PRACTICES AND PROGRAMMATIC FEATURES OF AN ADN PROGRAM THAT PRODUCED GRADUATES FROM DIVERSE BACKGROUNDS WHO PASSED THE NCLEX-RN

Jennifer Harrison Siu
B.S.N., University of San Francisco, 1981
M.S.N., University of Texas Health Science Center, 1986
M.A.B.S., Dallas Theological Seminary, 1989

DISSERTATION

Submitted in partial satisfaction of
the requirements for the degree of

DOCTOR OF EDUCATION

in

EDUCATIONAL LEADERSHIP

at

CALIFORNIA STATE UNIVERSITY, SACRAMENTO
SPRING
2011
PRACTICES AND PROGRAMMATIC FEATURES OF AN ADN PROGRAM THAT PRODUCED GRADUATES FROM DIVERSE BACKGROUNDS WHO PASSED THE NCLEX-RN

A Dissertation

by

Jennifer Harrison Siu

Approved by Dissertation Committee

________________________
Edmund W. Lee, Ed. D., Chair

________________________
Robert Pritchard, Ph. D.

________________________
Diane Welch, M.S.N.

SPRING 2011
PRACTICES AND PROGRAMMATIC FEATURES OF AN ADN PROGRAM THAT PRODUCED GRADUATES FROM DIVERSE BACKGROUNDS WHO PASSED THE NCLEX-RN

Student: Jennifer Harrison Siu

I certify that this student has met the requirements for format contained in the University format manual, and that this dissertation is suitable for shelving in the Library and credit is to be awarded for the dissertation.

________________________, Graduate Coordinator
Carlos Nevarez, Ph. D. Date

Department of Doctorate in Educational Leadership
DEDICATION

I dedicate this project to several people, who have been my mainstay throughout this entire endeavor. First, I thank God, who I would be nothing without Him. For my family, I would not have been able to complete the project, without their love, support, encouragement, and continual prayers. I thank Bob, my husband of 20 years and my soul mate, who has been with me through “thick and thin” and who has always been my coach for all my adventures, including this one. I thank my four children, Hannah, Emma, Olivia, and Julia, who have been so patient in waiting for mom to get off the computer and spend some time with them. I thank my twin sister Sue, my second soul mate, and her loving family, Solomon, her husband of 25 years, Elliot and Audrey, my traveling companions. Lastly, this project is dedicated to the memory of my mother, Norma Harrison Fong, who passed away on April 14, 2010, soon before my qualification exams. She will always be in my heart.
ACKNOWLEDGEMENTS

This project could not have been completed without the insightful suggestions and ideas of Dr. Ed Lee, Dr. Bob Pritchard, and Diane Welch, my dissertation committee. I thank Dr. Lee for challenging my mind and spirit to expand my project, and his ceaseless efforts in his attention to detail. I am grateful for Dr. Pritchard’s enthusiasm and passion for education, and his belief in me that this topic was worthy of study. I thank Diane Welch for her abundance of knowledge, expertise and wisdom in anything having to do with nursing. I especially want to recognize Dr. Jo Lynn Britt, who navigated me through the intricacies of the statistical analyses and the software program. I am especially thankful for the entire nursing faculty and staff at Sacramento City College who have been my cheerleaders and mentors. Lastly, I thank the students, graduates, and Sacramento City College itself for giving me 21 wonderful years of teaching. I sum up my dissertation experience in the following quote by Michelangelo: “I am still learning.”
CURRICULUM VITAE

EDUCATION

May 1989  Master of Arts in Biblical Studies, Dallas Theological Seminary, Dallas, Texas
December 1986  Master of Science in Nursing, University of Texas, Health Science Center of San Antonio, San Antonio, Texas
May 1981  Bachelor of Science in Nursing, University of San Francisco, San Francisco, California

PROFESSIONAL EMPLOYMENT

May 1989 - Present  Sacramento City College - Nursing Professor, Los Rios Community College District, Allied Health Division, Vocational and Associate Degree Programs, Sacramento, CA
Aug 1994 – Oct 1998 USAF - Reserve Nurse, 940th Medical Squadron, McClellan AFB, Sacramento, CA and Beale AFB, Marysville, CA
Aug 1991 - Aug 1994 USAF - Reserve Nurse, Headquarters, 12th Contingency Hospital, Travis AFB, Fairfield, CA
May 1989 - Aug 1991 USAF Nurse Corps - Reserve Nurse, Detachment 1, 12th Contingency Hospital, Mather AFB, Sacramento, CA
Jan 1987 - May 1989 USAF Nurse Corps - Reserve Nurse, Detachment 1, 11th Contingency Hospital, Carswell AFB, Fort Worth, Texas
Jan 1987 - May 1989 David E. Samara, M.D. - Pediatric Clinical Nurse Specialist, Dallas, Texas
Jan 1987 - May 1989 Children's Medical Center of Dallas - Pediatric Home Health Care Nurse, Dallas, Texas
Aug 1985 - Dec 1986  USAF - Reserve Nurse, Headquarters, 11th Contingency Hospital, Lackland AFB, San Antonio, Texas

Nov 1984 - Aug 1985  Kaiser Permanente Hospital - Pediatric Nurse, Kaiser Permanente North, Sacramento, CA

Aug 1984 - Aug 1985  USAF - Reserve Nurse, Detachment 1, 12th Contingency Hospital, Mather AFB, Sacramento, CA


FIELD OF STUDY

Maternal-Newborn Nursing

Nursing Education
Abstract

of

PRACTICES AND PROGRAMMATIC FEATURES OF AN ADN PROGRAM THAT PRODUCED GRADUATES FROM DIVERSE BACKGROUNDS WHO PASSED THE NCLEX-RN

by

Jennifer Harrison Siu

The central issue is that NCLEX-RN standards have been raised requiring nursing graduates to demonstrate greater knowledge on the national licensure examination in order to be licensed. This has ramifications for nursing programs and their ability to sustain a high percentage of graduates from diverse backgrounds who go on to pass the NCLEX as first-time test takers. This study investigated the practices and programmatic features of Sacramento City College’s nursing program, a successful program characterized by its history to produce graduates from diverse backgrounds who passed the NCLEX-RN. The findings of this mixed methods study, which used data sources from faculty and graduate surveys, curricula documents, and NCLEX reports, supported observations and published recommendations of best practices noted by nursing education experts. The study also presented factors not commonly found in the research, such as maintaining a rigorous nursing program and high NCLEX passing rates while upholding diversity trends within its student body and the open access policy on a
community college campus. In conclusion, the study explicitly recognized that the state’s investment in nursing education cannot be evaluated by simply examining NCLEX success – the ultimate return on investment in nursing programs is having graduates practice nursing in California.
TABLE OF CONTENTS

Dedication .................................................................................................................. iv
Acknowledgements .................................................................................................... v
Curriculum Vitae ...................................................................................................... vi
List of Tables ........................................................................................................... xiv
List of Acronyms and Abbreviations ................................................................. xvii

Chapter

1. INTRODUCTION ............................................................................................. 1
   Background ........................................................................................................... 1
   Problem Statement ............................................................................................ 9
   Nature of the Study ........................................................................................... 12
   Significance of the Study .................................................................................. 15
   Operational Definitions ..................................................................................... 27
   Assumptions, Limitations, and Delimitations ................................................... 30
   Summary ........................................................................................................... 32
   Organization of the Study .................................................................................. 32

2. REVIEW OF RELATED LITERATURE ....................................................... 35
   Introduction ......................................................................................................... 35
   Accountability in Higher Education ................................................................. 36
   The Nursing Shortage......................................................................................... 39
Overall Results ................................................................. 92
Research Questions and Findings ........................................ 93
Summary ........................................................................... 150

5. SUMMARY AND CONCLUSIONS ............................................ 157

Overview ........................................................................... 157
Conceptual Models ............................................................. 159
Research Questions ............................................................. 160
Methodology ..................................................................... 161
Findings ............................................................................ 162
Recommendations for Policy, Delivery, and Practice .............. 170

Critical Policy and Delivery Recommendations Using

Informed Decision Making .................................................. 175

Additional Research Recommendations ............................. 183
Conclusion ........................................................................ 183

Appendix A. Sacramento City College Associate Degree Nursing Program

NCLEX Pass Rates ............................................................. 185

Appendix B. Program Success Model ...................................... 186

Appendix C. Curriculum Alignment Model ................................. 187
Appendix D. Sacramento City College Associate Degree Program Student Demographics (2009-2010) ................................................................. 188

Appendix E. NCLEX Test Plan (2010) .......................................................... 189

Appendix F. Faculty Survey ........................................................................ 209

Appendix G. Graduate Survey .................................................................... 216

Appendix H. Sacramento City College Associate Degree Program Level Student Learning Objectives ......................................................... 221

Appendix I. Sacramento City College Associate Degree Program Enrollment Criteria Recommendation ............................................................ 223

REFERENCES ............................................................................................... 226
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Graduates Who Passed the NCLEX-RN (N=82)</td>
<td>92</td>
</tr>
<tr>
<td>2. Comparison of the Student Learning Outcomes (SLOs) (“Written Curriculum”) (N=1,253) with the 2010 NCLEX-RN® Test Plan (NCSBN, 2010)</td>
<td>98</td>
</tr>
<tr>
<td>3. Comparison of Final Exam Items (“Taught Curriculum”) (N=360) and the 2010 NCLEX-RN® Test Plan (NCSBN, 2010)</td>
<td>99</td>
</tr>
<tr>
<td>5. Comparison of Percent Point Differences of SLO, Final Exam Items and the NCLEX Test Plan Performance Report (NCSBN, 2010)</td>
<td>105</td>
</tr>
<tr>
<td>6. Mean Ratings and T-tests of the Factors That Influence Faculty in Choosing Course Content and Exam Items in Respect to the NCLEX-RN - by Faculty (N=11)</td>
<td>108</td>
</tr>
<tr>
<td>7. Frequency of the Factors That Influence Faculty in Choosing Course Content and Exam Items in Respect to the NCLEX-RN - by Faculty (N=11)</td>
<td>110</td>
</tr>
<tr>
<td>8. Ratings and Comparison of the Processes the Faculty Utilize to Ensure Their Teaching is Aligned to the NCLEX-RN Standards – Emergent Themes by Faculty (N=11) and Means and T-tests by Graduates (N=82)</td>
<td>113</td>
</tr>
</tbody>
</table>
9. Emergent Themes of Cultural and Organizational Norms that Facilitate the SCC Nursing Program’s Efforts to Produce Successful Graduates - by Faculty (N=11)…………………………………………………………………………….119

10. Mean Ratings and T-Tests of the Cultural and Organizational Norms that Facilitate the SCC Nursing Program’s Efforts to Produce Successful Graduates - by Faculty (N=11)……………………………………………………………………………………………………………121

11. Mean Ratings and T-tests of the Cultural and Organizational Norms that Facilitate the SCC Nursing Program’s Efforts to Produce Successful Graduates - by Graduates (N=82)………………………………………………………………………………..123

12. Mean Ratings and T-tests of Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students - by Faculty (N=11)………………………………………………………………………………………………………………127

13. Mean Ratings and T-tests of Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students - by Graduates (N=82)………………………………………………………………………………………………………………..128

14. T-Tests for Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students – by Faculty (N=11) and Graduates (N=82)………………………………………………………………………………………………………………..129
15. Mean Ratings and T-tests of SCC Testing Practices That Affect Graduates’ Performance on the NCLEX-RN - by Faculty (N=11)…………………..……..133


17. T-Tests of SCC Testing Practices That Affect Graduates’ Performance on the NCLEX-RN – by Faculty (N=11) and Graduates (N=82)……………………………..136

18. Ratings of Emergent Themes of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program- by Faculty (N=11)……………………………………………………………….140

19. Ratings of Emergent Themes of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program- by Graduates (N=82)…………………………………………………………………….145

20. Ratings of Means and T-tests of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program - by Graduates (N=82)…………………………………………………………………….149
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AACN</td>
<td>American Association of Colleges of Nursing</td>
</tr>
<tr>
<td>AACC</td>
<td>American Association of Community Colleges</td>
</tr>
<tr>
<td>ADN</td>
<td>Associate Degree Nursing</td>
</tr>
<tr>
<td>ANA</td>
<td>American Nurses’ Association</td>
</tr>
<tr>
<td>BON</td>
<td>Boards of Nursing</td>
</tr>
<tr>
<td>BSN</td>
<td>Bachelor’s Science in Nursing</td>
</tr>
<tr>
<td>CAT</td>
<td>Computerized Assisted Testing</td>
</tr>
<tr>
<td>CBRN</td>
<td>California Board of Registered Nursing</td>
</tr>
<tr>
<td>CCCCCO</td>
<td>California Community College Chancellor’s Office</td>
</tr>
<tr>
<td>CCCSO</td>
<td>California Community Colleges Systems Office</td>
</tr>
<tr>
<td>ESL</td>
<td>English as a Second Language</td>
</tr>
<tr>
<td>ELR</td>
<td>Evolve Learning Resources</td>
</tr>
<tr>
<td>GED</td>
<td>General Educational Development Test</td>
</tr>
<tr>
<td>GPA</td>
<td>Grade Point Average</td>
</tr>
<tr>
<td>GRE</td>
<td>Graduate Record Exam</td>
</tr>
<tr>
<td>LRCCD</td>
<td>Los Rios Community College District</td>
</tr>
<tr>
<td>MSN</td>
<td>Master’s of Science in Nursing</td>
</tr>
<tr>
<td>NCLEX-RN</td>
<td>National Council Licensure Examination for Registered Nurses</td>
</tr>
<tr>
<td>NCSBN</td>
<td>National Council of State Boards of Nursing</td>
</tr>
<tr>
<td>NLN</td>
<td>National League of Nursing</td>
</tr>
</tbody>
</table>
RHORC…………………………………..Regional Health Occupations Resource Centers
RN……………………………………………………………………...Registered Nurse(s)
SCC…………………………………………………………………Sacramento City College
SLO……………………………………………………………………..Student Learning Objective
Chapter 1

INTRODUCTION

Background

The United States is becoming increasingly ethnically and socioeconomically diverse. To provide congruent health care to this changing population and to address the nursing shortage, nursing programs, particularly those at the community college level, must attract and support diverse students through to successful completion of the National Council Licensure Examination for Registered Nurses (NCLEX-RN). The recent push for more accountability in education has also impacted nursing programs as evidenced by the fact that the NCLEX-RN standards have been raised requiring nursing graduates to demonstrate greater knowledge on the national licensure examination in order to be licensed. This has ramifications for nursing schools and their ability to sustain a high percentage of graduates from diverse backgrounds who go on to pass the NCLEX as first time-time test takers.

In the United States, diversity trends are rising. Nationally 34% of the population identifies as racial and ethnic minorities (U.S. Census Bureau, 2010). California is the most racially and ethnically diverse state in the country, with a minority non-white population of 58% now making up the majority and a projected population of two-thirds non-white in 2030 (Chapman, Waneka, & Bates, 2008; U.S. Census Bureau, 2010). Many sources predict that by 2060, the entire country will mirror the diversity of California today (Chapman, Waneka, & Bates, 2008).
Diverse healthcare professionals are disproportionally represented in the general population. According to a national survey in 2008, 15% of the registered nurses (RN) are non-white, compared to 34% non-whites of the general population (U.S. Department of Health and Human Services, 2010). In California, 35% of the RN population is non-white, compared to 58% non-whites of the state’s population (U.S. Department of Health and Human Services, 2010). Only 7% of nursing faculty are non-white, compared to 16% minority representation among faculty generally (National League of Nursing [NLN], 2009). Like the rest of the country, California nurses do not represent the racial and ethnic diversity of its general population as a whole. Ideally, the health care workforce should reflect the diversity of the general population (NLN, 2009). Diversity in nursing is essential to developing a health care system that understands and addresses the needs of a rapidly diversifying population.

Nursing shortages and nursing education are major concerns in health care. The nursing shortage is reaching unprecedented numbers with a predicted shortfall of 260,000 nurses by 2025 (American Association of Colleges of Nursing [AACN], 2010). According to these projections, based on the current rate of nurses entering the profession, only 64% of the projected demand will be met (ANSR, 2009). Though nursing schools are able to expand student capacity, the latest data show that more than 54,000 qualified applications to professional nursing programs were turned away in 2009 (AACN, 2010). Supply is not meeting demand. Impacted nursing schools are working overtime to graduate nurses at a rapid pace (AACN, 2010). Other nursing education issues such as high operating costs, limited funding, academically underprepared
students, increased student attrition rates, lack of qualified faculty, faculty shortages, and limited number of clinical sites compound the shortage even more (AACN, 2010; Benner, Sutphen, Leonard, & Day, 2009; Glossop, 2001; NLN, 2003; Tanner, 2008). New developments such as increased accountability in higher education (Spellings, 2006), more aging and diverse populations (National Center for Health Statistics, 2007; O'Neil, 2000), and advances in technology, health care, and international economic dependency (Breivik & Gee, 1989; NLN, 2003; O'Neil, 2000) confront and challenge nursing schools.

Currently, a growing field of nursing research is attempting to address these issues in nursing education. Innovative partnerships between hospitals and schools of nursing, and new strategies in admission and placement processes have brought some relief to the crisis (AACN, 2010; Byrd, Garza, & Nieswiadomy, 1999). Additionally, a proliferative amount of nursing education literature cites factors that predict nursing licensure success (Arathuzik & Aber, 1998; Beeman & Waterhouse, 2001; Beeson & Keesling, 2001; Daley, Kirkpatrick, Frazier, Chung & Moser, 2003; Roncoli, Lisanti & Falcone, 2006). Despite these new developments, the number of nursing graduates in general, and those particularly from diverse backgrounds continue to lag behind healthcare’s demand for more nurses.

Nurse educators, nursing leadership, private foundations, and policy makers are concerned over the lack of diversity in nursing, the nursing shortage, and nursing education issues (Fraher, Bellsky, Carpenter, & Gaul, 2008). If the nursing profession is
to thrive in the future, educators and leaders must create ways to help nursing students from diverse backgrounds to succeed.

