education administrators
commented that building an effective team was also important. By appropriate utilization
of their communication, listening, leadership, and interpersonal skills, they were able to
form effective working teams. To develop these teams, they demonstrated trust, honesty,
and a genuine commitment to those they served. They were able to communicate the need for visioning and to obtain buy-in from their faculty. Although Teresa indicated that some may feel she is a micromanager, she commented that the only way she could effectively advocate for each group was to possess an in-depth knowledge of their programs.

This group of women had mentored faculty and department chairs. Each of the participants shared scenarios of times when they have mentored others during their career paths. Several of these women specifically told of mentoring a CLS faculty member that moved to the vacated department chair position when they had moved to the administrative level. Although Gwen offered advice for resolution of issues with which her department chairs were dealing, she attempted to allow them to find their own ways to handle the situations. Leading and guiding with a gentle manner was identified by Lynn as a more effective leadership style than ruling with an iron fist.

The idea of having a sense of humor was mentioned by three of the participants. They do not interpret this as being silly or having a slap stick kind of humor. Rather, they see this skill as one of not taking yourself or your position too seriously and being able to put things in perspective.

These participants were acutely aware of the level of commitment that was required to be successful at the administrative level. They shared the struggles of attempting to please their constituents, while admitting that one can not please everyone all of the time. They talked about how hard they work, the stress related to the position, and the challenges of being a female in a male environment. However, even with a full understanding of these experiences, these women appeared to be pleased with their current positions and portrayed a sense of pride in their accomplishments.

One of the additional experiences that these women shared was the challenge of being able to separate the professional from the personal. Women must learn not to take feedback or criticism personally (Brooks & Brooks, 1997). Brianna shared her struggles of closing a department and having to tell her previous colleagues and friends that they would no longer have positions within that department. She struggled with that stressful decision night and day. However, the most difficult challenge of that decision was
feeling that the faculty affected did not understand the personal agony that surrounded her decision. Kelly discussed being able to separate the personal from the professional from another view. Being a woman in a male-dominated environment can be difficult as can being a woman with other women challenging your position. In this situation, one has to have the ability to not take these attacks as personal – admittedly a very difficult thing to do. The Brooks and Brooks (1997) study revealed, “…it is especially important to learn how not to take things personally” (p. 203).

Research question three: What barriers and/or obstacles have these women experienced during their career paths as a woman clinical laboratory scientists who transitioned to a higher education administrator? Even though these women have obtained positions in higher education administration, they have paid a price. Each of the participants shared experiences of personal sacrifice, gender considerations, and the need to balance their responsibilities.

As any woman with a professional career knows, it takes personal sacrifice to be a valued employee and be an efficient wife and mother. Choosing to return to school, while maintaining these existing roles, further exacerbates the challenge of being able to effectively balance professional and personal responsibilities. All of the participants had a need to balance marital responsibilities with work duties at some point in their careers. Seven of the eight participants were mothers. Society views child rearing and household chores as those of the woman. Each of the participants shared their challenges related to their ability to handle conflicts between their career goals and family commitments.

Loder (2005) conducted a study of 31 women administrators in the kindergarten through grade twelve (K-12) system. This research indicated that “discrimination in hiring and promotion, lack of sponsoring and mentoring, and the entrenchment of the “good old boy’s network” were barriers to women administrators” (p. 741). A major barrier to the advancement of this group of school administrators was “the uneven burden of child care and household responsibilities that women so often shoulder” (p. 742). Although the purposive sample for this research was in the K-12 educational setting, these same barriers were in place for women in higher education. The findings of the
study suggested that “society’s cultural views about time and gender roles must also change” (p. 773).

For Ann and Olive, coping strategies included deciding not to complete a doctoral degree so there was more time for family. Lynn opted for in-home child care that resulted in a large amount of time when she and her husband worked different shifts so one was available to assist with the children. However, they lost out on the time with each other. Teresa talked about working late after the children were in bed or after their ball games.

To balance roles, most participants indicated they had a support system. Sometimes it was the husband; other times, it was their parents or neighbors that served as extended family. Kelly described the struggle of attending a once-in-a-lifetime professional development opportunity and being able to find care for her daughter. The internship was one month in length, so Kelly had to secure care for her daughter to take advantage of this opportunity. Kelly’s parents and a close friend who resided half way across the country took care of her daughter during that time. Olive fondly described what she considered was her extended family – in reality, her next door neighbor of 20 years. They were both single mothers and combined their efforts to raise their children, while balancing career demands.

LeBlanc (1993) identified eleven barriers for advancement of women to positions as higher education administrators. These included:

- Lack of self esteem
- Need for self improvement
- Limited external interactions – lack of exposure to and interaction with varied social groups and economic levels
- Motherhood/family/academe – the balancing act
- Issues of loneliness
- Limited political/business (organizational) encounters
- Academics versus administration transitions – females need to develop strong leadership qualities in higher education administration; being prepared, flexible, and efforts to build consensus
- Need for critical career paths – females need to actively plan and develop multi-dimensional career paths
- Need for mentoring – need a good mentor; positive role models, effective listeners, unbiased feedback, constructive suggestions, recommendations that allow deviation, and individual input
- Need for internal/external support system (networking)
- Ability to see the ‘big picture’ within an organization; attend board meetings, get involved in planning and forecasting (p. 44-49).