The majority of registered nurses receive their nursing education at community colleges through an associate’s degree nursing (ADN) program (California Board of Registered Nursing [CBRN], 2009; Long, 2004; National Council of State Boards of Nursing [NCSBN], 2009). Sixty-two percent of all nursing programs in California are ADN programs (CBRN, 2009). Open access policy, one distinct feature of community colleges, promises that higher education is available to any high school graduate despite social, economic, and academic challenges (Roueche & Roueche, 1993). In providing such access, the community college enrolls a large number of students who are described as at-risk (i.e., those who are academically under prepared for college or work 30 or more hours per week or have little family and financial support) (Roueche & Roueche, 1993). Community colleges also enroll a large proportion of students who are racially and ethnically diverse (i.e., African-American, Asian/Pacific Islander, Hispanic, Native American, Alaskan Native or English-as-a-Second Language (ESL) (California Community Colleges [CCC], 2005; Sitzman, 2007). Sixty-nine percent of nursing students are ethnic minorities who are enrolled in associate degree programs in California (CBRN, 2009). Combined with the high demand and strong wages in nursing, training at-risk/diverse populations to become nurses stands to improve both quality of health care and economic well-being of diverse communities (Fraher, Bellsky, Carpenter & Gaul, 2008). However, such prospective nurses are at the highest risk for attrition due to
lower quality academic preparation and greater financial and family responsibilities (Hossler & Stage, 1992; Kane & Rouse, 1999; Pascarella & Ternezini, 1991).

To graduate more diverse nurses, success in nursing education must be supported through early academic intervention, financial aid, tutoring, culturally sensitive educationally practices, and social support (Sullivan, 2004). A paucity of nursing literature has been written concerning how to provide such support (Choi, 2005; Evans & Greenberg, 2006; Flinn, 2004; Gardner, 2005; Gooden, Porter, Gonzalez, & Mims, 2001; Guhde, 2003; Jalili-Grenier & Chase, 1997; Labun, 2002; National Advisory Council On Nurse Education And Practice, 2000; Newman & Williams, 2003; Omeri, Malcolm, Ahern, & Wellington, 2003; Sanner, Wilson, & Samson, 2002; Seago & Spetz, 2005; Stacciarini, 2002; Thacker, 2005; Yoder, 2001). Successfully passing the nursing licensing examination is required after graduating from a nursing program, although very little is formally known about the effect of race/culture/ethnicity on exam passing rates.

Nursing student success is a priority. Passing the licensure exam, called the National Council Licensure Examination-Registered Nurses (NCLEX-RN), allows licensed, entry-level RN practice (National Council of State Boards of Nursing [NCSBN], 2010). The NCLEX-RN is a rite of passage for the nursing graduate in the United States and, increasingly, nurses from other nations who wish to practice nursing in the United States. In recent years, numbers of domestic and foreign-born diverse graduates as well as English-as-a-second-language (ESL) graduates taking the exam have increased (Guhde, 2003; O'Neil, 2004; O'Neil, Tannenbaum, & Tiffen, 2005; Seago & Spetz, 2005). Discussions have arisen, based on informal observations in
academia, with regard to cultural concerns that may present challenges for diverse graduates in passing the NCLEX-RN. The National Council of State Boards of Nursing (NCSBN) has oversight for the production and administration of the NCLEX-RN nationwide and remains silent with regard to this topic. Published explorations within the nursing literature have been limited.

Jeffreys (2007) found that nursing student success significantly contributes to alleviating the nursing shortage. Nursing student success is defined by Jeffreys (2007) as those students who graduate and pass the licensure exam for the first time. Passing the NCLEX-RN is considered a type of “high stakes” testing for three key stakeholders in nursing education: (1) the nursing program, (2) the student, and (3) the faculty (Parsons, 2008, p. 21).

The first key stakeholder is the nursing program. The NCSBN is primarily responsible for developing the NCLEX-RN, overseeing the State Board of Nursing (BON), and monitoring all nursing programs (NCSBN, 2010). The NCSBN pays a great amount of attention to the first-time pass rates on the NCLEX-RN for each school’s graduates, as it can initiate administrative sanctions if low pass rates persist (NCSBN, 2010). Nursing schools can risk losing accreditation for persistently low pass rates (Parsons, 2008). Also, the public and the nursing community often interpret the NCLEX-RN results as an indicator of the nursing program’s quality (Mackey, 2001). Moreover, NCLEX-RN pass rates are universally cited as outcome indicators of the nursing curriculum (Jacobs & Koehn, 2004). Unfortunately, for the past 20 years, the national passing rate for first time candidates has shown a decline. Its lowest rate was 84% in
1989 (NCSBN, 2010). One cause was attributed to the NCSBN establishing a higher passing standard in 1988 (NCSBN, 2010). As of April 1, 2010, the NCSBN has raised the passing standard again (NCSBN, 2010). Understandably, the higher passing standard is an immediate concern for all nursing programs.

The second key stakeholder is the student. Once students graduate, they are eligible to take the licensure exam. Even though repeated attempts to take the exam is allowed, those failing it are prevented from practicing in the nursing professional and experience personal, emotional, and financial failure (Seago, Wong, Keane, & Grumbach, 2008). These students, who have forfeited two or more years of schooling, may be forced to find a new career path. Their choice is to either leave college without the expected job security as a nurse or re-enroll into another program of study and take on additional expenses for more education. Failing the licensure exam has significant negative consequences on the individual, as the experience of failure adversely affects self-esteem and self-confidence necessary for professional competence (Ashley & O’Neil, 1991). Additionally, the candidate who fails must delay career plans which create financial problems as well (Ashley & O’Neil, 1991).

The third key stakeholder is the faculty. High stakes testing demands that nursing faculty provide maximal efforts to ensure NCLEX success among their graduates (Parsons, 2008). The NCSBN and the State BON rely exclusively on the nursing faculty to develop, maintain and monitor the quality of their nursing programs so that students pass the program and the NCLEX (NCSBN, 2010). Thus, it is incumbent upon nursing faculty that they systematically review the evolving NCLEX-RN Test Plan (NCSBN,
2009) and consider ways to incorporate the content throughout the curriculum. This not only maintains continuity, but also facilitates student success and determines gaps in the curriculum that may be responsible for declining performance on the NCLEX-RN (Parsons, 2008).

Because NCLEX-RN pass rates are currently mandated by a uniformly accepted national norm (O'Neill, Marks, & Reynolds, 2005) and are universally cited as outcome indicators of the nursing curriculum (Jacobs & Koehn, 2004), the present study focuses on practices and programmatic features of a nursing program which produced students from diverse backgrounds who passed the NCLEX. Extensive literature on nursing curriculum evaluation and outcome measurement highlights the importance that educational program processes have the ultimate goal of program improvement and student success (Brown, 2002; Clarke, Goodwin, Mariana, Marshal, & Moore, 1983; Ediger, Snyder, & Corcoran, 1983; Kapborg & Fishbein, 2002; Watson & Herbener, 1990). Keating (2006) confirmed the applicability of outcome measurement to nursing curriculum evaluation as “being essential to measuring success, establishing benchmarks, and continually improving the quality of the program (Keating, 2006, p. 258). Even though several conceptual models for curriculum evaluation are offered by various authors (Clarke, Goodwin, Mariana, Marshal, & Moore, 1983; Keating, 2006; Weiss, 1998), Watson and Herbener, (1990) stated that the selection of the conceptual model should be based on the purpose of the evaluation, program needs, material resources, personal time and the needs of key stakeholders. Two conceptual models, which are used for this study, are discussed later in the chapter.
Although research cites a multitude of programmatic, student, and faculty variables associated with NCLEX-RN outcomes (Arathuzik & Aber, 1998; Beeman & Waterhouse, 2001; Beeson & Keesling, 2001; Daley, Kirkpatrick, Frazier, Chung, & Moser, 2003; Roncoli, Lisanti, & Falcone, 2006), only a limited number of studies include the curriculum evaluation as being a possible variable (Beeson & Keesling, 2001; Carpenter & Bailey, 1999; Nibert, Young, & Britt, 2003; Seldomridge & Dibartolo, 2004). Of those studies, correlations between the curriculum and NCLEX-RN performance are limited. Furthermore, there is little quantitative research with regard to NCLEX-RN pass rates associated with diverse students and community colleges. Even though the current study endeavors to contribute to the growing body of nursing literature on curriculum and NCLEX success amongst diverse student populations, more empirical research and longitudinal studies are needed. Generally speaking, current nursing research is limited in its ability to attribute a positive correlation as such. Further investigation using more rigorous empirical designs with larger, diverse student groups to evaluate both type and timing of the various interventions is needed (Dibartolo & Seldomridge, 2005).

Problem Statement

Problem to be Studied

The central issue is that NCLEX-RN standards have been raised requiring nursing graduates to demonstrate greater knowledge on the national licensure examination in
order to be licensed. This has ramifications for nursing programs and their ability to sustain a high percentage of graduates from diverse backgrounds who go on to pass the NCLEX as first-time test takers. This study investigates the practices and programmatic features of Sacramento City College’s nursing program, a successful program characterized by its history to produce graduates from diverse backgrounds who passed the NCLEX-RN. This study is needed because the nursing program at Sacramento City College (SCC) appears to be unique amongst its peers. The program is currently ranked in the top six of 147 nursing schools in California as passing the NCLEX (CBRN, 2010). However, of the top six schools which are community colleges, only SCC primarily uses random selection in its admission processes, upholding the open access policy. The other five programs use a multi-criteria selection system similar to the four-year nursing programs. These associate degree programs, as with the bachelor degree programs, are experiencing less ethnic minority admissions (Bissett, 1995; Roueche & Roueche, 2007) – sometimes 42% less (CBRN, 2010), while SCC is experiencing a surge in ethnic minority admissions – up from 37% in 2009 to 53% in 2010 (SCC, 2010).

**Context of the Case Study**

Sacramento City College’s Associate Degree Nursing (SCC-ADN) program has been educating associate degree prepared nurses for more than 57 years (Sacramento City College [SCC], 2008). Upon graduation, its nursing students must pass the National Council Licensure Examination-Registered Nurses (NCLEX-RN) exam to become licensed to practice as Registered Nurses (RN) (NCSBN, 2010). The organization responsible for developing and administering the NCLEX-RN, controlling the passing
benchmarks required for the NCLEX-RN, and educating nurses about trends in nursing practice is the National Council on State Boards of Nursing (NCSBN) (NCSBN, 2010). This National Council works closely with the California Board of Registered Nursing (CBRN), which regulates the practice of nursing to ensure safe and effective nursing care in all settings (CBRN, 2009).

If the pass rate for a nursing school drops near or below the minimum pass rate, the California BRN requires an audit by the nursing program to determine the reasons for the decline. As a result, the program must submit a report describing the results of the audit, along with the departmental plans to rectify the situation (CBRN, 2009).

In 2004-2005, the NCLEX-RN first time pass rate for SCC nursing program was 100% (n=79); in 2005-2006, the pass rate was 98.9% (92/93); for 2006-2007, 99.3% (143/144); in 2007-2008, 96.5% (138/143); 2008-2009, 92.5% (148/160) and for 2009-2010, 92.9% (79/85). For SCC, the average NCLEX-RN pass rate for the past six years was 96.7% (n=704) (CBRN, 2010) (Appendix A).

Student demographics for academic years 2000-2010 are as follows (n = 3,727): 53% declared ethnicity other than Caucasian. Those ethnic minorities were the following: African-American – 2.9%; American Indian / Alaskan Native – 2.9%; Filipino – 11.8%; Non-Filipino Asian / Pacific Islander – 14.7%; Hispanic – 11.8%; and other - 8.8%. Students declared receiving financial support: 41% worked 20 hours or less per week; 16% worked more than 20 hours or more per week; and 51% were on some form of financial aid. Attrition rate was reflected as being either academic or personal: 4% attrition rate was due to academic failures (i.e., grade “D” or “F”) and 12%
attrition rate attributed to personal leaves of absence (i.e., “Withdrawal”) (SCC-ADN Program, 2010). This study attempts to investigate the unique practices and programmatic features of SCC’s nursing program that produced a significant number of graduates from diverse backgrounds who passed the NCLEX-RN.

Nature of the Study

Research Questions

The study endeavors to explore the unique features of SCC’s nursing program by attempting to answer the following questions:

1. What measures has the SCC nursing program taken to increase the success of its graduates on the updated NCLEX-RN?
   a. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?
   b. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?
   c. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

2. What are the perspectives of the faculty and graduates on how the SCC nursing program ensures the success of its graduates on the NCLEX-RN?
   a. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?
b. What programmatic practices does the SCC nursing program employ that increase the success of its at-risk students?

c. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

d. What are the elements in the SCC nursing program that students attribute to their successful completion of the program?

*Purpose of the Study and Conceptual Models*

The purpose of the case study is to ascertain and understand the reasons for SCC nursing program’s success in producing high numbers of graduates from diverse backgrounds who passed the NCLEX-RN. Two conceptual models were used to guide the study.

The major model underlying the study describes factors that influence student outcomes and program success (Fraher, Bellsky, Carpenter, & Gaul, 2008) (Appendix B). The model divides the factors into student-level demographic and socioeconomic characteristics, and program-level characteristics. Program-level characteristics are further subdivided into three groups: admissions policies, faculty and instructional characteristics, and support services and resources. The student outcome that determines a successful ADN program is passing the NCLEX-RN on the first attempt (Fraher, Bellsky, Carpenter, & Gaul, 2008). Thus, a portion of the study investigates student and program factors that influence the NCLEX-RN passing rate. Specifically, the study looks
at faculty and student perspectives of such factors influencing the NCLEX-RN passing rate.

The second model describes curriculum alignment by English and Steffy (2001) (Appendix C). Curriculum alignment is an interdependent relationship between the written curriculum (i.e., intended curriculum), the taught curriculum (i.e., delivered curriculum), and the tested curriculum (i.e., achieved curriculum). The model suggests that these three distinct curriculums must be linked or aligned so that optimal program outcomes occur (English & Steffy, 2001). When applied to nursing curriculum evaluation, the model argues that the written curriculum (e.g., student leaning outcomes), the taught curriculum (e.g., final exams) and the tested curriculum (e.g. NCLEX-RN performance) must be aligned. English and Steffy (2001) argued that program alignment ultimately leads to program improvement and student success. Thus, a portion of the study evaluates the nursing curriculum by analyzing the written, taught and tested curriculum alignment with the NCLEX-RN. Consequently, the study analyzes how SCC’s student and program characteristics influence ADN program success (i.e. NCLEX first time passing rates).

The mixed methods study involves collecting qualitative and quantitative data. A qualitative approach, using grounded theory and the constant comparative method, will analyze the alignment of SCC’s curriculum (i.e. course objectives, final exam questions, and graduates’ NCLEX performance data) with the NCLEX-RN Test Plan (research question #1a). It will also analyze faculty’s and student’s responses on the open-ended portion of a survey. These questions look at (1) the alignment of teaching and NCLEX
standards; (2) faculty’s perspectives on cultural and organizational norms of SCC; and (3) elements to successful program completion (research questions #1c, 2a, and 2d).

Quantitative data will be collected from the Likert-scale portion of the surveys and will be analyzed for correlations. The quantitative data will identify factors that influence the faculty in choosing course content and exam items in respect to the NCLEX; faculty’s and graduates’ perspectives on programmatic practices that increase success of at-risk/diverse students; testing practices that affect graduates’ performance on the NCLX-RN; and graduates’ perspectives on the cultural and organizational norms of SCC (research question #1b, 2a, 2b, and 2c). Results will be analyzed, and findings and recommendations will be offered.

Significance of the Study

Context and Background of Sacramento City College

Sacramento City College (SCC) was founded in 1916 as a Department of Sacramento High School. It is the seventh oldest public community college in California and oldest institution of higher learning in Sacramento. Sacramento City College is one of four campuses within the Los Rios Community College District (LRCCD). Sacramento City College’s mission, vision, and core values seek to promote student success and serve the Sacramento community by preparing students in the areas of basic skills, degree transfer, and vocational application (SCC, 2009). Sacramento City College is located in a dense urban setting serving a diverse population of students coming primarily from the greater Sacramento region. Approximately 31,500 students attend
either part-time or full-time, with 61% declaring an ethnicity other than white: 17% are Latino, 26% Asian, 14% African–American, with 11% declaring Other. The total number of employees is 1,165, with 47% being full-time tenured faculty (California Community Colleges Systems Office, 2008; State of California Community Colleges, Chancellor’s Office, 2007).

Sacramento City College Science and Allied Health Division

Academics at Sacramento City College offer degrees, certificates, courses, and transfer majors in 82 different areas of study. The Science and Allied Health division offer programs in allied health, astronomy, biology, chemistry, dental assisting, dental hygiene, geology, nursing, occupational therapy assistant, physics, and physical therapist assistant (SCC, 2009).

Sacramento City College’s Associate Degree Nursing (ADN) program has been responsible for educating professional nurses for over 57 years. It is currently staffed by 12 core faculty members and many adjunct and contractual faculty members who instruct theory and clinical courses throughout the year. Core faculty are employed full-time, have a Master’s degree or higher, team-teach (i.e., three faculty per course per semester), teach both theory (i.e., five hours per week) and clinical (i.e., 18 hours per week), and have a total of 177 years of teaching experience, collectively. The average age of the faculty is 54 years old and has an average of 15 years of teaching experience. Of the ten adjunct faculty, five work full-time, two have a Master’s degree or higher, team-teach, teach theory and/or clinical, and have a total of 48 years of teaching experience,
collectively speaking, with an average of five years of teaching experience. All adjunct faculty are required to attend a SCC orientation program (SCC-ADN Program, 2010).

The nursing department offers vocational certificates and associate degrees, and matriculates approximately 182 graduates each academic year. Student demographics for the current academic year 2009-2010 are as follows (N=200): 40% declared ethnicity other than Caucasian (African-American – 5%; American Indian / Alaskan Native – 1%; Filipino – 8%; non-Filipino / Pacific Islander – 6%; Hispanic – 8%; Other – 13% ; and Unknown – 1%); The graduates who stated to be ESL are 32%. Those who worked 20 hours or less per week were 76% and 15% worked more than 20 hours or more per week. Over half (51%) received financial aid. Those graduates representing the accelerated track were 48% (n=39); traditional track, 40% (n=33); and the part-time track, 12.2% (n=10). The 5% attrition rate was due to academic failures (i.e., “D” or “F” grade) and 15% attrition rate attributed to personal leaves of absence (“W” or withdrawal) (SCC-ADN Program, 2010). The associate degree nursing program is approved by the California Board of Registered Nursing (CBRN) (CBRN, 2009) (Appendix D).

Since 2003, the nursing program has implemented three different tracks from which nursing students could enter: An accelerated track, a part-time track, and a traditional track. All tracks consist of four semesters that follow a student’s previous or concurrent completion of general education requirements and pre-requisite nursing courses. The traditional track is the most popular educational track, as it incorporates traditional students who have completed all of the pre-requisite course work and transfer students, who enter into the program after completing their vocational nursing education.
The core faculty primarily teaches in the traditional track and develops the core curriculum which is used for all three tracks. The scope of this case study is limited to the core nursing curriculum, although the NCLEX-RN results include students from all three tracks.

Admission at SCC is an open door policy (i.e., first come first serve and random selection), not a competitive admission (i.e., students are admitted in order of performance on selected criteria). Enrollment eligibility requirements include: completion of all pre-requisite science course work with a cumulative GPA of 3.0 or higher and completion of all other pre- and co-requisites with a cumulative GPA of 2.5 or higher. The nursing program utilizes a standardized test for admission, assessment, and progression.

The aforementioned SCC nursing program model has yielded an average 96.7% NCLEX-RN pass rate (n= 704) for the last six years (SCC, 2010). Extensive research has supported such a model as this. Large studies cite that students were more likely to pass the NCLEX if they enrolled in a program: where more of the faculty had a master’s degree; that used standardized tests in the admission process; and that had a higher science competency standard than the standard for the community college (Fraher, Bellsky, Carpenter, & Gaul, 2008; Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2003). Best practices of high performing ADN programs emerged: increasing graduate education among faculty; requiring orientation for clinical instructors; using standardized tests to rank applicants for admission; and requiring science competency above the general community college standard (Fraher, Bellsky, Carpenter, & Gaul,
2008). Such studies found that student demographic and socioeconomic characteristics were the most powerful predictors of NCLEX pass rates. Namely, young age (18-23 years), non-white/ethnicity (excluding American Indian ancestry), having a GED rather than a high school diploma, and being a Pell Grant recipient were all associated with lower possibilities of passing the NCLEX (Fraher, Bellsky, Carpenter, & Gaul, 2008; Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2003). The current study argues that successful ADN programs which have high proportions of at-risk/diverse students perform higher than expected on the NCLEX-RN.

Professional Associations Guiding Sacramento City College's Associate Degree Nursing Program’s Core Curriculum

The Sacramento City College Associate Degree Nursing (SCC-ADN) program’s curriculum is the focus of this study. The program success model (Fraher, Bellsky, Carpenter, & Gaul, 2008) and English’s (2001) model for curriculum evaluation herein apply to the nursing curriculum at SCC (Appendix B and C, respectively). Because nursing is a profession with a licensure requirement for practice, the SCC-ADN program must be in compliance with the professional organizations responsible for advising, monitoring and legally regulating the educational preparation and the professional practice of nurses (NCSBN, 2010).

American Nurses’ Association (ANA) is the main organization involved with the regulation of professional nursing practice (American Nurses' Association [ANA], 2004).
It defines the scope and standards of nursing practice for all settings since 1973. Within these standards are the expectations of the professional role of registered nurses’ practice for “the protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities, and populations” (ANA, 2004, p. vi).

The National Council on State Boards of Nursing (NCSBN) is the organization responsible for developing the NCLEX-RN exam, controlling its passing benchmarks, and educating nurses about trends in nursing practice (NCSBN, 2010). This NCSBN works closely with each state’s Board of Nursing, including the California Board of Registered Nursing (CBRN). The CBRN administers the NCLEX-RN exam, regulates the practice of nursing and ensures safe and effective nursing care in all settings (CBRN, 2009). The NCSBN provides NCLEX-RN performance reports (i.e., NCLEX-RN Test Plan Reports) to the CBRN and SCC.

These detailed reports present information on SCC’s graduates’ performance on the NCLEX-RN, based on the content breakdown of the NCLEX-RN Test Plan, with comparison groups of other graduates (NCSBN, 2009; 2010). The NCSBN reports that the 2010 NCLEX-RN Test Plan “provides a concise summary of the content and scope of the licensing examination and serves as a guide for examination development as well as candidate preparation” (NCSBN, 2010, p. 1) (Appendix E). The major categories of the content of the NCLEX-RN Test Plan are explained in the methodology section, chapter three, of the study. Thus, a portion of the study seeks to investigate to what extent the
course objectives (i.e. written curriculum), final exam questions (i.e. taught curriculum), and graduate NCLEX-RN performance (i.e. tested curriculum) are linked or aligned to the major categories in the NCLEX-RN Test Plan.

**Context and Background Related to NCLEX Scores**

The pass rates for the NCLEX-RN have fluctuated over the past several years, but the general trend for these rates is above 90% (Appendix A) (NCSBN, 2010). The CBRN reported that the average SCC NCLEX-RN passing rate from 2004 to 2010 was 96.7% (CBRN, 2010).

Several factors possibly contribute to the fluctuation in NCLEX-RN scores. A new accelerated program began in the fall of 2003 in order to accommodate the increasingly large numbers of applicants to the nursing program (SCC-ADN Program, 2010). Amidst the pressures of the political system, as well as healthcare agencies’ need for nurses, SCC-ADN program dramatically increased the number of student admissions to the program in the past five years. Class sizes have doubled from approximately 79 students in 2005 to approximately 160 students in 2009 (SCC-ADN Program, 2010). Innovative strategies for instruction and recommendations for best practices in education have been explored because of increased student load.

Limited departmental resources, a stagnant operating budget, and increased ratios of full-time faculty / part-time faculty had a tremendous impact on the nursing program. The number of faculty had quadrupled from 12 full-time in 2005 to 48 full-time and part-time in 2009. This increase has placed greater demands on core nursing faculty who are primarily responsible for ensuring curriculum integrity and academic rigor, and
overseeing and mentoring inexperienced faculty (CBRN, 2009). Meeting with all course instructors at one time, providing course management and maintaining consistent grading standards among all faculty members have proven to be more complex and challenging. Concerns about maintaining academic rigor in the curriculum and consistent grading standards have also been discussed in relation to the NCLEX-RN scores. Walsh and Seldomridge (2005) analyzed student grades from 1997 to 2002 in nursing theory and clinical courses that were taught in conjunction with one another and concluded that the clinical course evaluations were often inflated. This grade inflation was related to several possible factors, including variable faculty standards and methods used for evaluation of clinical performance (Walsh & Herbener, 2005). Additionally, the authors noted that faculty were unable to be present with all students at all times, and students influenced their grades at times by demonstrating positive efforts in the clinical setting (Walsh & Herbener, 2005). They discussed the difficulties in grading for an entire semester when an instructor may have had the student two months ago, and several other students since that time (Walsh & Herbener, 2005). Determining a fair and accurate grade at the end of the semester is difficult, and if multiple faculty members have not maintained consistent records of those clinical experiences with evaluative components, the challenges to be accurate and fair with student grades are even greater (Walsh & Herbener, 2005). It appears that the clinical evaluation methods have been largely qualitative, and have resulted in consistently higher clinical evaluations than theory grades for each course (Walsh & Herbener, 2005). The need to increase the rigor and consistency of the grading standards by a high influx of new or inexperienced faculty has been discussed by faculty
and the nursing curriculum committee. More consistent grading standards would challenge the students’ intellects, stimulate their critical thinking, and ultimately improve their performance on the NCLEX-RN (Parsons, 2008). Clinical evaluations at SCC are currently rated as satisfactory or unsatisfactory, with no points or letter grade attributed to them. Students must pass all clinical objectives, including a specific skill set, in order to progress to the next semester.

Theory courses may have experienced some grade inflation, possibly due to new or inexperienced faculty. This is also partly attributed to the computerized grading system which rounds students test grades up throughout the semester. For example, when test grades were reviewed retrospectively, it was found that many of the students who did not pass the NCLEX-RN had very marginal raw test scores in the nursing program (SCC-ADN Program, 2010). These students were marginal in their knowledge base and could possibly have benefited from some mandatory remediation before progressing through the program. Since then, the program has changed the grading policy to no rounding up of course grades, with a passing grade of “C” or better (i.e., 75%), in order to progress to the next semester (SCC-ADN Program, 2010).

Students use the Evolve Learning Resources (ELR) computer program to review and prepare for the NCLEX-RN (Elsevier, 2010). This specialized computer program is marketed as an on-line educational tool, designed to enhance students’ critical thinking and test taking abilities, as well as review pertinent nursing educational topics, in preparation for the NCLEX-RN (Elsevier, 2010). The program was in use in 2009 by the SCC-ADN department with the intention of facilitating the students’ optimal preparation
for the NCLEX-RN. Currently, scores from the software program is used for a student’s self-assessment purposes only, and do not contribute to the student’s final course grade.

Testing policies at SCC have changed over the past five years. The current philosophy is to make every effort similar to the NCLEX-RN, in scope and practice: all exams are on-line; embedded in the course electronic management system; all tests are timed, with approximately 1.5 minutes per question; one question at a time is viewed during testing; and previously answered questions are unavailable for viewing (NCSBN, 2009). At SCC, scoring and feedback are provided immediately after each test; high number of exams are given in each semester (average of 7 per semester); and all points toward the final course grade are dependent solely on test scores (SCC-ADN Program, 2010). A portion of the current study examines the faculty’s and students’ perspectives on how SCC testing practices affect graduates’ performance on the NCLEX-RN.

Since the study focuses on the students’ performance on the NCLEX-RN, other student variables may be having an impact on NCLEX-RN scores. Analyzed in the study are two variables commonly noted in the literature on community colleges: at-risk and diverse student populations. In providing open access, the community college enrolls a large number of students who are described as at-risk (i.e., those who are academically under prepared for college or work 30 or more hours per week or have little family and financial support) (Roueche & Roueche, 1993) and who are racially and ethnically diverse (i.e., African-American, Asian/Pacific Islander, Hispanic, Native American, Alaskan Native or English-as-a-Second Language (ESL) (California Community Colleges, 2005; Sitzman, 2007). These students attend community college with unique
needs. Most are first-generation college students who “act as proxies for the quality of secondary education they received prior to program enrollment” (Fraher, Bellsky, Carpenter, & Gaul, 2008, p. 10). Students, who are considered academically at-risk, are underprepared for the rigors of college and nursing, and have limited time and resources. These students have multiple work and personal obligations which compete for their academic time (Roueche & Roueche, 2007). Many culturally diverse students have issues with study time, finances, language, home management and prejudices from instructors (Amaro, Abriam-Yago, & Yoder, 2005). These significant student variables may be directly related to academic and NCLEX-RN performance.

The SCC nursing program provides support for its at-risk/diverse student population in the following ways: faculty tutoring; faculty-led study groups; dedicated skills lab with competent skills lab staff and flexible hours of operation; computer labs; personal counselors; dedicated counselor for nursing; student nurse association; information meeting prior to admission; required program orientation prior to enrollment; peer tutoring program; nursing success course; dedicated retention program and specialists. However, SCC would like to have more support programs in the following areas: child care, transportation, and short-term emergency funding support; required orientation program prior to admission; and a peer mentoring program. A portion of the study endeavors to explore programmatic practices at SCC that increase the success of its at-risk / diverse student populations.

Examining the practices and programmatic features of the program specifically related to NCLEX-RN success is a curricular concern because SCC does not incorporate
a formal practice analysis of it in the program. The nursing curriculum undergoes review on a global level at regularly scheduled curriculum meetings attended by the nursing faculty and students. These reviews incorporate student evaluation feedback, faculty methods of instruction, grading practices, textbook reviews, and assessments of other learning assignments. At the curriculum meeting, the faculty and students discuss their perspectives about the strengths and areas of needed improvement of the curriculum. They also mention any course modifications that have occurred since the last review. Curriculum discussions are filed in the curriculum meeting minutes and are posted on the electronic faculty course management site.

Although curriculum review is a fairly thorough and regular process, it currently does not incorporate a formal analysis of practices and programmatic features as they relate specifically to the NCLEX-RN success. This analysis is needed because the NCLEX-RN changes every three years, with its higher passing standard instituted in April 2010, and it relates more specifically to the most recent nursing practice survey distributed to new nursing graduates within their first six months of employment (NCSBN, 2010). Also, with rapidly changing technology and healthcare, more demands on nursing staff, greater aging and diverse populations, definite and significant changes are included in the new NCLEX-RN (AACN, 2009; ANA, 2004; NCSBN, 2010; Whitney, Maltby, & Carr, 2004). Finally, with the influx of new faculty and many more at-risk / diverse students at SCC, the nursing curriculum remains the only constant throughout the program’s three tracks. It makes sense that curriculum evaluation incorporates a formal practice analysis as such. A portion of the current study explores
factors that influence faculty in choosing course content and exam items in respect to NCLEX. It also looks at the faculty’s and graduates’ perspectives in three of the following areas: (1) processes the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN; (2) cultural and organizational norms that help facilitate the program’s efforts to produce successful graduates; and (3) elements in the program that help students successfully complete the program. Incorporating practices and programmatic features that relate specifically to the NCLEX-RN may maintain continuity, facilitate student success on the licensure exam, and determine possible gaps in the curriculum that may be responsible for students’ performance on the NCLEX-RN.

Operational Definitions

1. Alignment – the extent to which the written and taught curriculums fall within range of the NCLEX-RN Test Plan, and the extent to which the tested curriculum exceeds the minimal passing performance of the NCLEX-RN Test Plan (English & Steffy, 2001; NCSBN, 2010, p. 1).

2. Core nursing curriculum – the 2009-2010 curriculum developed by the core nursing faculty at SCC-ADN (SCC-ADN Program, 2010).

3. Core nursing faculty – the 12 full-time faculty who maintain and monitor the core nursing curriculum at SCC-ADN (SCC-ADN Program, 2010).

4. Curriculum Alignment Model – describes an interdependent relationship between the written (i.e., intended), the taught (i.e., delivered) and the tested
(i.e., achieved) curriculums, suggesting that the three distinct curriculums are linked or aligned so that optimal program outcomes occur (English & Steffy, 2001) (Appendix C).

5. Diverse or diversity – inclusive of ethnicity: African-American, Asian / Pacific Islander, Hispanic, Native American, Alaskan Native or English-as-a-Second-Language (ESL) student or graduate (Sitzman, 2007); and/or at-risk students: those who are academically under prepared for college; or work 30 or more hours per week; or have little family and financial support) (Roueche & Roueche, 1993). Diversity is expanded in its operational definition for the following reasons: 1) the majority of nurses receive their education at community colleges (CBRN, 2009; Long, 2004; NCSBN, 2009 ); 2) 62% of all nursing programs in California are ADN programs (CBRN, 2009); 3) Open access policy, a distinct feature of community colleges, enrolls a large population of racially and ethnically diverse students (CCC, 2005; Sitzman, 2007) and students who are at-risk with social, economic and academic challenges (Roueche & Roueche, 2007).


7. Nursing curriculum evaluation – analyzing the extent to which the nursing curriculum’s SLOs, final exams and NCLEX-RN performance align with one
another and the NCLEX-RN Test Plan, using English’s model (English & Steffy, 2001; Keating, 2006).

8. Nursing student success – nursing students who graduate and pass the licensure exam for the first time (Jeffreys, 2007).

9. Program Success Model – describes two student-level characteristics (i.e., demographic and socioeconomic), and three program-level characteristics (i.e., admissions policies, faculty and instructional characteristics, and support services and resources) that influence student outcomes and program success (i.e., passing the NCLEX-RN on the first attempt) (Fraher, Bellsky, Carpenter, & Gaul, 2008) (Appendix B).

10. Sacramento City College (SCC) students – all nursing students who are enrolled in the program’s three tracks: traditional, accelerated and part-time programs at SCC-ADN (SCC-ADN Program, 2010).


Assumptions, Limitations, and Delimitations

The primary assumption for this study is that SCC nursing program provides the theoretical and skills content required for its graduates to pass the NCLEX-RN. Curriculum evaluation is a very complex task with numerous program, faculty, and student variables that affect outcomes such as a student’s performance on the NCLEX-RN. While practices and programmatic features related specifically to NCLEX-RN success certainly play a large role in outcome measurements, they cannot account for all of them. Other variables that affect outcome measurements could be considered; however, this study considers only those practices and programs in which the faculty and graduates perceive as relating to NCLEX-RN success. Therefore, such features with standardized tests (i.e. NCLEX-RN), is not necessarily a guarantee that students will perform optimally, just as a lack of specific practices and programs do not guarantee that a student will do poorly. Curriculum evaluation requires analyzing numerous variables over time, in which the current study does not do. Because many changes occurred in the nursing department, such as the school’s admission criteria and grading policies, the study was limited to the current SCC curriculum and NCLEX performance data for the 2009-2010 academic year only. The study is limited to the responses by the core nursing faculty only (n=11) and its graduates from the past academic year (2009-2010) (n=200). Demographic data of the graduates were collected at the beginning of their final semester as students, not when the surveys were taken, so the sample’s responses may not necessarily reflect those of the entire class. In terms of the two conceptual models, the study could not possibly describe the amount of curriculum coverage for each framework
dimension in a meaningful way, in respect to NCLEX performance. The case study is limited to one institution so the results may be used to inform others but caution is advised in generalizing the conclusions to other institutions. Additionally, the study’s sample is a sample of convenience, as the researcher currently works at the program site. Thus, unintentional bias and potential conflicts of interest are possibilities when one considers the findings and analysis of the data.