LeBlanc (1993) also discussed various strengths to overcome these barriers. They were:

- Excellence in teaching
- Research and publication
- Campus and community service
- Good peer evaluations
- Increase of global education
- Strong personal financial base
- Integrity, sound judgment, communication skills, politically astute
- Having key contacts, networking
- Having a positive mentor relationship
- Personal commitment to quality education
- A sense of self worth/value, social graces, personal and recreational skills
- Knowledge of fiscal and personnel concerns (p. 49).

The participants in this study emphasized several of the above strengths: research and publication, campus and community service, integrity, sound judgment, communication skills, politically astute, having key contacts, networking, having a positive mentor relationship, and personal commitment to quality education.

Research question four: How has being a woman influenced their career as a higher education administrator? Ann and Olive described experiences during their college years that were obviously related to being women. Ann was told by her chemistry professor that women did not take that kind of course. When she was earning
a higher grade than her husband in her biochemistry course, the professor seemed concerned about a female earning a higher grade than a male. Olive was advised toward biology education versus a professional track such as medical or dental school because she was a female.

Although studies indicate that more women are moving into administrative roles, barriers still exist. There is a tendency for white males to want to see more white males in their environment because that is what they are most comfortable with. These women shared instances of having to work twice as hard to demonstrate their competency levels. Debra specifically told of her experience of being the administrator over an automotive technology program. The males in the department were very skeptical of her knowledge and abilities. Over time, she demonstrated her leadership skills and her willingness to learn but also allowed those with the expertise to coordinate the program.

Participants in the Brooks and Brooks (1997) study stated, “…you have to work harder, work better and be perfect, leaving no room for criticism” (p. 198). Women tend to believe that only hard work gets you ahead, when, in reality, risk-taking, networking, visibility, and effective mentors will get you ahead (Brooks & Brooks). Barbour, Tipping, and Bliss (1994) found that the female leader must work harder to convince those around her that she can lead effectively. Once a woman was in a leadership position, considerable time and effort was spent convincing others that she was competent as a leader. A participant in the Barbour, Tipping, and Bliss (1994) study stated, “To cope with bias, I had to prove myself, to excel, and that every single thing I have to do has to be great in order for somebody to notice it” (p. 168).

The participants had to learn how to play by the boys’ rules as male behaviors are different than female behaviors. Lynn mentioned the disadvantage of not playing golf thus missing out on the Thursday afternoon business discussions on the golf course. Debra described the challenges of following the rules as dictated by the men and how she believed that the rules were different for the women. Teresa shared her experiences as the only female in the science department and her awareness that the two previous female faculty had not been successful. She allowed herself to be the “token” female on
different committees but took the opportunity to demonstrate the knowledge and competency that a woman could bring to the table.

Men are raised to be competitive, challenging, and independent; women are expected to be respectful, polite, friendly, and humble. Therefore, women are not accustomed to the competitive nature of higher education administration. Debra advised that women have to learn to get “really tough and dirty” to be successful as administrators. Debra indicated that she was comfortable in the competitive environment because she was a former athlete. Kelly indicated that the atmosphere can sometimes be “cut-throat” and highly competitive and women must be able to cope. In a study involving female change agents, Barbour, Tipping, and Bliss (1994) described women as more detail-oriented, more empathetic and perceptive, more task-oriented, more focused, and more likely to sweat the small stuff.

As pointed out by Teresa, women often were labeled based on their behaviors. They were seen as emotional or over-reactive if they were passionate about the issues at hand. They were viewed as aggressive or a power seeker if they demonstrated a masculine leadership style.

In 1960, 19% of mothers with children under the age of six were in the workforce. In 1990, the percentage was 56%, and in 1999, the percent of women in the workforce rose to 64% (Wolf-Wendel & Ward, 2003). However, in a study by the National Survey of Post Secondary Faculty, only 31% of female faculty had children. Perna (as cited in Wolf-Wendel & Ward, 2003) found that “employment of females in non-tenure [positions] is attributable to marital and parental status” (p. 121). Research shows that “significant tension exists for female faculty who combine work and family” (Wolf-Wendel & Ward, 2003, p. 121). Of the participants in Wolf-Wendel and Ward’s (2003) study, 50% were childless and 34% had delayed children due to their careers. The need to balance professional and family responsibilities was a significant source of stress. Wolf-Wendel and Ward’s (2003) results indicated that “some women [that] combine work and family do it well but pay a cost” (p. 122).

All participants shared their experiences of trying to keep three balls in the air at all times. For seven of the eight, the three balls were marital, family, and career
commitments. Although men are becoming more involved with household and parental responsibilities, women remain the primary responsible party for these duties. This is a particular concern when children are young and require time-intensive care. Ann worked only part-time when her children were young. Olive made tough decisions to put her family priorities ahead of her career goals. Brianna, Teresa, Debra, and Lynn described the balancing act they had managed to maintain, while obtaining their advanced degrees, working full-time, and fulfilling their responsibilities as a wife and mother. Each woman in this study had to make stressful decisions when finding balance between their family and career goals.