There are several delimitations to this study. The scope of the study is limited to only one institution and its curriculum, even though program, faculty and student variables are included. Program variables such as course objectives and final exam items, in respect to the NCLEX-RN Test plan are included. Faculty variables include faculty opinion data. Student non-academic variables such as ethnicity, language, employment, and socioeconomic status are included in the study; however, age, gender, motivation and learning styles are not. Student academic variables such as student opinion data and standardized test performance data are included; however, pre-admission test scores, course grades, GPAs and critical thinking assessments are not used. Because the researcher is quite cognizant that in many respects, program, faculty and student variables are highly integrated, curriculum alignment is assumed to be highly interrelated. This study also does not control for any support services students may have accessed such as advising and counseling throughout the college experience. Lastly, faculty demographics, as well as their evaluations of the students are also omitted from this study.
Summary

Evaluating SCC’s practices and programmatic features in relation to the NCLEX-RN is one way to analyze curriculum alignment and program success (English & Steffy, 2001; Fraher, Bellsky, Carpenter, & Gaul, 2008). With the current focus on outcome measurements (Keating, 2006), the study provides an excellent means for program improvement and student success. The case study’s qualitative and quantitative approaches hope to highlight successful practices and programs in relation to the NCLEX-RN and discover areas of the NCLEX-RN that are not adequately covered in the curriculum as this would be the focus of revision in the future. The ultimate intention of this study is to strengthen the curriculum so as to maximize the students’ academic performance and to facilitate the professional success of Sacramento City College’s nursing graduates, especially for those from at-risk / diverse backgrounds.

Organization of the Study

The study is divided into five chapters. Chapter One includes the introduction; problem statement; nature and significance of the study; operational definitions; assumptions, limitations and delimitations; and conclusion. Also in this chapter are the problem to be studied and the context of the problem in the problem statement section. The research question, purpose of the study and conceptual models are included in the nature of the study section. Lastly, the context and background of Sacramento City College and its Allied Health Division, professional associations which guide SCC’s
Associate Degree Nursing program curriculum, the context and background related to NCLEX-RN scores are included in the significance of the study section.

Chapter Two contains a critical review of relevant literature on the topics of accountability of higher education, the nursing shortage, professional demands on nurses, essentials for nursing education and licensure, diversity and the nursing profession, community colleges and open enrollment, characteristics of successful ADN programs, predictors of NCLEX-RN performance, diversity and the NCLEX, and theoretical models of ADN program success and curriculum alignment.

Chapter Three presents the methodology. It presents four sections: research design, setting and sample, data collection and analysis, and the role of the researcher. First, the study discusses the research design, which includes the problem to be studied, the context of the case study, the research questions, purpose of the study and conceptual models, design and data sources, argument for the study and justification for using the mixed methods approach. Second, the setting and sample are described. They include the setting and population, and the sampling method and size. This section includes eligibility criteria and justification for using it. Third, data collection and analysis are explained. There are four subsections. The first includes data collection, which includes faculty and graduate surveys. Second, analysis of the data is given. This includes qualitative and quantitative analysis. Next, a large section of the qualitative analysis portion is dedicated to an in-depth inquiry of a particular research question. This section includes nursing curriculum guidelines and standards, and methodological phases to curriculum analysis. The section also offers samples from the written, taught and
tested curriculums. Alignment trends are given last. Lastly, the role of the researcher explains gaining entrée and the researcher-participant relationship and evidence of quality discusses internal validity and ethics.

Chapter Four includes the data analysis. In this section the program success model and the English model are incorporated into curriculum analysis, which includes findings and analysis of SCC-ADN’s written, taught and tested curriculums. The subsections include an analysis of the written, taught, and tested curriculums separately and, then a comparison of the three with each other. Results and an analysis of the faculty survey are last.

Finally, in chapter five, the researcher discusses and summarizes the results of the findings, limitations, discussion of research question, recommendations and conclusion. References and appendices are provided to further support the study.
Chapter 2

REVIEW OF RELATED LITERATURE

Introduction

The need to further analyze Sacramento City College Associate Degree Nursing program is obvious in light of an extensive review of literature on the various factors related to NCLEX-RN success. The purpose of this chapter is to critically review the literature pertaining to accountability in higher education, the significant ongoing nursing shortage, professional demands on nurses, essentials for nursing education and licensure, diversity and the nursing profession, community colleges and open admission, characteristics of successful ADN programs, predictors of NCLEX-RN performance, diversity and the NCLEX-RN and theoretical models of program success and curriculum alignment. Specifically, the study endeavors to analyze the SCC-ADN program with the goal to identify those practices and programmatic features that produced graduates with diverse backgrounds who passed the NCLEX-RN. With the current research focus on student learning outcomes and accountability issues, the study provides an excellent means for program improvement. This would ultimately maximize students’ performance on the NCLEX-RN and facilitate the professional success of SCC’s nursing graduates.
Accountability in Higher Education

Program evaluation, accountability, student learning outcomes and program improvement are major topics in the current education literature. Currently, too many decisions about the value and quality of higher education rely heavily on reputation and rankings derived largely from inputs, such as financial resources, rather than outcomes (Joint Task Force On Student Learning, 1998). The public, politicians, and government officials expect transparency and accountability for their tax dollars and greater accessibility to affordable, high quality, educational programs at colleges and universities (American Association of Community and Junior Colleges, 1998). Better student-learning data is essential if higher education is to meet national needs, improve institutional performance and increase global competition (Joint Task Force on Student Learning, 1998). Former United States Secretary of Education, Margaret Spellings, formed the Commission of the Future of Higher Education to study these issues. Its ambitious Action Plan for Higher Education calls for expanding accountability of higher education. The proposal places a greater emphasis on results by linking information systems that collect and report student learning outcome data. Its stated intentions include the continual use of program data to track student performance and guide program revisions to ultimately lead to improved student performance (Spellings, 2006).

With the current climate of increased accountability, the demands of higher education for the preparation of new professionals are greater than ever. Increased need to educate and prepare a wide variety of students from different backgrounds and cultures for complex and demanding roles are at the forefront. Students’ economic, social, and
cultural lives are being influenced by colleges and universities. In turn, public institutions are more responsive to a wider range of economic interests and to a more diverse pattern of ethnic and cultural backgrounds and aspirations (Schmidtlein & Berrdahl, 2005).

Competency-based education is recommended, with an increased emphasis on critical thinking and clinical judgment skills, effective organizational and team work skills, service orientation, cost awareness, accountability of clinical outcomes and quality care, and a commitment to continual learning and development (Jones, 2004). Because the demands of higher education have increased, the public’s expectations for competent graduates, prepared to enter the profession, are undisputed.

The college educational experience and student learning outcomes ultimately determine a student’s professional fate. Governments and policymakers are watching closely at outcome measures to evaluate educational program quality and effectiveness. Bastedo (2005) emphasized that states are considering an increase use of measures such as the Graduate Record Exam (GRE) scores, critical thinking inventories, and even high-stakes graduation exams to improve and assess undergraduate instruction. He further stressed that policymakers expect this to be a major policy issue for the next decade (Bastedo, 2005).

Due to a greater focus on program outcome measures, faculty are obligated to maximize students’ abilities to meet program objectives and to be successful in their career path. This includes maximizing students’ performance on standardized test scores, where successful performance on an exam is required to advance in a professional career
(Parsons, 2008). Low scores lead to denial of access into graduate programs of study and preclude further advancement in careers and employment (Parsons, 2008). In nursing, the NCLEX-RN is a practice driven exam, and it must be passed for entry into practice (Aucion & Treas, 2005). Failure on the NCLEX-RN bars the graduate from practicing nursing (NCSBN, 2010). The NCLEX-RN pass rate is one of the main outcomes criteria for accredited nursing programs. Thus, it should be a focal point for maximal student performance (Parsons, 2008).

The NCLEX-RN first time pass rates of a program’s graduates can have serious implications for the future of the program. In California, if the graduates do not meet the CBRN’s minimum for first time passing rates, the nursing program may be placed on probation, with specific requirements for an action plan to remedy the situation (NCSBN, 2010). Revisions and program modifications must be made in a timely manner to ensure that the next graduates’ passing rates for the NCLEX-RN will increase. Accreditation may be at stake, and losing accreditation can jeopardize a program’s future. Students may not attend unaccredited programs and collaborating agencies may discontinue their involvement if no professional accreditation exists (NCSBN, 2010).

Nursing programs’ first time pass rates also relate to prospective students and recruitment issues for colleges. First time pass rates are primary considerations for new students applying to nursing programs and are positive program outcomes for nursing departments (Parsons, 2008). Passing rates are reported within program summaries and evaluations, and institutions utilize these results to improve the program, demonstrate excellence, and market their programs (Keating, 2006). Administrators attempt to
maintain higher passing rates, in order to keep a college and its nursing program growing and viable into the future (Parsons, 2008).

The majority of the current educational literature focuses on standards-based reform efforts, with administrative and professional accountability being integral themes for program improvement (O'Day, 2002). Public institutions of higher education are held more accountable for the professional preparation of their students, the ways in which they use state appropriated funds, and for the effectiveness of their educational services (Schmidtlein & Berrdahl, 2005). With the current nursing shortage, legislators are keenly aware of nursing programs’ student numbers and future projections for growth. State and federal funds are appropriated as grants for nursing programs and as scholarships for students. Public funding comes with an expectation that programs enable their recipients to complete the nursing program, pass the licensure exam, and work as a registered nurse (Assembly Bill 2177, 2004). However, if numerous students are not adequately prepared for and do not pass the NCLEX-RN or need repeated attempts to be successful, then the state raises concerns about the merits of the nursing program (Parsons, 2008). Thus, the nursing program is accountable to its students, and ultimately the public, to prepare its students for the NCLEX-RN and to pass it.

The Nursing Shortage

Although nursing shortages in the United States are cyclical in nature, the current shortage has a predicted shortfall of 260,000 nurses by 2025 (AACN, 2010). Nursing education issues such as high operating costs, limited funding, high applicants rates, impacted nursing programs, academically under prepared students, increased student
attrition rates, lack of qualified faculty, faculty shortages, and limited number of clinical sites compound the shortage even more (AACN, 2010; Glossop, 2001). Additionally, new developments such as increased accountability in higher education (Spellings, 2006); more aging and diverse populations (National Center For Health Statistics, 2007; O'Neil, 2000), and advances in technology, health care and international economic dependency (Breivik & Gee, 1989; O'Neil, 2000) confront and challenge nursing schools even more. Solutions such as innovative partnerships between hospitals and schools of nursing, and new strategies in admission and placement processes have brought some relief to the crisis (AACN, 2010; Byrd, Garza, & Nieswiadomy, 1999). Also, a plethora of nursing education literature cites factors that predict nursing licensure success (Arathuzik & Aber, 1998; Beeman & Waterhouse, 2001; Beeson & Keesling, 2001; Daley, Kirkpatrick, Frazier, Chung & Moser, 2003; Roncoli, Lisanti & Falcone, 2000). Despite these solutions, the supply of new graduates cannot keep pace with the demand for more nurses.

The Nurse Demand Model (NDM), created in 2000 by the U.S. Department of Health and Human Services, provides data on projected healthcare workforce needs. Data suggest that the U.S. will see a decrease in the 18 to 30 year old population and an increase in the population aged 65 or older. The elderly consume an average rate of 32% of all patient care hours. This is expected to rise to 39% by 2020. Additionally, a decrease in the younger population presents an increase vacancy rate in the workforce (Kearns, 2006).
The U.S. Department of Labor has identified registered nursing (RN) as the number one occupation in terms of job growth through the year 2012. Additionally, 85% of all hospitals and 44 states report a shortage of registered nurses. Currently the U.S. has 118,000 vacant RN positions and predicts 703,000 new RN positions through 2014 (AACN, 2010).

While application and enrollment in nursing programs has increased, the numbers are not sufficient enough to meet the demands of the workforce. The latest data show that more than 54,000 qualified applications to professional nursing programs were turned away in 2009 (AACN, 2010). Impacted nursing schools are working overtime to graduate nurses at a rapid pace (AACN, 2010). Inability to attract qualified nursing faculty and the lack of clinical placement are two main barriers to nursing program expansion (AACN, 2010). Therefore, even if colleges attract more students, there will not be enough faculty members to teach or clinical facilities to train in, if the current trend continues (Oermann, 2004). Colleges must develop strategies to maximize their limited resources.

Other contributing factors to the nursing shortage are work related. High stress, demanding hours, unsafe patient to RN ratios, job burnout, and low pay shorten the career of a nurse (AACN, 2010). Currently, with more career options, women look elsewhere for their education and employment, resulting in a declining rate of entry into the nursing profession. The average age of a RN is projected to be 44.5 years by 2012. Nurses in their 50s are expected to become the largest segment of the nursing workforce. This accounts for almost one quarter of the RN population (AACN, 2010). According to
the National Sample Survey of Registered Nurses released in February 2007 by the Federal Division of Nursing, the average age of the RN population in March 2004 was 46.8 years of age. This is up from 45.2 in 2000. The RN population under the age of 30 dropped from 9.0% of the nursing population in 2000 to 8.0% in 2004 (AACN, 2010). The physical demands of the job are difficult for many older nurses to manage. This leads to early retirement, part-time hours or absence of direct patient care. More job vacancies perpetuate the nursing shortage (AACN, 2010).

On an academic level, nursing faculty shortage are a serious issue for education and the profession. Requirements for advanced education, including doctoral degrees, along with less financial compensation than private nursing employment settings have significantly contributed to the faculty shortage (AACN, 2010). Unfilled faculty positions, resignations, projected retirements, and a shortage of students being prepared for the faculty profession pose a threat to nursing education workforce over the next five years (AACN, 2010). With greater number of faculty retiring from the profession, and fewer new nurses entering academia, significant workload issues and pressures on current nursing faculty members are prevalent. Combining these conditions with higher numbers of students than ever before, and community pressures to accept even more students, nursing faculty morale has declined.

Professional Demands on Nurses

Demands for change in the nursing profession are numerous (O'Neil, 2000). As the elderly population in the United States increase, rates of chronic disease, its associated health care costs and need for nursing care also increase. Patients, 65 years
and older, represent 50% of hospital days, 60% of all ambulatory adult primary care visits, 70% of all home visits and 85% of all residents in nursing homes (National Center for Health Statistics, 2007). Patients are living longer, with more complex health conditions. The current system of medical care is “woefully unprepared to address the complex health care needs of its older citizens, whose numbers continue to grow at an unprecedented rate” (Thornlow, Latimer, Kingsborough, & Arietti, 2006, p. 11). The long term complications from these illnesses will place major demands on the health care system, including the nursing staff.

Due to increased world travel and immigration, greater numbers of ethnically diverse patients require new approaches to culturally competent healthcare (O’Neil, 2000). O’Neil stated that “the role of the nurse as an educator and integrator of care services must include competency in accommodating the rich and varied expectations, traditions, mores, and cultures of the new America” (2000, p. 2). These competencies are increasingly complex as nurses attempt to communicate with and care for, patients from other countries of origin. Incorporating foreign language interpreters into the health care setting has become a daily necessity, and the nursing care process has subsequently become much more complex (O’Neil, 2000).

Information access and the technology revolution have created additional challenges for health care systems. Nurses need updated skills and expertise to accommodate the information explosion and rapidly evolving technology systems (O’Neil, 2000). In addition to being adept at using the various forms of technology, nurses must be able to critically evaluate data and formulate appropriate nursing plans of
care based on that information. As research develops, health care knowledge, diagnostic methodologies, interventional procedures, and health status evaluations evolve with research (Parsons, 2008). Thus, nurses must update informatics competencies and critical thinking skills, in order to remain current and effective in their patient care efforts.

Breivik and Gee (1989) stated that these competencies must include an integrated set of skills, research and evaluation, and knowledge of tools and resources. Competency with technology is defined as having “the ability to effectively access and evaluate information for a given need” (Breivik & Gee, 1989, p. 24). Continuous demands for growth and change in health care present ongoing challenges for the nursing profession.

With rapidly changing technology and healthcare, more demands on nursing staff, and greater aging and diverse populations (AACN, 2009; ANA, 2004; Whitney, Maltby, & Carr, 2004), administrative and professional accountability and program improvement are current integral themes (O'Day, 2002). It makes sense that program improvement includes curriculum evaluation, as it incorporates a formal analysis of individual nursing content as it relates specifically to the NCLEX-RN. The study purposes to do just that. The study begins as a starting point for faculty to systematically incorporate the linkages of the written, taught and tested curriculum. This will maintain continuity and facilitate student success on the licensure exam, and determine possible gaps in the curriculum that may be responsible for students’ declining performance on the NCLEX-RN.

**Essentials for Nursing Education and Licensure**

Obtaining entry-level status in nursing occurs through three different educational routes, with three different curriculums: hospital-based diploma degree in nursing,
community college Associate Degree in nursing (ADN) and Bachelor of Science in nursing (BSN). The various curricular tracks have different concentrations, and are attractive to different types of students for various reasons. Bastedo (2005) stated that the curriculum itself signifies changes in the faculty’s underlying assumptions and beliefs about what counts as knowledge, what knowledge is most worthy of transmitting, and what organizational forms are most appropriate. Bastedo (2005) further explained that curriculum also serves as a form of organizational culture for students, by socializing them into the content and skills needed to navigate the world of the university.

The first educational route is the hospital-based diploma program. These programs provide access to nursing practice through an apprentice-like educational program with a concentrated core curriculum. These programs were more popular in the past when employment options were limited for women. Diploma programs provide skills based training in a shorter period of time, and are generally designed to have nurses prepared for hospital patient care (Brown, 2002). An example of this program is within the history of Sacramento City College itself. The Associate Degree Nursing at Sacramento City College began as the Sacramento County Hospital School of Nursing in 1909. This three year diploma program graduated 370 students until 1957, when it changed to an associate’s degree program assumed by then Sacramento Junior College (Sacramento City College Associate Degree Nursing Program, 2010).

The second route is community college programs. They offer a two-year Associate’s Degree in Nursing (ADN) after the completion of specific science pre-requisites and the following core nursing requirements: Foundations of Nursing,
Medical-Surgical Nursing, Pediatrics, Maternity, and Psychiatric Nursing (SCC ADN Program, 2010). Sacramento City College ADN program is an example of such a program. It also requires English, Sociology, Psychology, Anatomy and Physiology, Microbiology, Nutrition, Human Growth and Development and Speech courses, in addition to the nursing course requirements (SCC ADN Program, 2010). Upon completion of this program, students receive an Associate’s Degree in Nursing (ADN), and may choose to continue their education toward a Bachelor of Science degree in Nursing (BSN) at another university.

The third route is the Bachelor of Science in Nursing (BSN) program. These provide a four-year baccalaureate education, including two years of general education requirements. Additionally, all of the courses for the ADN programs are required, as well as several nursing courses beyond the basic nursing core, including Nursing Research, Community Health and Nursing Leadership (Sacramento State Nursing, 2010). Upon graduation from a BSN program, a student receives a Bachelor’s of Science degree. A local example is Sacramento State Nursing which offers this type of nursing educational program.

Each of the three routes to the profession leads to a licensure exam requirement before a graduate can legally practice nursing. The graduates from the diploma, ADN and BSN programs are required to take the NCLEX-RN for licensure and entry into the nursing profession as a registered nurse (RN). This exam is developed by the National Council of State Boards of Nursing (NCSBN) as a means of quality control, and to protect the health of the public from incompetent nurses (NCSBN, 2010). The NCLEX
exam assesses the knowledge, skills, and abilities which are essential for the nurse to use to meet the needs of clients requiring the promotion, maintenance or restoration of health (NCSBN, 2010). The content of the exam is based on the NCLEX-RN Test Plan, which is developed by the NCSBN. The test plan is used to guide candidates preparing for the exam, to direct item writers in the development of items and to facilitate the classification of examination items (NCSBN, 2009). The NCLEX-RN Test plan is reviewed and approved by the NCLEX Examination Committee every three years. The committee voted to raise the passing standard for the exam as of April 1, 2010 (NCSBN, 2010). The test plan is based on multiple sources. One is the recent practice analysis of registered nurses. This includes feedback from a survey of six thousand registered nurses who have been working for less than six months in the profession. Survey questions focus on their nursing care settings, client safety issues, and frequency of nursing care activities performed on the job (NCSBN, 2009). Other sources include expert opinions of the NCLEX Examination Committee, NCSBN content staff and boards of nursing (NCSBN’s member boards) to ensure that the test plan is consistent with state nurse practice acts (NCSBN, 2010). These multiple sources are used to develop a guide for the NCLEX-RN Test Plan, which ultimately leads to the content chosen for the licensure exam.

Nursing programs are monitored by the state Boards of Nursing (BON). Particular attention is given to the graduates’ first-time pass rate for the NCLEX-RN (CBRN, 2009). This pass rate reflects the percentage of graduates who received a passing score on the NCLEX-RN on their first attempt. NCLEX-RN pass rates are
universally cited as outcome indicators of any nursing curriculum (Jacobs & Koehn, 2004). This is considered “high stakes” testing because of the consequences of failure. Though students attempt to take it multiple times until they pass, they cannot practice nursing without a license. Failure is seen as forfeiting two or more years in nursing school, departing college without the expected job security as a RN, re-enrollment into another program of study and incurring more expenses for more education. Students’ failure on the NCLEX-RN can be personally devastating as well (Ashley & O’Neil, 1991). Additionally, low NCLEX-RN pass rates reflect poorly on the nursing program and the college. Low pass rates may initiate administrative sanctions from the State BON, and accreditation may be at risk for programs where low rates persist (CBRN, 2009). “High stakes” testing require nursing faculty to provide maximal efforts to ensure NCLEX success amongst their graduates (Parsons, 2008). With these issues in mind, a systematic analysis of the NCLEX-RN results of the SCC-ADN students, in relation to SCC’s curriculum content, is useful for clarifying program objectives and improving student learning outcome.

*Diversity and the Nursing Profession*

Recent research increasingly acknowledges the importance of a diverse health care workforce in providing high quality care to communities with high proportions of minorities, so the workforce reflects the populations in which they serve (Long, 2004; NLN, 2009). Diversity in nursing is essential to developing a health care system that understands and addresses the needs of a rapidly diversifying population. Consensus is developing among academic researchers, health care leaders, and policy analysts that
increasing the diversity of the health care workforce can improve provider competency, patient comfort, and through these, quality of care (Betancourt, Green, Carillo, & Parke, 2005). Workforce diversity is especially needed where research indicates that factors such as biases and stereotyping, communication barriers, limited cultural sensitivity and competence, and system and organizational determinants contribute to health care disparities (Shi & Stevens, 2005). Studies provide evidence that people are most comfortable receiving care from someone of their own cultural and ethnic background (Sullivan, 2004). Cultural competent health care providers are essential to the provision of high quality health care in this nation.

**Community Colleges and Open Access**

The majority of registered nurses receive their nursing education at community colleges through associate’s degree programs (Long, 2004). Community colleges maintain a reputation in higher education as being most adaptable to the needs of the community and changes in workforce needs, and charging lower tuition rates than most four-year public and private institutions (AACN, 2010). Open access policy is one distinct feature of community colleges (Roueche & Roueche, 1993). Such a policy promises that higher education is available to any high school graduate despite social, economic and academic challenges. In providing such access, the community college enrolls a large number of students who are described as at-risk: those who are academically under prepared for college or work 30 or more hours per week or have little family and financial support (Roueche & Roueche, 1993). Community colleges also enroll a higher proportion of students who are racially and ethnically diverse. These are
those who are African-American, Asian/Pacific Islander, Hispanic, Native American, Alaskan Native or English-as-a-Second Language (ESL) (California Community Colleges, 2005). Most students, who are at-risk and racially and/or ethnically diverse, come with a unique set of academic challenges and needs at the community college level (Roueche & Roueche, 2007). Combined with the high demand and strong wages in nursing, training at-risk/diverse populations to become nurses stands to improve both quality of health care and economic well-being of diverse communities. However, such prospective nurses are at the highest risk for attrition due to lower quality academic preparation, and greater financial and family burdens (Hossler & Stage, 1992; Kane & Rouse, 1999; Pascarella & Ternezini, 1991). Bissett (1995) addresses the ethical concerns regarding open admission for the general public and selective admission for nursing programs. The arguments for selective admission focus on maximizing limited resources, since nursing programs are more costly to operate and remain impacted. However, Bissett (1995) argues that not enough studies have been conducted to validate the use of selective admissions in nursing programs. Bissett (1995) also notes that most studies have been conducted in Bachelor of Science in Nursing (BSN) programs, not Associate Degree in Nursing (ADN) programs. Bissett (1995) offers that two-year nursing programs should maintain an open door policy and provide support to students who are academically underprepared.

Karstadt (2006) argued that colleges must market nursing programs appropriately and ensure that students have realistic expectations regarding the curriculum and the profession. He insisted that faculty must know their students and understand that nursing
programs attract a diverse population. He argued that not all students should be retained, especially those who have difficulty accepting the responsibilities associated with the program. Although community colleges are responsive to changes in the healthcare profession, the difficulty lies in their ability in maintaining high standards with limited resources, while providing access to at-risk students (Karstadt, 2006).

With the “high stakes” in the NCLEX-RN (Parsons, 2008, p. 21) and influx of new faculty and many more at-risk students, curriculum evaluation is a necessity. This study is a form of curriculum evaluation which incorporates a formal analysis of practices and program features as they relate specifically to the NCLEX-RN. This may maintain continuity and facilitate student success on the licensure exam, and determine possible gaps in the curriculum that may be responsible for students’ declining performance on the NCLEX-RN.

**Characteristics of Successful ADN Programs**

Academic literature on the determinants of successful ADN programs is limited. Most studies define “success” in ADN programs as on-time graduation, passing the NCLEX-RN the first time and job placement (Fraher, Bellsky, Carpenter, & Gaul, 2008; Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2003). Two large studies performed in California community colleges demonstrated that higher academic performance in English and biology courses prior to enrollment predicted on-time graduation (n = 5, 007 students) (Phillips et al., 2002) and that student support services were not related to first-time NCLEX-RN pass rates (Seago & Spetz, 2003). In both
California studies and in a large North Carolina study (n= 2,237 students), the demographic makeup of the student body proved to be the only factor to powerfully influence both graduation and NCLEX-RN pass rates. Programs with higher proportions of white and Asian students, and lower proportions of African American, Latino, and American Indian students had higher graduation rates and higher NCLEX-RN pass rates (Fraher et al., 2008; Phillips et al., 2002; Seago & Spetz, 2003). Best practices emerged from these studies: ADN programs with higher than expected performance had increased graduate education among faculty through continuing education or recruitment; required orientation for clinical instructors; used standardized tests to rank applicants for admission; and required science competency above the general community college (Fraher et al., 2008; Phillips et al., 2002; Seago & Spetz, 2003).

Although SCC nursing program model mirrors such best practices, the current study argues that ADN programs, which have high proportions of at-risk/diverse students, perform higher than expected in the NCLEX-RN.

*Predictors of NCLEX-RN Performance*

Nursing education literature reveals a proliferation of studies on variables predicting NCLEX-RN performance (Arathuzik & Aber, 1998; Beeman & Waterhouse, 2001; Beeson & Keesling, 2001; Crow, Handley, Morrison, & Shelton, 2004; Daley, Kirkpatrick, Frazier, Chung, & Moser, 2003; Roncoli, Lisanti, & Falcone, 2006). While numerous studies linked nursing program evaluation to the NCLEX-RN (Beeson & Keesling, 2001; Carpenter & Bailey, 1999; Nibert, Young, & Britt, 2003; Seldomridge & Dibartolo, 2004; Sewell, Culpa-Bondal, & Colvin, 2008), only two examined
curriculum evaluation as a variable (Brown, 2002; Parsons, 2008). Of the two studies, neither analyzed curriculum evaluation within an Associate’s Degree Nursing program. Thus, a gap in the literature exists. A portion of the study seeks to investigate the alignment of the nursing curriculum with the NCLEX-RN Test Plan within an Associate’s Degree Nursing program at a community college.

Researchers analyzed numerous program, student and faculty variables to determine if any relationships existed between such variables and the students’ performance on the NCLEX-RN. Overall academic predictors of success included various standardized test scores, course grades, grade point average (GPA) calculations based on a variety of courses, and critical thinking assessments, while nonacademic predictors include self-perceptions, language, ethnic background, age, gender, and test anxiety (Seldomridge & Dibartolo, 2004). Carpenter and Bailey’s (1999) findings from their extensive review of the research on NCLEX-RN predictors of success demonstrated the following: all types of nursing programs leading to RN licensure shared similar predictors of success; academic ability and high school rank positively correlated with NCLEX success; and nursing theory course scores and National League of Nursing (NLN) Achievement Test scores appeared to be the best predictors of success (Nibert, Young, & Britt, 2003).

Seldomridge and DiBartolo (2004) looked at pre-requisite coursework, GPAs, and assessment tests to determine if they correlated with students’ performance on the NCLEX-RN. They found that a student’s grade in pathophysiology, test averages in two medical-surgical nursing theory courses, and scores on a NLN achievement test were all
high predictors for success on the NCLEX-RN. Beeson and Keelsing’s study (2001) noted that combinations of higher grades in nursing courses, GPAs, and higher assessment test scores analyzed together were linked to improved performance on the NCLEX-RN. Crow, Handley, Morrison, and Shelton (2004) conducted the only recent national study, involving 513 generic BSN programs. Even though their response rate was 31.2% (n= 162), their study produced provocative findings. Significant findings related to NCLEX-RN success included use of standardized entrance exams and Scholastic Aptitude Test (SAT) scores for admission criteria, National League for Nursing (NLN) content at-risk scores for mental health and community health for progression, clinical proficiency and use of exit exams as graduation requirements, commercial reviews as an intervention and percent White as a demographic variable.

Bissett (1995) asserted the amount of nursing research on the variables associated with NCLEX-RN success in two-year community college programs is limited, even though many of these students experience academic and personal challenges (Karstadt, 2006; Roueche & Roueche, 2007). Drake and Michael (1995) noted that little research has been conducted in two-year programs and predictors of success. In this study, performance in nursing theory courses, nursing laboratory courses, biology, and high school and non-nursing college level courses were studied in relationship to NCLEX success. Laboratory courses were found to be weak predictors of success on the NCLEX while the composite GPA for didactic and theory-oriented courses appeared to be the best predictors for identifying students most likely to succeed on the NCLEX. A two-year college study by Lamm and McDaniel (2000) found no relationship between age, gender,
socioeconomic status or GED versus high school diploma and that GPA in nursing courses was the best predictor of success on the NCLEX-RN. Lengacher and Keller (1990), in their two-year college regression analysis study, found that the best predictors of success on the NCLEX-RN were exit GPA and ACT composite scores. Another regression analysis revealed that the best predictors were medical-surgical theory courses and maternal-child newborn theory courses. Lewis’s (2000) study of nursing students who transferred into a baccalaureate program found that the type of transferring institution and the number of anatomy and physiology courses transferred in were mildly predictive of success. Students transferring from a two-year program and those completing fewer anatomy courses were successful or had a GPA of 2.5 or higher. Retrospective correlation studies found nursing GPA as the only independent predictor of NCLEX-RN success (Gilmore, 2008; Jeffreys, 2007; Yin & Burger, 2003), while Shirrell (2008) found that critical thinking scores were not predictive of success. Similar to the BSN programs, Yoho (2006) found that standardized exit exams in ADN programs were highly predictive of NCLEX-RN success (i.e., 94.5% rate). Saint Xavier College School of Nursing implemented a program called Partnership in Learning for Utmost Success (PLUS) as a means for increasing retention. The PLUS retention program included an assessment plan, seminars in nursing for nursing courses traditionally having the highest retention rates, faculty development, and the development of partnerships with the college and within the community (Lockie & Burke, 1999). Lockie and Burke (1999) analyzed a group of students who participated in the PLUS Program. They found that participation in the program had a positive impact on retention. However, the study was
limited to students categorized as at-risk during the admissions process. The group was divided into two non-randomly assigned subgroups, at-risk participants and at-risk non-participants.

According to Phillips, Spurling, and Armstrong (2002), many Associate Degree of Nursing (ADN) faculty members believed that attrition in nursing programs is related to a lack of core skills upon entry into a program. In their study, concerns about the relationship between open-door admission for ADN programs and student outcomes in community college nursing programs were highlighted by the faculty. The focus of this study was to reduce attrition from ADN programs while maintaining open access. A byproduct of open access was a diverse student population. Predicting success became difficult, since dispositional and situational characteristics affected program outcomes (Phillips, Spurling & Armstrong, 2002). Phillips et al. (2002) found that program and institutional variables such as selective admissions, inconvenient scheduling of classes and other practices which prevented students from completing a program had very little predictive value. Dispositional variables, which included prior preparation, past academic performance, self-perceptions and abilities of the student were the most useful in predicting future performance. Situational factors such as family issues, socio-economic status, and childcare needs were difficult to study over time, since such data were difficult to obtain and held very little explanatory power in relation to other variables such as those described above (Phillips et al., 2002).

Findings from studies that explored predictors affecting NCLEX-RN pass rates for all students are often contradictory but tended to agree on four areas: use of entrance
exams to screen students; screening for math, science, and reading standardized test scores; screening for a minimum grade point average (GPA); and dismissal for failing two or more nursing classes (Crow et al., 2004; Giddens & Gloeckner, 2005; Higgins, 2005; Morrison, Free, & Newman, 2006; Waterhouse & Beeman, 2003). Most research reveals that each nursing program is unique and must identify the predictors of success unique to its student body. Nursing programs would greatly benefit from analyzing such predictors, in order to create comprehensive retention programs, better utilization of limited resources and maximization of student outcomes (Carpenter & Bailey, 1999).

**Diversity and the NCLEX**

Very little quantitative research exists with regard to NCLEX-RN pass rates associated with diverse students. Crow, Handley, Morrison, and Shelton (2004) found that programs with higher percentages of White students were more likely to have higher passing rates and programs with higher percentages of Hispanic students reported lower pass rates. Seago and Spetz (2005), who explored on-time completion rates, attrition rates, and NCLEX-RN first-time pass rates for diverse nursing students in California, found that the higher the percentage of African American and Filipino students, the lower the NCLEX-RN passing rates, even when they controlled for other program differences. Sayles, Shelton, and Powell (2003) found that whereas 92% (n=63) of their Caucasian students passed the NCLEX-RN on the first try, only 60% (n=10) of the African American students did the same. Although these three studies support the notion that there might be cultural barriers related to NCLEX-RN pass rates, more research is needed to fully characterize this concern.
Despite the existence of a loose consensus in nursing education that an increase in diversity in nursing is needed, and support programs should be offered to diverse students to help ensure academic and NCLEX-RN success, these concerns should be more thoroughly investigated and documented. Three general themes from the literature emerged that delineated the current issues: Need for a diverse nursing workforce (Sullivan, 2004; National Advisory Council On Nurse Education And Practice, 2000); lack of research-based evidence on the effectiveness of supportive programs, despite a paucity of quantitative and qualitative evidence concerning the degree to which diverse students have trouble passing the NCLEX-RN; and narratives of concern about the academic success of diverse students, efforts to support completion of nursing education, and efforts to support passing the NCLEX-RN (Choi, 2005; Evans & Greenberg, 2006; Flinn, 2004; Gardner, 2005; Gooden, Porter, Gonzalez, & Mims, 2001; Guhde, 2003; Jalili-Grenier & Chase, 1997; Labun, 2002; National Advisory Council On Nurse Education And Practice, 2000; Newman & Williams, 2003; Omeri, Malcolm, Ahern, & Wellington, 2003; Sanner, Wilson, & Samson, 2002; Seago & Spetz, 2005; Stacciarini, 2002; Thacker, 2005; Yoder, 2001).

Conceptual Models

Extensive curriculum evaluations are embedded in many evaluation models in the literature. When reviewing the literature on nursing curriculum evaluation, the importance of educational program processes becomes very clear. Themes of consistency, planning, cohesiveness, alignment, quality improvement, and accountability repeat throughout. Outcome measurement is discussed extensively and is linked to
program viability and funding. Since the national focus and current study are about outcomes, Keating (2006) confirms its applicability to nursing program evaluation. The evaluation process is essential to measuring success, establishing benchmarks, and continually improving the quality of the program (Keating, 2006).

Many researchers developed conceptual models for curriculum evaluation based on their perceptions of the variables and materials which would be most meaningful for the evaluation process (Brown, 2002; Clarke, Goodwin, Mariana, Marshal, & Moore, 1983; Ediger, Snyder, & Corcoran, 1983; Kapborg & Fishbein, 2002; Watson & Herbener, 1990). The selection of the model should be based on the purpose of the evaluation, program needs, material and spatial resources, personal time, and needs and desires of key interest groups (Watson & Herbener, 1990). The model employed should provide a framework to guide inquiry, and ultimately should improve the overall program.

At SCC’s nursing program, students complete course evaluations at the end of each semester and provide summative feedback after graduation. While valuable information is gained from student feedback, additional curricular issues such as program success and curriculum alignment should be investigated as well. In this study, practices and programmatic features in an ADN program that produced graduates from diverse backgrounds who passed the NCLEX-RN is explored at the level of SCC.