Being a female influenced both their ability to progress up the career ladder and their ability to earn a salary comparable to male counterparts. As previously discussed, these women turned down opportunities to move up in higher education administration or they lost tenure and took salary cuts to place the needs of their family ahead of career needs.

Success strategies as outlined in the Brooks and Brooks (1997) study included: participation in professional organizations, attendance at professional seminars to increase one’s visibility, and skill upgrading. The central theme of their data was to “set goals, make choices, challenge yourself, help others, and help yourself” (p. 261).

Maume (1999) examined the impact of occupational segregation on career mobility. The study found that women who gained employment in male-dominated occupations “earned higher salaries, experienced performance pressures, social isolation and stereotyping, were more likely to leave sooner, may have experienced blocked opportunities, and probably were not promoted as fast as male co-workers” (p. 1451).

Summary

Although these women were scattered across the Midwest and central regions of the United States, their experiences sang a common chorus. Each of these participants had three professional careers at this point in their lives. They had experience as a clinical laboratory scientist, a higher education faculty member, and a higher education administrator. The strategies they utilized to gain this position were similar. They described possessing leadership and communication skills, demonstrating the expected
competencies for their positions, participating in a mentoring relationship, seeking and accepting opportunities to be involved campus-wide, and gaining the “big picture” view of the organization. They appear satisfied with their career choices and where those choices have led them.

Effective communication skills, particularly their listening skills were identified as a necessity for the administrative position. Their strong leadership skills also assisted them in their daily duties. Their ability to build effective teams and to mentor others was a talent identified by this group of women as vital. Surprisingly, they indicated that humor also assisted them in their ability to work with their constituents. These women shared their struggles of being able to separate the professional from the personal things. Although this was a challenge, it was described as a required skill.

As women that have chosen a professional career path, they shared their stories about personal sacrifice. All of the participants had to balance marital commitments with their career goals at some point in their career paths. Seven of the eight participants also balanced family commitments. The need for a support system was identified as a necessary strategy for success in their careers. The support systems were often husbands, parents, and friends. Their ability to successfully balance their role as mother, spouse, and professional was tested time and time again as demonstrated by the experiences they shared.

Being a female in a male-dominated environment still presented some of its own challenges. This group of women stated that they had to work harder than their male colleagues to demonstrate their competencies and skills. During their college and administrative careers, several of the participants experienced what could be considered discriminatory actions. However, they appeared to take that in stride and chose to demonstrate their knowledge, skill, and abilities as women. Although most believe the glass ceiling has cracked, they eagerly shared experiences of dealing with the “old boy’s network” and having to play by their rules.

The experiences of this group of CLSs turned higher education administrators mirror those of women in other studies with regard to barriers and obstacles and the mechanisms with which to successfully attain and maintain that position. Although some
of the personality characteristics of CLSs, i.e. detail-oriented, highly organized, and procedure-oriented, may have attributed to their ability to move to an administrative position, these skills were enhanced by other skills attained along the way.
CHAPTER SEVEN
IMPLICATIONS, RECOMMENDATIONS, AND SUMMARY

This chapter presents the implications for the results of this case study research with regard to the lived experiences of women clinical laboratory scientists who have become higher education administrations. Based on the findings, recommendations are presented for women clinical laboratory scientists with a desire to transition to higher education administration, institutions of higher education, and future research. The chapter concludes with a brief summary of the major findings of the study.

Purpose

The purpose for conducting this qualitative study was to investigate and document the career paths of women clinical laboratory scientists that have transitioned from the clinical setting to the higher education arena and held an administrative position at the dean’s level, including assistant and associate dean positions. This research sought to identify the experiences, training, obstacles, and opportunities that directed and influenced the career paths of these women.

Research Questions

To investigate the career paths of women clinical laboratory scientists who held higher education administrative positions, the following questions were considered.

1. What are the lived experiences of women higher education administrators with a background in clinical laboratory science during their career paths?
2. What skills, training, and/or professional development opportunities enabled these women to become successful higher education administrators when their initial academic area of study was clinical laboratory science?
3. What barriers and/or obstacles have these women experienced during their career paths as women clinical laboratory scientists who transitioned to higher education administration?
4. How has being a woman influenced their careers as higher education administrators?
Implications

The results of this study identified implications surrounding women in higher education administrative positions. They are as follows:

1. Society’s view of the role of the female will continue to be challenged and modified as more and more women seek professional careers.
2. The make up of administrative councils at higher education institutions will continue to change as an increasing number of women earn positions on those councils. Female leadership styles will impact the institution.
3. The culture and environment of higher education campuses will demonstrate acceptance and support for women leaders as more women seek and accept positions in higher education administration.
4. Professional development organizations offering leadership training are impacted by the increasing number of women taking advantage of such opportunities. An awareness and embracing of the differences between male and female leadership styles is important.
5. Gender-free advising of students during their college academic careers will occur on the campuses of higher education. Males and females will be allowed to seek their desired field of study and not be guided by preconceived notions of gender related fields and professions.

Recommendations

To achieve and maintain positions as higher education administrators, there are several recommendations for higher education institutions and women seeking such positions. Recommendations pertaining to future research are also presented.