Due to the complexity of curriculum design, the evaluation process should take into consideration numerous variables (Parsons, 2008). For instance, the SCC-ADN traditional program has five required nursing theory courses, with twelve instructors for
these courses. Additionally, clinical course work is embedded within each theory course. The same twelve instructors teach the clinical course work. Clinical sites vary throughout the program, and courses may utilize one site for the entire semester or multiple sites in one semester. Each clinical site has different set of orientations, clinical experiences, clients and staff members. The students must adapt within various learning environments.

With different variables having different degrees of influence on the curriculum and NCLEX outcomes, two evaluation models are used for the study. The current study focuses on the relationship of program success with NCLEX-RN. An in-depth analysis and application of the two models are offered in the following section.

Program Success Model

The major model underlying the study describes factors that influence student outcomes and ADN program success (Fraher, Bellsky, Carpenter, & Gaul, 2008) (Appendix B). Two large California studies on ADN attrition (n=5,007 students) (Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2003) provide the framework for the model by Fraher et al (2008). The model divides the factors into student-level demographic and socioeconomic characteristics, and program-level characteristics. Program-level characteristics are further subdivided into three groups: admissions policies, faculty and instructional characteristics, and support services and resources. The student outcome that determines a successful ADN program is passing the NCLEX-RN on the first attempt (Fraher, et al., 2008).
In the late 2007, the North Carolina Community College System (NCCCS) asked the Cecil G. Sheps Center for Health Services Research (Sheps Center) to conduct a study of ADN program attrition and its causes. The study identified the student- and program-level characteristics associated with more and less successful ADN programs. These outcomes were examined for a cohort of student who enrolled in the program Fall of 2002. The large study examined 2,237 students in 42 community college ADN programs. Forty-two nursing directors were surveyed. Student and program characteristics were measured over a three year period. Results from the North Carolina study reinforced those from the two California studies, four years prior: Students were more likely to pass the NCLEX-RN if they enrolled in a program where more of the faculty had a master’s degree; that used standardized test in the admissions process; and that had a higher science competency standard than the standard for the community college. Demographic makeup of the student body proved to be the only factor to powerfully influence both graduation and NCLEX-RN pass rates. None of the student support services were related to first-time NCLEX-RN pass rates (Fraher, et al., 2008).

Thus, a portion of the study investigates student and program factors that influence the NCLEX-RN passing rate. Specifically, the study examines faculty and student perspectives of such factors influencing the NCLEX-RN passing rate.

Curriculum Alignment Model

Fenwick English proposes a more narrowly focused model. The model emphasizes the interdependent relationships between the written curriculum, the taught curriculum and the tested curriculum (Appendix C) (English & Steffy, 2001). English
and Steffy (2001) suggest that these three distinct curriculums be linked, and if they are continually revised and reinforced by each other, consistency and quality should increase. Applied to nursing curriculum analysis, the theory argues that the written curriculum (i.e., course objectives) and the taught curriculum (i.e., final exams) should align with the tested material (i.e., NCLEX-RN performance), so that student mastery of the content is maximized. For instance, the content reflected on the comprehensive final exams is assumed to be important course content and should therefore align with the written course objectives and NCLEX-RN performance.

Brown (2002) and Parsons (2008) applied English’s model to a hospital based diploma nursing program and a four year baccalaureate nursing program, respectively. Brown (2002) utilized a case study approach to investigate the relationship between the curriculum taught in the program, the nursing graduates’ test scores and the NCLEX-RN Test Plan, whereas Parsons investigated the alignment between the nursing course syllabi and student learning objectives (SLOs) (i.e., written curriculum), the final exam items (i.e., taught curriculum) and the NCLEX-RN performance (i.e., tested curriculum). Both surveyed faculty to determine the methods used for choosing course content, in respects to the NCLEX-RN. Brown (2002) and Parsons (2008) found that curriculum coverage was either below or above the NCLEX test plan ranges and faculty time estimates did not always align with the NCLEX-RN Test Plan ranges. Their research suggests that various components of the curriculum can be modified to more closely align with the NCLEX-RN and specific curriculum content or the amount of time dedicated to teach each topic,
can be adjusted based on the evaluation findings using English’s model. This ultimately improves students’ NCLEX-RN scores (Brown, 2002 Parsons, 2008).

A portion of this study seeks to further expand upon Brown’s (2002) and Parsons’ (2008) studies, applying English’s model of curriculum evaluation to a large, urban two year associate degree nursing program at a public community college in California. The study provides an in-depth evaluation of the nursing curriculum at the researcher’s current work site. It utilizes a mixed methods case study approach to analyzing the extent of alignment between student learning outcomes (SLOs) (i.e., written curriculum), final exams (i.e., taught curriculum) and 2010 NCLEX-RN performance (i.e., tested curriculum), using English’s model. It also surveys the faculty and graduates to determine the methods used for choosing course content, in respects to the NCLEX-RN. The study endeavors to contribute to the growing body of nursing literature on program improvement, student success and the nursing shortage.

Summary

The need to further analyze Sacramento City College Associate Degree Nursing curriculum is obvious, in light of an extensive review of literature on the various factors related to NCLEX-RN success. Current issues such as accountability in higher education, the nursing shortage, professional demands on nurses, nursing education and licensure, diversity, community colleges, predictors of NCLEX-RN performance and curriculum evaluation demand that nursing programs provide optimal preparation to
graduates to succeed on the NCLEX-RN. Specifically, a need to analyze the SCC-ADN curriculum is even more apparent. With the current focus on student learning outcomes and accountability issues, the study is an excellent means for program improvement. Areas of the curriculum not adequately covered in the NCLEX-RN will be discovered, and would be the focus of revision in the future. The ultimate intent of this study is to maximize students’ performance on the NCLEX-RN, and to facilitate the professional success of SCC’s nursing graduates.
Chapter 3

METHODOLOGY

Overview

This study analyzed the practices and programmatic features of Sacramento City College Associate Degree Nursing (SCC-ADN) program that produced graduates from diverse backgrounds who passed the National Certification Licensure Examination for Registered Nurses (NCLEX-RN). The research methodology used to conduct the study is presented in this chapter. Specifically, four major sections are presented. First, the research design, which included the problem to be studied, the context of the case study, the research questions, purpose of the study and conceptual models, design and data sources, argument for the study and justification for using the mixed methods approach are shared. Second, the setting, population, and sample are described. Third, data collection and analysis are explained with four subsections: (1) data collection pertaining to faculty and graduate surveys, (2) qualitative and quantitative analysis of the data, (3) qualitative analysis dedicated to an in-depth of inquiry of a particular research question, and (4) alignment trends. The final major section discusses how the researcher gained entrée, the researcher-participant relationship, and evidence of quality with specific reference to internal validity and ethics.
Research Design

The following describes the study’s design. Specifically, the following elements are presented: the problem studied, the context of the case study, the research questions, purpose of the study and conceptual models; design and data sources; argument for the study and justification for using the mixed methods approach.

Problem to be Studied

The central issue was that NCLEX-RN standards have been raised requiring nursing graduates to demonstrate greater knowledge on the national licensure examination in order to be licensed. This had ramifications for nursing programs and their ability to sustain a high percentage of graduates from diverse backgrounds who go on to pass the NCLEX as first-time test takers. The purpose of this study was to investigate the practices and programmatic features of SCC’s nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN.

Context of the Case Study

The SCC nursing program had maintained high NCLEX-RN passing rates, which included those students from at-risk / diverse backgrounds. At-risk students were those who were academically under prepared for college or worked 30 or more hours per week or had little family and financial support (Rouche & Roueche, 1993). Diverse students were those who were racially and ethnically diverse (i.e., African-American, Asian/Pacific Islander, Hispanic, Native American, Alaskan Native or English-as-a-Second Language (ESL) (California Community Colleges, 2005; Sitzman, 2007).
The average NCLEX-RN pass rate for the past six years at SCC was 96.7% (n=704). Student demographics for the current graduating class (2009-2010) were as follows (N = 200): 40% declared ethnicity other that Caucasian (African-American – 5%; American Indian / Alaskan Native – 1%; Filipino – 8%; non-Filipino / Pacific Islander – 6%; Hispanic – 8%; Other – 13%; and Unknown – 1%). The graduates who were ESL were 32%. Those who worked 20 hours or less per week were 76%; and 15% worked more than 20 hours or more per week. Over half (51%) received financial aid. Those graduates representing the accelerated track were 48% (n=39); traditional track, 40% (n=33); and the part-time track, 12.2% (n=10). The 5% attrition rate was due to academic failures (i.e. “D” or “F” grade) and 15% attrition rate attributed to personal leaves of absence (“W” or withdrawal) (SCC-ADN Program, 2010) The associate degree nursing program was approved by the California Board of Registered Nursing (CBRN) (CBRN, 2009).

Research Questions

The following research questions guided the study. Specifically, two main questions and seven corresponding sub-questions were posed.

1. What measures has the SCC nursing program taken to increase the success of its graduates on the updated NCLEX-RN?
   a. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?
   b. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?
c. What processes does the faculty utilize to ensure that their teaching was aligned to the NCLEX-RN standards?

2. What are the perspectives of the faculty and graduates on how the SCC nursing program ensured the success of its graduates on the NCLEX-RN?

a. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?

b. What programmatic practices do the SCC nursing program employ that increase the success of its at-risk students?

c. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

d. What are the elements in the SCC nursing program that students attribute to their successful completion of the program?

**Purpose of the Study and Conceptual Models**

The purpose of the case study was to investigate the practices and programmatic features of SCC’s nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN. Two conceptual models were used to guide the study.

The major model underlying the study described factors that influence student outcomes and program success (Fraher, Bellsky, Carpenter, & Gaul, 2008) (Appendix B). The model divided the factors into student-level demographic and socioeconomic characteristics, and program-level characteristics. Program-level characteristics were further subdivided into three groups: admissions policies, faculty and instructional
characteristics, and support services and resources. The student outcome that determined a successful ADN program was passing the NCLEX-RN on the first attempt (Fraher, Bellsky, Carpenter, & Gaul, 2008). Thus, a portion of the study investigated student and program factors that influenced the NCLEX-RN passing rate. Specifically, the study looked at faculty and student perspectives of such factors influencing the NCLEX-RN passing rate.

The second model described curriculum alignment by English and Steffy (2001) (Appendix C). Curriculum alignment was an interdependent relationship between the written curriculum (i.e., intended curriculum), the taught curriculum (i.e., delivered curriculum), and the tested curriculum (i.e., the achieved curriculum). The model suggested that these three distinct curriculums must be linked or aligned so that optimal program outcomes occur (English & Steffy, 2001). When applied to nursing curriculum evaluation, the model argued that the written curriculum (i.e., student leaning outcomes [SLOs]), the taught curriculum (i.e., final exams) and the tested curriculum (i.e., NCLEX-RN performance) must be aligned. English & Steffy (2001) argued that program alignment ultimately led to program improvement and student success. Thus, a portion of the study evaluated the nursing curriculum by analyzing the written, taught and tested curriculum alignment with the NCLEX-RN. Furthermore, the study analyzed how SCC’s student and program characteristics contributed to ADN program success (i.e., NCLEX first time passing rates).

**Design and Data Sources**

The mixed methods study involved collecting qualitative and quantitative data.
A qualitative approach, using grounded theory and the constant comparative method, analyzed the alignment of SCC’s curriculum (i.e., SLOs, final exam questions, and graduates’ NCLEX performance data) with the NCLEX-RN Test Plan (research question #1a). It also analyzed faculty’s and graduates’ responses on the open-ended portion of a survey (Appendices E and F, respectively). These questions looked faculty’s perspectives on the alignment of teaching and NCLEX standards; cultural and organizational norms of SCC; and elements to successful program completion (research questions #1c, 2a, and 2d). Collected data was continually examined for trends and categorized by common themes using the constant comparison method.

Quantitative data was collected from the Likert-scale portion of the surveys, and t-tests were conducted. The quantitative data identified factors that influenced the faculty in choosing course content and exam items in respect to the NCLEX; faculty’s and graduates’ perspectives on programmatic practices that increase success of at-risk/diverse students; testing practices that affect graduates’ performance on the NCLX-RN; and graduates’ perspectives on the cultural and organizational norms of SCC (research question #1b, 2a, 2b and 2c). Results were analyzed, and findings and recommendations were offered.

Argument for the Study

Three large studies on successful ADN programs supported the SCC’s nursing program model (Fraher, Bellsky, Carpenter, & Gaul, 2008; Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2003). However, according to these studies, the strongest predictor of NCLEX pass rates appeared be contrary to the current data
demonstrated at SCC. The most powerful predictors of NCLEX pass rates in these studies were student demographic and socioeconomic characteristics. Namely, young age (18-23 years), non-white/ethnicity (excluding American Indian ancestry), having a GED rather than a high school diploma, and being a Pell Grant recipient were all associated with lower possibilities of passing the NCLEX (Fraher, Bellsky, Carpenter, & Gaul, 2008; Phillips, Spurling, & Armstrong, 2002; Seago & Spetz, 2005). The current study argued that successful ADN programs which had high proportions of diverse/at-risk students performed higher than expected on the NCLEX-RN.

Lastly, although curriculum review was a fairly regular process, it currently did not incorporate a formal analysis of practices and programmatic features as they related specifically to NCLEX-RN success. This practice analysis was needed because the passing standard of the NCLEX-RN had increased this past year (NCSBN, 2010). Also, with rapidly changing technology and healthcare, more demands on nursing staff, and greater aging and diverse populations, definite and significant changes were included in the new NCLEX-RN (AACN, 2009; ANA, 2004; NCSBN, 2010; Whitney, Maltby, & Carr, 2004). Finally, with the influx of new faculty, new testing formats, and many more at-risk / diverse students at SCC, the nursing curriculum remained to be the only constant throughout the program’s three tracks. It made sense that curriculum evaluation incorporated a formal practice analysis as such, as this study proposed to do. Incorporating practices and programmatic features that related specifically to the NCLEX-RN may maintain continuity, facilitate student success on the licensure exam,
and determine possible gaps in the curriculum that may be responsible for students’ performance on the NCLEX-RN.

**Justification for Using Mixed Methods Approach**

Combining both quantitative and qualitative forms of research involved the use of both approaches in tandem so that overall strength of the study was greater than either quantitative or qualitative research alone (Creswell, 2009). The research problem was best understood by converging and triangulating broad numeric trends from the quantitative research and the detail of qualitative research. Quantitative data included factors and variables that influenced the outcome. Qualitative data included participants’ views which explored a concept or phenomenon. Thus, a mixed methods design was employed to broaden understanding, by using one approach to better understand and build upon the results from the other approach. However, the challenges this form of research posed for the study were the need for extensive data collection, the time-intensive nature of analyzing both numeric and text data, and the requirement for the researcher to be familiar with both quantitative and qualitative forms of research.

**Research Setting**

The following included the setting, population, and sampling method and its size. The sampling method and size section explained the eligibility criteria and justification for using it.
Setting

The study’s macro-setting took place at Sacramento City College (SCC). SCC was a large public community college in California and was located in a dense urban setting, serving a diverse population of students coming primarily from the greater Sacramento region. Approximately 31,500 students attended either part-time or full-time, with 61% declaring an ethnicity other than white: 17% were Latino, 26% Asian, 14% African–American, with 11% declaring “Other.” The total number of employees was 1,165, with 47% being full-time tenured faculty (California Community Colleges Systems Office, 2008; State of California Community Colleges, Chancellor’s Office, 2007). The micro-setting was Sacramento City College’s Associate Degree Nursing (SCC-ADN) program. The program had been educating associate prepared nurses for more than 57 years (SCC, 2008).

Population and Sample

The SCC-ADN program was staffed by 12 full-time core faculty members, and many adjunct and contractual faculty members who instructed theory and clinical courses throughout the year. The nursing department matriculated approximately 182 graduates each academic year. The core faculty were primarily responsible for developing the curriculum.

Sampling Method and Size

Eligibility Criteria

Eleven nursing faculty participated in a one-time survey, with the inclusion criteria being current core nursing faculty at SCC (the researcher is a member of the core
and was excluded). The Board of Registered Nursing (BRN) stipulated that the core nursing faculty were primarily responsible for developing, maintaining and overseeing the nursing program’s curriculum (National Council of State Boards of Nursing [NCSBN], 2009). The participants were a purposive, nonrandom sample of convenience at the researcher’s current worksite and were the researcher’s co-workers.

Eighty-two SCC nursing graduates from 2009-2010 responded in a one-time online survey. Inclusion criteria of the sample stated: only those graduates from the SCC Associate Degree Nursing (ADN) program who graduated within the academic year of 2009-2010 and who already took the NCLEX-RN. The participants were a purposive, nonrandom sample of convenience who graduated from the researcher’s current worksite program.

**Justification for Sampling Criteria**

Only the core nursing faculty participated in the survey, since the BRN required that only core faculty primarily develop, maintain and oversee SCC’s nursing curriculum (NCSBN, 20010). Only the most recent SCC graduates, from all three tracks of the program, participated in the survey since they had most recently matriculated from the program, and thus, had the most recent experiences and exposure to the current 2009-2010 curriculum and the most current NCLEX-RN.

**Data Collection and Analysis**

The following had four sections. First, the data collection was discussed. This included the faculty and graduate surveys. Second, analysis of the data was given. This
included qualitative analysis and quantitative analyses. A large subsection contained qualitative analysis on curriculum alignment. This analysis provided depth of inquiry, nursing curriculum guidelines and standards, and methodological phases to curriculum analysis. The subsections to methodological phases to curriculum analysis offered samples from the written curriculum (i.e., SLOs), the taught curriculum (i.e., final exams) and the tested curriculum (i.e. NCLEX-RN performance reports), and alignment trends. Third, the role of the researcher explained gaining entrée and the researcher-participant relationship, and evidence of quality discusses internal validity and ethics.

**Data Collection**

**Faculty Survey**

The faculty survey took place at the SCC campus, in the Science and Allied Health Division, where the nursing department resided. The study occurred during a normal work day, in a vacated classroom without students or other staff members present. The researcher provided the participants with an oral and written explanation of the study, requested for a volunteer to distribute the survey, and then left the room. A faculty member distributed individual copies of the survey to each participant. Each participant responded to the survey in writing. The surveys were then collected and stored in a sealed envelope by the faculty volunteer. Surveys were stored in an unmarked envelope by the researcher at a secure location (Appendix F).