Recommendations for Higher Education Institutions

1. Higher education institutions should create and maintain an environment that is female-friendly. Components of this environment include extended maternity leave, an opportunity to stop the tenure clock, on-campus child care, and support systems for women. This environment should also include attitudinal changes to promote the belief that women can achieve and be successful in higher education administration.
2. Institutions of higher education should provide opportunities and incentives to promote women into the ranks of administration. These opportunities should include female leadership activities and professional development.

3. The institutions should provide mentoring opportunities and strong, positive role models for females in higher education by other women higher education administrators.

4. Institutions should develop strategies to reduce gender-related issues with regard to hiring, promoting, tenure, and salary. Policies and practices that govern hiring practices, promotion and tenure, and salary scales should be reviewed thoroughly. Any discriminatory actions should be corrected.

**Recommendations for Women Seeking Positions in Higher Education Administration**

1. Women should consider taking moderate risks with regard to career opportunities. The women in the study experienced three different stops on their paths.

2. Women with aspirations of being higher education administrators should obtain a doctoral degree. The women in the study adamantly expressed the need for an advanced degree as they commented it provides credibility with faculty and administration.

3. To be considered for an administrative position, women should seek and accept every opportunity to be involved in campus-wide activities and to willingly accept new assignments. These opportunities will broaden their knowledge and visibility of the entire organization while learning at all levels. Being visible to others on campus and obtaining a “big picture” view of the entire organization are necessary.

4. Participation in professional development opportunities to obtain and enhance one’s leadership skills is a requirement. Formal training in leadership skills was identified by the participants in this study as beneficial for their move to administration. For women to obtain an administrative position, their leadership skills must be exceptional.

5. Women must be able to balance career and family responsibilities. The demands on one’s time as a higher education administrator are substantial. For those
women with marital and family commitments, strategies to find a healthy balance are required.

6. The women in this study described their relationships with a mentor. Having a mentor has been demonstrated to assist women in obtaining and maintaining higher education administration positions.

7. Developing a professional network of trusted colleagues is also recommended. Building and having this network in place provides an opportunity to contact these individuals for professional advice and the exchange of ideas.

8. Development of strong communication and people skills is vital to obtaining an administrative position. These women must possess exceptional written and verbal communication and listening skills. Communication skills also include being of service, possessing a sense of humor, and mentoring others.

9. Demonstration of honesty, integrity, and commitment, in partnership with a strong work ethic to do your job well, is required. The participants in this study identified these traits as those of successful higher education administrators.

10. Women seeking higher education administrative positions must practice self-promotion. They should seek and accept opportunities to work with upper level administration. They need to demonstrate their ability to perform above and beyond the expected competency level.

Recommendations for Future Research

1. As this study included a very small purposive sample population, a larger number of women with a background in clinical laboratory science that hold administrative positions in higher education should be studied.

2. Retired women higher education administrators with a formal degree in clinical laboratory science should be interviewed. Their opportunity for an end-of-career reflection could reveal new data.

3. The women in this study were concentrated at the dean’s level. Women higher education administrators, with a CLS background, at other administrative levels should be included in future studies.
4. Future research should attempt to include women with a more diverse ethnical background.

5. Further studies should include women higher education administrators at community colleges. This study only involved women higher education administrators at the university level.

6. Further studies should include institutions with religious affiliations whose religious cultures place restrictions on women.

Summary

Through the use of a qualitative case study research design, eight women clinical laboratory scientists that held positions at the dean’s level or equivalent in higher education administration were interviewed. The interview questions were formulated to retrieve information about their career paths as it related to their experiences; skills, training, and professional development activities; identification of any barriers or obstacles; and how being a woman has influenced their careers as administrators in higher education institutions.

This group of women willingly shared their experiences as they related to their three career opportunities and how each of these professions served them well at that point and time along their career paths. Upon completion of their CLS training, they were all employed in the clinical laboratory setting. From there, they moved to a faculty position in a university system. By demonstrating various skills attributed to quality leadership, they were provided with opportunities to move to higher education administration.

Various literature sources identified learned strategies for obtaining and maintaining leadership positions. These included: having a mentor, increasing one’s visibility within the organization, developing a network of trusted colleagues, effectively using communication, finding a balance between career and family commitments, taking smart risks, and understanding the political environment of the organization.

The data from this case study research affirmed several of the above strategies. Future women higher education administrators need to consider these strategies as they pursue positions at this level. Participants in the study described their mentoring
experiences, taking advantage of every opportunity to expand their knowledge and to develop expertise in other areas, the requirement of possessing a doctoral degree, finding a healthy balance between work and family, being able to see the “big picture” of an organization, realizing that gender-related issues still exist, the need to develop appropriate attitudes and coping strategies, and the need for a support system or network of trusted colleagues to fall back on when needed.

With regard to the glass ceiling in higher education administration, seven out of the eight participants indicated that changes were being made, although at a very slow pace. As more women earn doctoral degrees along with the anticipated retirement of large numbers of current higher education administrators, women need to be poised to obtain positions as higher education administrators and to be recognized as competent individuals that possess the necessary skills for such a position. The female leadership styles bring a much needed collaborative effort to the administrative ranks of higher education institutions.

Although these women have experienced gender related issues, they indicated that their career choices have been rewarding and for the most part, they would not deviate from this path if given the opportunity to repeat their steps. As several commented, “I am where I am today because of the choices that I made.” They have learned coping strategies to minimize or alleviate their challenges related to being a woman in a male-dominated environment.