**Graduate Survey**

The researcher primarily sent out 175 graduate surveys through e-mail. The emails were from a list-serve of all the SCC graduates from the 2009-2010 academic
year. Thirty-six e-mails were returned as undeliverable or no longer having active accounts. Thus, 139 surveys were actually delivered, 82 graduates responded to the survey (a 59% response rate). The researcher included a brief explanation of the study within the e-mail itself and the consent form within the survey. All survey results were stored on a secure on-line site and were accessed by the researcher only (Appendix G). Follow-up communication and reminders were sent out through the graduates’ email list-serve, over a period of one month. This was done in attempt to collect additional respondents.

Analysis of the Data

Qualitative Analysis

Qualitative research uses the grounded theory approach, in which the investigator was the primary instrument of data collection and analysis, and assumed an inductive stance, striving to derive meaning from the data (Merriam, 1998; 2009). The constant comparative method of data analysis was a means of developing grounded theory (Glaser & Strauss, 1967). It entailed simultaneously coding-recoding and analyzing (i.e., constantly comparing) the raw data. Focused coding analyzed the data on the basis of topics that have a particular interest to the researcher (Emerson, Fretz, & Shaw, 1995). Tentative categories and properties were then generated, and compared to each other. Comparisons were constantly made within and between levels of conceptualization until a theory was formulated (Emerson, Fretz, & Shaw, 1995; Merriam, 1998; 2009).

Categories reflected the purpose of the research, were exhaustive, mutually exclusive, sensitizing and conceptually congruent (Merriam, 1998). Grounded theory
consisted of analytical themes that were conceptual links between and among the
categories and properties, and supported English’s model of curriculum analysis (English
& Steffy, 2001) and the inductive, concept-building orientation of qualitative research
(Creswell, 2009). Thus, the researcher coded and recoded, and analyzed the following
data: SLOs, final exam questions, and graduates’ NCLEX performance data (addressed
research question #1a- the alignment of SCC’s curriculum with the NCLEX-RN Test
Plan); and faculty’s responses (i.e., addressed research questions #1c, 2a, and 2d on the
alignment of teaching and NCLEX standards; perspectives on cultural and organizational
norms of SCC; and elements to successful program completion, respectively).

Quantitative Analysis

The data was analyzed using one sample and independent t-tests (Green &
Salkind, 2008). The instruments were compiled and sorted into faculty and graduate
responses. Responses were then entered into an SPSS, Version 19 statistical program for
analysis. Mean scores were calculated for each of the subcategories for each group.
Mean overall scores were also calculated and t-tests were conducted (p<.05) to compare
the means. Thus, the following quantitative data was collected from the Likert-scale
portions of the faculty and graduate surveys: factors that influence the faculty in
choosing course content and exam items in respect to the NCLEX; perspectives on
programmatic practices that increase success of at-risk/diverse students; testing practices
that affect graduates’ performance on the NCLX-RN; and perspectives on the cultural
and organizational norms of SCC (research question #1b, 2a, 2b, and 2c).
Qualitative Analysis on Curriculum Alignment

This large portion of the methodological section further explained the depth of qualitative analysis on a particular research question. Research question 1a asked “To what extent was SCC’s curriculum aligned with the NCLEX-RN Test Plan?” The following section was divided into depth of inquiry, nursing curriculum guidelines and standards, methodological phases to curriculum analysis. The section offered samples from the written curriculum (i.e., SLOs), the taught curriculum (i.e., final exam items) and the tested curriculum (i.e., NCLEX-RN performance reports), and alignment trends.

Depth of Inquiry

For a portion of this study, the basic strategy of the constant comparative method was document analysis. It analyzed the written, taught and tested curriculums for alignment, according to English’s model of curriculum evaluation (English & Steffy, 2001). Three sources of data were chosen: the SLOs from 2009-2010 course syllabi (i.e., written curriculum), four final exams (i.e., taught curriculum) and the 2010 NCLEX-RN Test Plan performance data (i.e., tested curriculum). For the purposes of this study, the focus was limited to data for the current 2009-2010 academic year only. Curriculum data was collected, coded-recoded and analyzed by hand, in relation to the linkages between the written, taught and tested curriculum to determine the extent of alignment with the NCLEX-RN Test plan (NCSBN, 2009). Tentative themes, categories and properties were generated first, and then compared to each other and the NCLEX-RN Test plan. Comparisons were constantly made within and between levels of conceptualization until a theory was formulated (Merriam, 1998).
In the next section, the English model was incorporated into nursing curriculum guidelines and standards. A methodological phases to curriculum analysis was then offered which included samples from the written curriculum (i.e., SLOs), the taught curriculum (i.e., final exam items) and the tested curriculum (i.e., NCLEX-RN Test Plan performance reports), as well as alignment trends.

**Nursing Curriculum Guidelines and Standards**

The curriculum alignment of SCC-ADN’s program was analyzed using English’s model of curriculum evaluation (i.e., an outcome indicator). Specifically, three nursing standards were examined.

First, the *Scope and Standards of Nursing Practice*, published by the American Nurses’ Association (ANA) cited one of its fifteen standards as “Outcomes Identification” (ANA, 2004, p. 21). It underscored the importance of outcome criteria to measure safe and effective nursing practice.

Second, the National Council on State Boards of Nursing (NCSBN) focused on outcome measurements by developing the NCLEX-RN exam. It also controlled its passing benchmarks and educated nurses about trends in nursing practice (NCSBN, 2010). The NCSBN worked closely with the California Board of Registered Nursing (CBRN), a part of the NCSBN, which administered the NCLEX-RN exam, regulated the practice of nursing and ensured safe and effective nursing care in all settings (CBRN, 2009). The NCSBN also provided NCLEX-RN Test Plan performance reports (i.e., NCLEX-RN Test Plan Reports) to the CBRN and SCC. These detailed reports presented information on SCC’s graduates’ performance on the NCLEX-RN, based on the content
breakdown of the NCLEX-RN Test Plan, with comparison groups of other graduates (NCSBN, 2009; 2010). The NCSBN reported that the 2010 NCLEX-RN Test Plan “provides a concise summary of the content and scope of the licensing examination and serves as a guide for examination development as well as candidate preparation” (NCSBN, 2010, p. 1). The test plan was based on the Client Needs Framework in which a percentage of test items were assigned to each of the eight dimensions: (1) management of care – 16-22%, (2) safety and infection control – 8-14%, (3) health promotion and maintenance – 6-12%, (4) psychosocial integrity – 6-12%, (5) basic care and comfort – 6-12%, (6) pharmacological and parenteral therapies -13-19%, (7) reduction of risk potential -10-16%, and (8) physiological adaptation – 11-17% (NCSBN, 2009) (Appendix E).

Lastly, one of SCC-ADN’s 12 program objectives also highlighted the importance of outcome criteria. One objective emphasized “functioning with accountability within the ethical and legal boundaries, and standards of registered nursing practice” (SCC, 2010, p. 7) (Appendix H).

These professional standards and guidelines clearly related specifically to outcome measurements, such as curriculum evaluation within the nursing profession. The purpose of a portion of the study was to evaluate the extent of alignment of SCC-ADN’s curriculum with the NCLEX-RN Test Plan, using English’s model (English & Steffy, 2001).
Methodological Approach to Curriculum Analysis

Nursing faculty at SCC reiterated concerns about their limited knowledge of the NCLEX-RN Test Plan and their uncertainties as to whether its concepts were covered adequately in the curriculum. The detailed NCLEX-RN Test Plan, a seventy four page document describing the Client Needs framework (NCSBN, 2009) , is so lengthy that faculty found it an overwhelming task to apply to their teaching practice. This study incorporated the NCLEX-RN Test Plan into the SCC curriculum analysis, so that the plan became more familiar and applicable to its users - the SCC faculty.

The methodological approach to this portion of the study involved four phases of analysis: 1) the written curriculum, 2) the taught curriculum, 3) the tested curriculum, and 4) alignment trends (i.e., the three curriculums with the NCLEX-RN Test Plan).

The Written Curriculum

The initial phase coded-recoded and analyzed theory course SLOs from the SCC-ADN’s 2009-2010 course syllabi (i.e., written curriculum). These items related to course documents from the core curriculum at SCC. Specific themes were generated and compared to the NCLEX-RN Test Plan (NCSBN, 2009) (Appendix E). Sacramento City College provided a two year Associate’s Degree in Nursing. The program was four semesters in length. Each semester contained a core nursing course. The four nursing courses comprised the core curriculum, which was the focus of the NCLEX-RN.

First semester was the Fundamentals of Nursing course. This course provided the basic knowledge that is necessary to practice nursing (i.e., history of nursing, basic
concepts, terminology, skills and disease entities). Second, third and fourth semester courses contained Adult Medical-Surgical content as the common thread, advancing from simple themes (in the lower semesters) to more complex ones (in the higher semesters). Such themes included specific disease processes, and nursing care for patients with various medical and surgical conditions. Adult medical-surgical nursing was mostly represented on the NCLEX-RN Test Plan, since the greatest number of survey respondents (i.e., those that form the basis of NCLEX-RN content) come from hospital-based medical-surgical backgrounds. Thus, the focus of the NCLEX-RN was mostly in adult medical-surgical nursing.

Maternity, Pediatrics and Psychiatric content were specialty areas of the NCLEX-RN and are threaded through various semesters of the core curriculum. The Maternity content, in the second semester course, covered all aspects of caring for the childbearing woman and family, including prenatal, peri-natal, intra-partum and postpartum care. Pediatric and Psychiatric content were offered in third semester. Pediatrics content focused on caring for children, from infancy through young adult, and health promotion and disease prevention. Psychiatric content covered all aspects of caring for patients with mental health needs, as well as mental health promotion. The specialty content was featured on the NCLEX-RN, but not as extensively as adult medical-surgical nursing.

Therefore, the study analyzed the SLOs from the theory courses of all four semesters of the core curriculum (i.e., written curriculum). The content included adult medical-surgical, maternity, pediatrics and psychiatric nursing. Clinical SLOs were not included in the study.
The Taught Curriculum

The second phase coded-recoded and analyzed the four comprehensive final exams from the nursing curriculum (i.e. taught curriculum). Specific themes from the questions on these exams were generated and compared to the NCLEX-RN Test Plan (NCSBN, 2009) (Appendices G). These items related to course documents from the core curriculum of the traditional track at SCC.

Comprehensive final exams were analyzed as the “taught” curriculum for three reasons. First, the study assumed that the most important course content that was taught was assessed on the final exam. Second, the NCLEX-RN focused primarily on nursing theory testing and used standardized testing procedures (i.e., computerized assisted testing [CAT]) (NCSBN, 2010). Formative and summative assessments of theory work (e.g., reports, quizzes and group work) and clinical work (e.g., clinical performance, skills and nursing plans of care) did not emphasize NCLEX-RN assessment strategies. Lastly, nursing theory of the core curriculum was the main constant throughout the curriculum, since clinical faculty and clinical sites varied within and amongst each curriculum track.

The Tested Curriculum

The third phase analyzed the NCLEX-RN Test Plan performance data (i.e., cohorts from SCC-ADN program academic year 2009-2010) as the “tested” curriculum. These cohorts included those graduates from all three tracks: traditional, accelerated and part-time, since the NCLEX-RN performance reports did not differentiate between students from the three different tracks. The NCLEX-RN performance data contained
test performance in the NCLEX-RN Test Plan Report (NCSBN, 2009). The report presented information on SCC’s graduates’ first time performance on the NCLEX-RN exam, in the context of the 2010 NCLEX-RN Test Plan (NCSBN, 2009). The NCLEX-RN Test Plan content breakdown, based on the Client Needs Framework, had eight dimensions: (1) management of care, (2) safety and infection control, (3) health promotion and maintenance, (4) psycho-social integrity, (5) basic care and comfort, (6) pharmacological and parenteral therapies, (7) reduction of risk potential, and (8) physiological adaptation (NCSBN, 2009). Thus, test plan performance was the expected percentage of all possible questions that are administered in a given category that are answered correctly by a typical (i.e., median) graduate of SCC (NCSBN, 2009, p. 6.4). For example, when a SCC graduate performed at 67% in Management of Care, it meant that 67% of all possible questions that was administered in the Management of Care content were answered correctly by the typical SCC graduate. Along with the test plan performance percentage, a benchmark called passing percentage was also given. Passing performance was the expected percentage correct of all possible questions that were administered in a given category that would be achieved by a candidate with a competence level precisely at the minimum passing standard. Thus, for example, the graduate with a test plan performance score of 67% exceeded the competence level benchmark of the minimal passing performance score of 55% in the Management of Care category. The NCLEX-RN reports provided benchmarks to analyze and guide curriculum evaluation and discussion for the study. Benchmarks were important to use, as faculty can compare its own curriculum with others and trends can be identified
(Keating, 2006). Therefore, the comparison of SCC’s SLOs, final exam items, NCLEX Test plan, test performance data and passing performance rates were provided for the 2009-2010 academic year in the next chapter.

Alignment Trends

The fourth phase compared the written, taught and tested curriculum, using English’s model of curriculum evaluation (Appendix C) (English & Steffy, 2001). Analysis from a broader perspective included: (1) the comparison of the written (i.e., SLOs), and the taught curriculums (i.e., comprehensive final exams) with the NCLEX-RN Test Plan; and (2) the tested curriculum (NCLEX-RN performance data) with the passing performance benchmarks (NCSBN, 2010). For this study, alignment was operationally defined as: (1) the extent in which the written and taught curriculums fell within range of the NCLEX-RN Test Plan, and (2) the extent the tested curriculum exceeded the minimal passing performance benchmarks of the NCLEX-RN Test Plan (English & Steffy, 2001; NCSBN, 2010, p. 1). The process answered the research question: “to what extent did the written, taught and tested curriculums align or link with one another and the NCLEX-RN?” (English & Steffy, 2001). Keating (2006) confirmed the applicability of outcome measurement to nursing curriculum evaluation as “being essential to measuring success, establishing benchmarks, and continually improving the quality of the program (Keating, 2006, p. 258). English’s model evaluated to what degree these three distinct curriculums were interdependent and aligned so that optimal program outcomes occur (English & Steffy, 2001).
Thus, a portion of the study sought to estimate the curriculum coverage (i.e., written and taught curriculums) for each of the eight contents areas of the Client Needs Framework (NCLEX Test Plan), and to compare it to the NCLEX-RN performance data (i.e. tested curriculum) of the SCC graduates. Although this process was not a perfect reflection of the curriculum that was covered, it provided a basis for reasonable conclusions about SCC’s content coverage based on the NCLEX-RN Test Plan. Specifically, efforts were made to investigate if the areas of less coverage of content were linked to lower performance of that corresponding content area and, conversely, if the areas of greater coverage of content were linked with higher performance of that corresponding content area. These relationships served as the basis for recommendations for increasing coverage in those content areas, in order to maximize SCC’s student performance on the NCLEX-RN. The ultimate goal of the study and the SCC program was to improve its NCLEX-RN pass rate and develop the nursing work force. The last section of data collection and analysis included the role of the researcher and evidence of quality.

Role of the Researcher

*Gaining Entrée and Researcher-Participant Relationship*

Since the qualitative case used the grounded theory approach, the sole investigator of the study was the primary instrument of data collection and analysis (Merriam, 1998). The case study provided an in-depth evaluation of the SCC’s core nursing curriculum at
the researcher’s current work site (SCC). The researcher was one of twelve core nursing faculty at SCC. Thus, entrée was permitted, all available data was easily accessible to the researcher. The researcher-participant working relationships were assumed to be trustworthy and confidential.

_Evidence of Quality_

Internal Validity

One member of the dissertation committee served as the content expert for the study. She was the chair and director of SCC’s nursing program and former nursing professor for SCC for the past 28 years. She provided evidence of quality throughout the entire dissertation process. Internal validity was ensured through triangulation, member check, long-term observations, peer examination and participatory and collaborative research (Merriam, 1998; 2009). Reliability and external validity were limited, as the sampling is nonrandom and limited to SCC. Findings may be used to inform others but caution is advised in replicating such findings and generalizing the conclusions to other institutions.

_Ethics_

The study was approved as “minimal risk” by the IRB Committee for the Protection of Human Subjects at the researcher’s primary educational institution. It was approved as “no risk” by the IRB committee at the researcher’s secondary institution from which the study was conducted.

Data from the SLOs, final exams and NCLEX-RN performance reports contained no personal identifiers of the graduates or the faculty, and were public documents. The
NCLEX-RN performance reports were aggregated data. They were made available to the public and were provided by the National Council of State Boards of Nursing (NCSBN), a regulatory organization for nursing licensure. The results of the graduates’ performance on the exam were listed as the graduates’ percentages by names of nursing school only.

For the faculty survey, ethical protection of the participants was provided in the form of a written consent with the option to withdraw at anytime, with the assurance of confidentiality and anonymity. Recruitment measures included the researcher verbally soliciting the participants to voluntarily take part in the survey. The researcher provided an overview of the study and the purpose of the survey. A volunteer faculty member completed the survey without the researcher being present.

The graduate surveys were e-mailed by the researcher using secure on-line survey site. The researcher included a written explanation of the study and a consent form with the survey which included assurance of confidentiality and anonymity. Each participant was requested to respond to the survey and return completed surveys via a secure on-line survey site, in which only the researcher had access.

For all participants, no inducements were offered. However, all participants were informed that the findings of the study would be available upon conclusion of the study. To avoid any conflict of interest, the following issues were addressed: anonymity and confidentiality were provided; the researcher was neither the supervisor nor a student nor a family member of the faculty, though the researcher and the participants were co-workers. Upon data collection, the researcher emphasized the need for the participants’
candid assessment, without personal bias or desire to provide responses that the researcher may want or expect; no negative consequences to the participants for “wrong” or incomplete responses; and no benefits (i.e., monetary, professional or otherwise from internal or external sources) were given to the researcher to conduct the study. The researcher informed the participants that the surveys were stored at a secure location for the duration of the study and will be disposed of at the conclusion of the study.