Further recommendations were presented for women seeking administrative positions in higher education institutions, for institutions to foster a female-friendly environment, and for future research.
References


Appendix A

IRB Approval Letter

November 16, 2005

Suzanne Campbell
Dr. Barbara LaCost
Rt. 1 Box 45
Forgan OK 73940

IRB # 2005-10-059 EP

TITLE OF PROJECT: Career Paths of Women Clinical Laboratory Scientists Who have Become Higher Education Administrators

Dear Suzanne:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board’s opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study. Your proposal seems to be in compliance with the institution’s Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Date of IRB Review: 11/3/05.

You are authorized to implement this study as of the Date of Final Approval: 11/16/05. This approval is Valid Until: 11/15/06

1. Enclosed is the IRB approved Informed Consent form for this project. Please use this form when making copies to distribute to your participants. If it is necessary to create a new informed consent form, please send us your original so that we may approve and stamp it before it is distributed to participants.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

- Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- Any publication in the literature, safety monitoring report, interim results or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- Any breach in confidentiality or compromise in data privacy related to the subject or others;
- Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

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

If you have any questions, please contact Shirley Horsman, IRB Administrator, at 472-9417 or email shorstman1@unl.edu.

Sincerely,

[Signature]

Davi H. Hoyt, Chair for the IRB

cc: Faculty Advisor

Shirley Horsman
IRB Administrator

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Appendix B

Email Message to Participants

Dear [Name of Participant],

I am a doctoral student at the University of Nebraska-Lincoln, Lincoln, Nebraska, in the Department of Educational Administration. My dissertation research topic involves the investigation and documentation of the career paths of women clinical laboratory scientists who have become higher education administrators. This study will seek to determine the skills, opportunities, obstacles, and experiences of a select group of women.

You have been identified as a woman higher education administrator at the deans level with a background in clinical laboratory science. I hope you will consider participating in this research project. The information will be obtained during a face-to-face semi-formal interview that should be completed within 90 minutes. The information you can provide is indispensable to the success of the project and will be greatly appreciated. The results of this research will provide current and future women clinical laboratory scientists seeking a position as a higher education administrator with findings they will be able to integrate into their career strategies.

Participation in the research project is voluntary. I will contact you within one week via telephone to obtain your decision regarding participation in the study, to answer any questions related to the informed consent information, and upon agreement to participate to schedule an interview date, time, and location. Confidentiality of the interview data will be strictly maintained by the principal investigator. Results of the data analysis may be published in scientific journals or presented at scientific meetings but the data will be reported as aggregated data. The informed consent form may be found as an attachment to this email.

I look forward to learning about your career path as a woman clinical laboratory scientist who has become a higher education administrator. Thank you in advance for your cooperation in helping me achieve this goal. Please contact me via email scampbel@scccc.edu or phone 580-259-6489 with any questions or concerns.

Sincerely,
Suzanne Campbell, MS, MT(ASCP)
MLT-AD Program Coordinator
Seward County Community College
Liberal, Kansas 67901
Home address: Rt 1 Box 45
Forgan, OK 73938
Appendix C

Telephone Conversation Protocol

Hello, my name is Suzanne Campbell. Within the last week, I sent to you an e-mail message requesting an interview with you for my dissertation study. Have you received that message?

As mentioned in my e-mail message, my dissertation research topic involves the investigation and documentation of the career paths of women clinical laboratory scientists who have become higher education administrators. I would like to hear the story of your career path especially the events surrounding your transition from the field of clinical laboratory science to higher education administration. I am interested in learning of your skills, opportunities, obstacles, and experiences encountered during your career path.

The information you can provide is indispensable to the success of the project and will be greatly appreciated. The information will be obtained during a face-to-face semi-formal interview. **Would you be willing to be interviewed on this topic?**

[If no, stop here and thank the participants].

[If yes, I will continue with the following]

Do you have questions regarding the focus of the interview or the informed consent information?

What day of the week would be most convenient for me to visit with you in your office for about 90 minutes?

Would you be available on either [one date] or [another date]?

Would you prefer a morning or afternoon appointment?

I will send a reminder to you one week in advance of our appointment. Included with the reminder will be a demographic information form and the interview protocol. Please read and complete the informed consent and demographic information forms prior to our interview. In the meantime, if you have any questions, please call me at 580-259-6489 or contact me via e-mail at scampbel@sccc.edu.

Thank you for your time today.
Appendix D

Informed Consent

Identification of Project:
Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators

Purpose of the Research:
The purpose of this qualitative study is to investigate and document the career paths of women clinical laboratory scientists who have become higher education administrators. This research will seek to identify the experiences, training, obstacles, and opportunities which directed and influenced the career paths of these women. You are invited to participate in this study because you are a woman higher education administrator with a background in clinical laboratory science.

Procedures:
If you volunteer to participate in this study, you will be asked to complete a face to face oral interview with the primary researcher. Participation in this study will require approximately 90 minutes of your time. These interviews will be audio taped with your permission.

Risks and/or Discomforts:
There are no known risks or discomforts associated with this research.

Benefits:
Analysis of the data that you provide may assist other women higher education administrators in gaining knowledge related to your career path. Data from this research will contribute to the research related to clinical laboratory science and higher education administration.

Confidentiality:
Any information obtained during this study which could identify you will be kept strictly confidential. Your name will not be used in the study. The transcriptions of individual interviews will be seen by the investigator and by a transcriptionist who has no knowledge of you or your institution. The entire data set will be stored in a locked cabinet in the investigator’s office and will only be seen by the investigator and an auditor of the dissertation (an out of state researcher that knows nothing about you or your institution). The data will be kept in the locked file for three (3) years after the study is complete and will then be destroyed. The information obtained in this study may be published in scientific journals or presented at scientific meetings but the data will be reported as aggregated data.

___ please initial

Page 1 of 2
Compensation:

There will be no compensation for participation in this research.

Opportunity to Ask Questions:
You may ask questions concerning this research and have those questions answered before agreeing to participate in or during the study. You may call Suzanne Campbell, investigator, at any time, office phone (620) 626-3077, or after hours (580) 259-6489 or the investigator’s advisor, Dr. Barbara LaCost (402) 472-0988. If you have questions concerning your rights as a research participant that have not been answered by the investigator, or to report any concerns about the study, you may contact the University of Nebraska-Lincoln’s Institutional Review Board, telephone (402) 472-6965.

Freedom to Withdraw:
You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigator or the University of Nebraska—Lincoln or your institution. Your decision will not result in any loss or benefits to which you are otherwise entitled.

Consent, Right to Receive a Copy:
You are voluntarily making a decision whether or not to participate in this research study. Your signature certifies that you have decided to participate having read and understood the information presented. You will be given a copy of this consent form to keep.

Check if you agree to be audio taped during the interview.

Signature of Participant:

[Signature]

Date

Name and Phone number of Investigator:

Suzanne Campbell, MS, MT(ASCP), Principal Investigator
Office: (620) 626-3077
Home: (580) 259-6489

Barbara Y. LaCost, PhD, Secondary Investigator
Office: (402) 472-0988

Page 2 of 2
Appendix E

Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators

Participant: [Participant's Name] 
Interviewer: Suzanne Campbell
Date: [Date]

Interview Protocol

1. Please describe your career path upon obtaining your bachelor’s degree in medical technology.

2. What event or individual motivated you to move into an administrative position?

3. Leaders are often described as individuals with notable skills and characteristics, what leadership skills and/or characteristics do you possess?

4. What training or professional development opportunities have you participated in that attributed to your career success?

5. Mentoring is often something that happens along one’s career path, what experiences have you had in a mentoring relationship?
   a) Describe your mentor, i.e. position, gender, special events, type of relationship.
   b) Have you mentored others, especially women, as they move through their careers?
6. The literature often cites barriers or obstacles for women administrators in higher education. Have you experienced barriers or obstacles during your career path? If so, please describe your experiences.

7. As a woman, what opportunities have you experienced in moving up the career ladder?
   
a) Have you accepted all of the opportunities presented to you?

b) Have you turned down advancement opportunities? If so, why?

8. Some research studies indicate that women are breaking the “glass ceiling” of administration in higher education. Do you agree or disagree with this statement?
   
a) What events in your career would indicate your agreement?

b) What events in your career would indicate your disagreement?

9. It is often stated that women have “paid a price” for success in administrative positions. What experiences have you had that either support or refute this statement?
   
a) Identify the experiences that support this statement.

b) Identify the experiences that refute this statement.

10. Women often balance career goals with marital and/or family commitments. Have you faced conflicts between these commitments?
    
a) If so, how did you resolve these conflicts?
b) What advice would you give women pursuing administrative positions in higher education?

c) If you could redo your career choices, would you make the same choices? If so, why? If not, why?
Appendix F

Demographic Information of Participants

*Please complete prior to interview.*

Name: (a pseudonym will be used, i.e. Ann)
Title(s):
Institution Name: (a pseudonym will be used, i.e. Alpha University)
Level of Institution:
Age:
Major Academic Field:
  Bachelors Degree:
  Number of years in clinical setting:
  Masters Degree:
  Doctoral Degree:
Number of years as faculty:
Number of years as administrator in Higher Education:
Highest Earned Degree:
Highest Academic Rank:
Administrative Positions Held:
Married: _____ Yes     _____ No
Children: _____ Yes     _____ No
  If yes, indicate number and ages:
Appendix G
Reminder Message One Week Prior to Interview

Dear [Name of Participant]:

We are scheduled to meet next week, [date], at [time] in your office. I have the directions to your institution. I am looking forward to visiting your campus and learning of the experiences during your career path.

If you have any questions about the study or our upcoming visit, please let me know by phone or e-mail. I will be leaving Liberal on [date]. If you need to reach me after that date, please call my cell phone 620-629-1677.

Your assistance in this study is greatly appreciated.

Suzanne Campbell, MS, MT(ASCP)
MLT-AD Program Coordinator
Seward County Community College
Liberal, KS  67901
scampbel@sccc.edu
580-259-6489 (home)
Appendix H

Transcriptionist Confidentiality Statement

I ___________________________ (name of transcriptionist) agree to hold all information contained on audio recorded tapes received from Suzanne Campbell, primary investigator of Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators, in confidence with regard to the individual and institutions involved in the research study.

__________________________
Signature of Transcriptionist

__________________________
Date
Appendix I

Transcript Verification Form

Project Title: Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators

Dear ____________:

As we discussed, I would like to offer you this opportunity to review the transcript of our recent conversation concerning your career path from CLS to higher education administrator. There is no need to worry about editing for grammar but please note any errors you find and add additional comments that you think will provide additional clarity.

Please mark in the appropriate space below to indicate your level of approval for this part of the project.

_____ I approve the interview transcript without reading it and have no additional comments to add.
_____ I have read the interview transcript and approve it without changes.
_____ I have read the interview transcript and approve it with the noted changes and additional comments.
_____ I do not approve the interview transcript.

As previously indicated on your demographic form, I have assigned a pseudonym that will be used to describe specific situations or statements that you have provided that may illustrate and give richer detail to the context of your career path. For this transcript, your pseudonym is ____ at _______ University.

_____ I approve the pseudonym indicated above when references are made to specific situations or statements that I have provided.
_____ I approve the use of ___________________________ (provide alternative) as the pseudonym that would be used when references are made to specific situations or statements that I have provided.
_____ I do not approve the use of any pseudonym.

___________________________________  _________________________  
Signature of Participant     Date

Please return this form and the transcript, if changes were made, in the enclosed addressed, stamped envelope. Thank you again for your time and participation.

Suzanne M. Campbell, Principal Investigator  Phone: 620-626-3077 E-mail: scampbel@sccc.edu
Barbara Y. LaCost, Secondary Investigator Phone: 402-472-0988 E-mail: blacost1@unl.edu
Appendix J
Theme Development and Coding Summary

Theme: Getting to the Right Place at the Right Time
Category: The Clinical Laboratory
Code: High School Courses
Data Location:
A1; G1; K1: L1-2; O1; T1
Code: College Experiences
Data Location:
A1; B1; G1; K2; D5; L2; O2; T2
Code: Clinical Laboratory Science Training
Data Location:
B1-2; D5; G2; L2-3; O2-3; T2-3
Code: Clinical Experiences
Data Location:
A2-3; B2-4; D6; G2; K3; L3-4; O3-6; T3
Category: Professors in Higher Education
Code: Teaching Experience
Data Location:
A3; B5; D6-7; G3; K3-4; L4-6, 8; T4
Category: Higher Education Administration
Code: Administration Experiences
Data Location:
A4-5; B7; B10-12; D7-9; G4-5; K5; L6-7; O17-19; O23; T9
Theme: The Right Navigational Skills are Required
Category: Don’t Wait for Opportunity to Knock
Code: Seek and Accept Opportunities
Data Location:
A4, 6-8; A 12-13; A17; A19; B13-16; D15-16; D32; G10; G17-18;
K7; L16; O42; T9; T25; Committee work: A7, B22
**Code:** Seek Professional Development Opportunities

**Data Location:**
A6-7; B10-11; B37; D16-17; G11; K11-12; L11; O27; T15-17

**Code:** Be Visible/Visibility

**Data Location:**
A8; A18; B11; B37; D32; O42

**Code:** Seeing the Big Picture

**Data Location:**
A6; A18; B16; B18; B22; L9; O27; O44

**Code:** Having a Mentor

**Data Location:**
A9-10; D9-12; G12; K14-15; L7-8; O24; O29-30; T18-19

**Code:** Learning at all Levels

**Data Location:**
A18; D16; D32; G28; G33-34; O44; O46; T31

**Code:** Advanced Degrees

**Data Location:**
B4; L4-6; T5-7; A19; A21; D34-35; G30; K13; K31; K33; O42

**Category:** Communication is the Key

**Code:** Communication Skills

**Data Location:**
A6-8; G7-9; K9;

**Code:** Listening

**Data Location:**
G9; G14; K9-10; O44; T14

**Code:** Being of Service

**Data Location:**
B21-22; K10; T13-14

**Code:** Leadership/Leadership Training

**Data Location:**
B18, G13-15, G19; L9; T13-14
B11; B18; B36; D16-17; G26; L11; O27; O43; T15; T22

**Code:** Team Work

**Data Location:**
B18; B32; D14; O25

**Code:** Interpersonal Skills/Trust, Honesty, and Respect

**Data Location:**
B38; D13-14; G7; G27; L10

**Code:** Humor

**Data Location:**
B37-38; D33-34; G27; G32

**Code:** Commitment

**Data Location:**
G33; O35; T30

**Code:** Mentoring Others

**Data Location:**
B24-26; D19-20; K16-19; L13-14; O31-32; T20

**Theme:** The Right Place Comes with a Price

**Category:** The Price Women Pay

**Code:** Personal Sacrifice

**Data Location:**
A15; B32; K27; L17-20; O38-39; T26-27

**Category:** Gender Considerations

**Code:** Gender Roles/Stereotypes

**Data Location:**
A10-11; D13; D24; D26-27; T11-12; T24

**Code:** Being a Woman

**Data Location:**
A11; D21-23; D27-28; D37-38; K 21-24; L14, L 20-21; O48; T22-24
Code: Playing with the Boys

Data Location:
B31; D26; T21; T26-28

Code: Knowing You Are Okay

Data Location:
D36-37; K31-32; L23-24

Code: Separating Personal from Professional

Data Location:
B19; B33; K31;

Category: The Right Place Requires a Balancing Act

Code: A Need for Balance

Data Location:
A19; B33-34; G17; G24; G31; L6; L25; O7; O14-15; T25; T29-30

Code: Support Systems

Data Location:
B34-35; D28; G24; K25; K28-30; L13; L23; O39-42; O41; T8; T28

Code: Three Balls in the Air at all Times

Data Location:
A16-17; B28-29; B34; D31; G25; K28; K30;
L19-20; L22; L23; O40; T26-28

Category: The Road Block to the Right Place has a Crack

Code: Glass Ceiling is Now Teflon

Data Location:
D25-26

Code: Glass Ceiling Has a Crack

Data Location:
A14-15; B27; B29-30; G20; K26; L16-17; O34;
O36-38; T25-26
Appendix K

External Audit Report

External Audit Attestation

By Kaye L. Peery, Ph. D.

Suzanne Campbell requested that I complete an educational qualitative audit on her dissertation entitled, “Career Paths of Women Clinical Laboratory Scientists Who Have Become Higher Education Administrators.” The purpose of the audit was to determine the degree to which the qualitative results of her study are trustworthy. The audit was conducted in May of 2006.

Huberman and Miles (in Denzin and Lincoln, 1994) note that audits “seem to have decidedly salutary effects, notably the encouragement of systematic record keeping and reflexivity” (p. 439). Although systematic record keeping requires additional time and energy by the researcher, the methodological process itself as well as the resulting “audit trail” serve to support the credibility of the research process and findings.

Lincoln and Guba (1985) define the audit process as an examination of both the process and product of the inquiry. Examining the process is designed to ensure that the informants are fairly represented in the recorded accounts; examining the final product is designed to ensure the accuracy of the findings as supported by data.

To examine both the research process and the product, I completed the following steps in reviewing materials for the audit:

1.) Reviewed and examined the transcriptions of participant interviews.

Eight participants were interviewed for this study. All recordings were transcribed verbatim. There were eight mini-cassettes. I listened to portions of all cassettes.

Findings: As I reviewed the recorded interviews, I checked for added, omitted, or incorrect words, and inverted wordings. Transcription errors were negligible; there were no errors that affected or altered the meaning of data. Therefore, the effect of transcription errors on data analysis and findings is deemed to be non-existent.

2.) Reviewed folders that contained the following types of information:
   o Dissertation Draft
   o IRB Approval/Protocol items
   o Coded Interview Transcripts
   o Signed Transcript Verification Forms
   o Signed Transcriptionist Confidentiality Statement
   o Correspondence
   o Interview Protocol
   o Signed Participant Consent Forms
   o Researcher’s Observation and Interview Notes
   o Coding folder and analysis notes
   o Completed Demographic Profiles

Findings: The folders included required information.

3.) Checked permission forms from participants.

Permission forms were approved by the Institutional Review Board and were to be completed by all participants. I checked the forms included in the folders to ascertain whether each participant had signed a consent form.
Findings: Each participant signed a permission form.

4.) Examined 8 coded transcripts and coding notes supporting major coding themes and sub-themes.

I reviewed coded transcripts and coding tables to check for accuracy of data identification.

Findings: The data supported identified themes.

5.) Read and examined dissertation draft provided by Suzanne.

The final draft manuscript totaled 167 pages with provision for appendices.

I read the final draft in its entirety, directing my attention to Suzanne’s adherence to the purpose of the study and research questions as outlined; design of the study including data collection and sampling; data analysis procedures; and use of theory and literature. I paid particular attention to determining whether the findings were supported by the data.

Findings: Theory and literature were important to understanding the data in this study. Suzanne used literature on the history of the clinical science profession, the role of women in clinical laboratory science, the evolution of academic requirements for clinical laboratory education, and career paths of women in educational leadership. Suzanne’s qualitative inquiry used ample description and direct quotations to report data, explain findings, and support her resulting conclusions.

6.) Revisited primary questions of the audit and completed final review of the dissertation draft.

The focus of the audit was two part: to review process and product. As a final check, I reviewed both the overall process Suzanne used in her study and the procedures she used.

Findings: Appropriate procedures were used in producing the product with the collected data; the data were accurately reported in the product.

Based on the preceding, the following conclusions are offered:

It is my opinion that the focus of the study remained consistent with the purpose as stated in the IRB Consent to Participate in Research. Procedures used in the study, including data collection and analysis, as well as the attending verification strategies were followed as outlined. There is evidence that the following verification procedures were used:

- Triangulation
- Member checks
- Rich, thick descriptions
- Clarification of researcher bias
- Evaluation of negative/discrepant information
- A prolonged time in the research environment
- Peer debriefing
- External Audit

The process as explained by the researcher was clear and direct. The data were clearly and concisely presented using the participants’ own words. Suzanne’s similar academic background, clinical experiences and qualifications lends credibility to the data analysis.
In summary, the researcher satisfies the criteria for dependability and confirmability of findings.

Attested to this 19th day of May, 2006.

Kaye L. Beery, Ph. D.

Kaye L. Beery, Ph. D.