The possibility of “minimal risk” of harm or discomfort could have been involved in this survey, as the participants may have perceived their responses and the study as evaluative of their professional or educational performance or the program itself. This have may inadvertently placed faculty and graduates at risk for negative employment related assessments and evaluations by their employer or their peers, the accreditation review team, the graduates or their family. Because of these potential risks, anonymity and confidentiality were maintained.

Summary

The methodological approach to the mixed methods case study used the program success model (Fraher, Bellsky, Carpenter, & Gaul, 2008) and English model of curriculum evaluation (English & Steffy, 2001). The purpose of the case study was to investigate the practices and programmatic features of SCC’s nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN. Both qualitative and quantitative research methods sought to explore those features as such.
The findings of the study will be used to make recommendations for curriculum and program changes to improve NCLEX-RN pass rates for SCC nursing graduates. The ultimate goal is to improve SCC’s nursing program and lessen the nursing shortage.
Chapter 4
DATA ANALYSIS

Introduction

The purpose of the study was to investigate the practices and programmatic features of SCC’s nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN. In this section, the results and analyses are presented in the order of the research questions.

Data Analysis Overview

Data from 93 surveys were coded and entered into the Statistical Package for the Social Sciences (SPSS 19.0) database. Each survey was coded from 1-11 for faculty and 1-82 for graduates. Missing data were coded as (*) as outlined in the SPSS 19.0 handbook and excluded from further analysis (Creswell, 2009). Univariate descriptive statistics for the qualitative variables (frequencies and percentages) were used to illustrate the distribution of responses. For the quantitative variables, mean scores ($M$) and standard deviations ($SD$) for each item were calculated to determine the characteristics of effective practices and programmatic features of the nursing program. Mean scores and standard deviations were rounded to the nearest hundredth. For the mean scores, higher scores implied more effective characteristics and lower scores implied less effective characteristics. A simple comparison of means across scores was used to examine the
ranked scores of each item. One-sample t-tests and independent t-tests were used to determine whether the differences between the mean and the test value within each group of faculty and graduates, and between the means of the two groups were statistically significant, respectively. Two-tailed significance level of 5% (probability value < 0.05) and a test value of 2.5 were used for these tests.

Overall Results

Of the eleven faculty surveys sent out, all core faculty participated (n=11), excluding the researcher. Of the 139 graduate surveys sent out, 82 participants responded, with a response rate of 59%. Of the graduates who responded, 99.8% indicated that they passed the NCLEX, with 97.6% passing on their first attempt (Table 1). Those graduates who were surveyed represented cohorts from SCC-ADN’s academic year of 2009-2010 and from all three campuses (i.e., traditional, accelerated and part-time).

Table 1

Graduates Who Passed the NCLEX-RN (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passed the NCLEX-RN</td>
<td>81</td>
<td>99.8</td>
</tr>
<tr>
<td>Passed on the first attempt</td>
<td>80</td>
<td>97.6</td>
</tr>
</tbody>
</table>
Research Questions and Findings

By way of review, the research questions were as follows:

1. What measures has the SCC nursing program taken to increase the success of its graduates on the updated NCLEX-RN?
   a. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?
   b. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?
   c. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

2. What are the perspectives of the faculty and graduates on how the SCC nursing program ensures the success of its graduates on the NCLEX-RN?
   a. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?
   b. What programmatic practices does the SCC nursing program employ that increase the success of its diverse / at-risk students?
   c. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?
   d. What are the elements in the SCC nursing program that students attribute to their successful completion of the program?
The following findings and analyses are presented in the order of the research questions.

*Research Question 1A: To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?*

The basic strategy was to qualitatively analyze, by coding and re-coding, the written, taught, and tested curriculums for alignment according to English’s model of curriculum alignment. It describes the extent in which the content of the written, taught and tested curriculums are linked and interrelated to each other (English & Steffy, 2001) (Appendix C). Three documents were analyzed: the SLOs from 2009-2010 course syllabi (i.e., written curriculum), four final examinations (i.e., taught curriculum) and the 2010 NCLEX-RN Test Plan performance data (i.e., tested curriculum). For this study, alignment was operationally defined as: (1) the extent in which the written and taught curriculums were within range of the NCLEX-RN Test Plan, and (2) the extent in which the tested curriculum exceeded the minimal passing performance benchmarks of the NCLEX-RN Test Plan (English & Steffy, 2001; National Council Of State Boards Of Nursing [NCSBN], 2010, p. 1). The 2010 NCLEX-RN Test Plan “provides a concise summary of the content and scope of the licensing examination and serves as a guide for examination development as well as candidate preparation” (NCSBN, 2010, p. 1). The test plan is based on the Client Needs Framework in which a percentage of test items are assigned to each of the eight categories. Within each category are anywhere from six to 18 subcategories (Appendix E). All content categories and subcategories reflect client
needs across the life span in a variety of settings. The main six categories and their percentage range of test items are listed below (NCSBN, 2010):

1. Management of care: 16-22%
2. Safety and infection control: 8-14%
3. Health promotion and maintenance: 6-12%
4. Psychosocial integrity: 6-12%
5. Basic care and comfort: 6-12%
6. Pharmacological and parenteral therapies: 13-19%
7. Reduction of risk potential: 10-16%
8. Physiological adaptation: 11-17%

Thus, the SLOs, the final exam items and the NCLEX performance reports were analyzed and compared to each of the eight categories and their subcategories, and then to the percentage of test plan items assigned in the NCLEX Test Plan (NCSBN, 2009).

The Written Curriculum

Sacramento City College Associate Degree Nursing (SCC-ADN) program is four semesters in length. Each semester contains a core nursing course with its own set of SLOs. The total number of SLOs for each semester is as follows: first semester – 207; second semester – 367; third semester – 463; and fourth – 216, with a total of 1,253 SLOs for the entire nursing program. Each SLO was qualitatively analyzed, coded and re-coded, until emergent themes were generated. The themes were then compared to the eight categories and their numerous subcategories (Appendix E). The percent breakdown of the SLOs for the entire program, in respect to the eight overall categories mentioned in
the NCLEX Test Plan is as follows: Management: 15%; Safety and Infection Control: 3%; Health Promotion and Maintenance: 14%; Psychosocial Integrity: 16%; Basic Care and Comfort: 2%; Pharmacological and Parenteral therapies: 12%; Reduction of Risk Potential: 11%; and Physiological Adaptation: 27% (Table 2). Only one category, Reduction of Risk Potential was within range of the test plan. Three that were above the ranges were Physiological Adaptation (+10), Psychosocial Integrity (+4) and Health Promotion and Maintenance (+2). Lastly, those four that were below the ranges of the test plan were Management of Care (-1), Pharmacological and Parenteral Therapies (-1), Basic Care and Comfort (-4) and Safety and Infection Control (-6) (Table 2).

Data analyses revealed that the written curriculum possessed half of its SLOs within or above the NCLEX Test Plan ranges – an accumulative percent point difference of (+) 16 points. The other half of the SLOs were below the test plan ranges – an accumulative percent point difference of (-) 12 points. Overall, the majority of SLOs mildly exceeded, rather than fell below, the NCLEX test plan – a net gain of (+) 4 percent points (Table 2).

The Taught Curriculum

The second phase coded-recoded and analyzed four comprehensive final exams, one exam from each of the four semesters of the SCC nursing program (i.e., taught curriculum). Specific themes from these test items were generated and then compared to the eight categories and their numerous subcategories (Appendix E). The percentage breakdown of the test items for the entire program, in respect to the eight overall categories, was compared to the NCLEX-RN Test Plan (NCSBN, 2010) (Table 3). Each
semester had 100 item final exams, with the exception of fourth semester, which had 60. The total number of final exam items for the program was 360. The percentage breakdown of the test items for the entire program, in respect to the eight categories mentioned in the NCLEX Test Plan is as follows: Management of Care: 11%; Safety and Infection Control: 1%; Health Promotion and Maintenance: 6%; Psychosocial Integrity: 9%; Basic Care and Comfort: 4%; Pharmacological and Parenteral therapies: 18%; Reduction of Risk Potential: 31%; and Physiological Adaptation: 19% (Table 3). Three categories were within the ranges of the test plan: Health Promotion and Maintenance, Pharmacological and Parenteral Therapies and Psychosocial Integrity. Only two were above: Reduction of Risk Potential (+15) and Physiological Adaptation (+2). Lastly, three were below: Basic Care and Comfort (-2), Management of Care (-6), and Safety and Infection Control (-7) (Table 3).

Data analyses revealed that the taught curriculum possessed over half (5 out of 8) of its final exam items within or above the NCLEX Test Plan ranges – an accumulative percent point difference of (+) 17 points. The other half of the test items were below the test plan ranges – an accumulative percent point difference of (-) 15 points. Overall, the majority of test items slightly exceeded, rather than fell below, the NCLEX test plan – a net gain of (+) 2 percent points (Table 3).
<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>2010 NCLEX-RN® Test Plan</th>
<th>Percent Range</th>
<th>Point Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological Adaptation</td>
<td>348</td>
<td>27</td>
<td>11-17</td>
<td>+10</td>
<td></td>
</tr>
<tr>
<td>Psychosocial Integrity</td>
<td>205</td>
<td>16</td>
<td>6-12</td>
<td>+4</td>
<td></td>
</tr>
<tr>
<td>Health Promotion and Maintenance</td>
<td>170</td>
<td>14</td>
<td>6-12</td>
<td>+2</td>
<td></td>
</tr>
<tr>
<td>Reduction of Risk Potential</td>
<td>132</td>
<td>11</td>
<td>10-16</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Management of Care</td>
<td>191</td>
<td>15</td>
<td>16-22</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>Pharmacological and Parenteral Therapies</td>
<td>145</td>
<td>12</td>
<td>13-19</td>
<td>-1</td>
<td></td>
</tr>
<tr>
<td>Basic Care and Comfort</td>
<td>29</td>
<td>2</td>
<td>6-12</td>
<td>-4</td>
<td></td>
</tr>
<tr>
<td>Safety and Infection Control</td>
<td>33</td>
<td>2</td>
<td>8-14</td>
<td>-6</td>
<td></td>
</tr>
</tbody>
</table>

Note: (0) = within range, (+) = above range, (-) = below range
Table 3
Comparison of Final Exam Items (“Taught Curriculum”) (N=360) and the 2010 NCLEX-RN® Test Plan (NCSBN, 2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Test Plan Percent</th>
<th>Point Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction of Risk Potential</td>
<td>110</td>
<td>31</td>
<td>10-16</td>
<td>+15</td>
</tr>
<tr>
<td>Physiological Adaptation</td>
<td>69</td>
<td>19</td>
<td>11-17</td>
<td>+2</td>
</tr>
<tr>
<td>Pharmacological and Parenteral Therapies</td>
<td>64</td>
<td>17</td>
<td>13-19</td>
<td>0</td>
</tr>
<tr>
<td>Psychosocial Integrity</td>
<td>34</td>
<td>9</td>
<td>6-12</td>
<td>0</td>
</tr>
<tr>
<td>Health Promotion and Maintenance</td>
<td>27</td>
<td>6</td>
<td>6-12</td>
<td>0</td>
</tr>
<tr>
<td>Basic Care and Comfort</td>
<td>14</td>
<td>4</td>
<td>6-12</td>
<td>-2</td>
</tr>
<tr>
<td>Management of Care</td>
<td>38</td>
<td>10</td>
<td>16-22</td>
<td>-6</td>
</tr>
<tr>
<td>Safety and Infection Control</td>
<td>4</td>
<td>1</td>
<td>8-14</td>
<td>-7</td>
</tr>
</tbody>
</table>

Note: (0) = within range, (+) = above range, (-) = below range
The third phase analyzes the NCLEX-RN Test Plan performance data (i.e., the “tested” curriculum) of April to September 2010. These are the graduates from SCC-ADN program’s academic year of 2009-2010. The performance data do not differentiate between graduates from the three different tracks. The NCLEX-RN performance data contains test performance in the NCLEX-RN Test Plan Report (NCSBN, 2010). The report presents information on SCC’s graduates’ first time performance on the NCLEX-RN exam, in the context of the content breakdown specified in the 2010 NCLEX-RN Test Plan (NCSBN, 2010) (Table 4). Thus, test plan performance is the expected percentage of all possible questions that are administered in a given category that are answered correctly by a typical (i.e., median) graduate of SCC (NCSBN, 2010, p. 6.4). For example, when a SCC graduate performs at 67% in Management of Care, it means that 67% of all possible questions that was administered in the Management of Care content were answered correctly by the typical SCC graduate. Along with the test plan performance percentage, a benchmark called passing percentage is also given. Passing performance is the expected percentage correct of all possible questions that are administered in a given category that would be achieved by a candidate with a competence level precisely at the minimum passing standard. For example, when the graduate has a test plan performance score of 67% and a passing performance score of 55% in the Management of Care category, it means that the graduate exceeded the competence level benchmark of the minimal passing performance score of 55% in that category by 12% points. The NCLEX-RN reports provide benchmarks to analyze and
guide curriculum evaluation and discussion for the study. The test plan performance percentages with their associated passing performance benchmark percentages, based on the eight overall categories of the NCLEX Test Plan are as follows: management of care: 66% (51%); safety and infection control: 59% (50%); health promotion and maintenance: 53% (51%); psychosocial integrity: 62% (51%); basic care and comfort: 63% (51%); pharmacological and parenteral therapies: 66% (51%); reduction of risk potential: 65% (50%); and physiological adaptation: 66% (51%) (NCSBN, 2010) (Table 5). All test plan performance percentages exceeded passing performance benchmarks. Categories are listed in descending order of percent point difference: physiological adaptation (+15), pharmacological and parenteral therapies (+15), reduction of risk potential (+15), basic care and comfort (+12), management of care (+12), psychosocial integrity (+11), safety and infection control (+9), and health promotion and maintenance (+2) (Table 4).

Data analyses revealed that the entire tested curriculum, the SCC graduates’ test performance percentages, distinctively exceeded the passing performance benchmark percentages, with an accumulative percent point difference of (+) 91 points. The percent point differences ranged from (+) 15 points in each of the top three categories to (+) 2 points in “Health Promotion and Maintenance” category (Table 4).
Table 4

Comparison of SCC Graduate Performance ("Tested Curriculum") with Passing Performance Benchmarks in the Test Plan Performance Report (NCSBN, 2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>SCC Graduates’ Percent</th>
<th>Passing Performance Percent</th>
<th>Percent Point Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiological Adaptation</td>
<td>66</td>
<td>51</td>
<td>+15</td>
</tr>
<tr>
<td>Pharmacological and Parenteral</td>
<td>66</td>
<td>51</td>
<td>+15</td>
</tr>
<tr>
<td>Therapies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction of Risk Potential</td>
<td>65</td>
<td>50</td>
<td>+15</td>
</tr>
<tr>
<td>Basic Care and Comfort</td>
<td>63</td>
<td>51</td>
<td>+12</td>
</tr>
<tr>
<td>Management Of Care</td>
<td>62</td>
<td>50</td>
<td>+12</td>
</tr>
<tr>
<td>Psychosocial Integrity</td>
<td>62</td>
<td>51</td>
<td>+11</td>
</tr>
<tr>
<td>Safety and Infection Control</td>
<td>59</td>
<td>50</td>
<td>+9</td>
</tr>
<tr>
<td>Health Promotion and Maintenance</td>
<td>53</td>
<td>51</td>
<td>+2</td>
</tr>
</tbody>
</table>

Note: (0) = within range, (+) = above range, (-) = below range
Alignment Trends

The fourth phase compared the written, taught and tested curriculum, using English’s model of curriculum alignment (Appendix C) (English & Steffy, 2001). Analysis from a broader perspective included: (1) the comparison of the written (i.e., SLOs), and the taught curriculums (i.e., comprehensive final exams) with the NCLEX-RN Test Plan; and (2) the tested curriculum (NCLEX-RN performance data) with the passing performance benchmarks (NCSBN, 2010). For this study, alignment is operationally defined as: the extent in which the written and taught curriculums are within range of the NCLEX-RN Test Plan and the extent the tested curriculum exceeds the minimal passing performance benchmarks of the NCLEX-RN Test Plan (English & Steffy, 2001; NCSBN, 2010, p. 1). The process answered the research question: “to what extent do the written, taught and tested curriculums align or link with one another and the NCLEX-RN?” (English & Steffy, 2001). Each category was ranked from most aligned to least aligned using the following criteria: the closer the SLOs (written curriculum) and the final exam items (taught curriculum) fell within range of the test plan range and the greater the NCLEX test plan performance (tested curriculum) exceeded the minimal passing performance benchmark, the more aligned the written, tested and taught curriculums were in that category. Conversely, the farther the SLOs and the final exam items fell away from the test plan ranges and the closer the test plan performance (tested curriculum) was to the minimal passing performance benchmark, the least aligned were the curriculums for that category. The percentage point differences for the SLOs, final exam items and the test plan performance were added and the net total was calculated.
The most aligned category had the highest net total, while the least aligned had the lowest net total. If two or more categories had the same net total, the category that had more points above the range took priority over the category that had more points below the range. The following categories and their net points are listed in the order of most aligned to least aligned: reduction of risk potential (+30); physiological adaptation (+27); psychosocial integrity (+15); pharmacological and parental therapies (+14); basic care and comfort (+6); management of care (+5); health promotion and maintenance (+4); and safety and infection control (-3) (Table 5).

Data analyses revealed that alignment trends favored those categories in which the written and taught curriculums either exceeded or were in range of the NCLEX test plan, and the tested curriculum exceeded the passing performance benchmarks. Those curriculums which either exceeded or were within range had a high net percent point difference. These ranged from (+) 30 percent points in “Reduction of risk potential” to (+) 4 in “Health Promotion and Maintenance.” The only category in which the curriculums fell short was “Safety and infection control.” In this category, both the written and taught curriculums were below the test plan range, and the tested curriculum was the second to the lowest when compared to the passing performance benchmark percentage (Table 5).

Thus, the written, taught and tested curriculums were found to be aligned with seven out of eight categories of the NCLEX-RN test plan, some to a greater extent than others. The only category in which the curriculums were not aligned was in “Safety and Infection Control” (Table 5).
Table 5

Comparison of Percent Point Differences of SLO, Final Exam Items and the NCLEX Test Plan Performance Report (NCSBN, 2010)

<table>
<thead>
<tr>
<th>Category</th>
<th>SLOs (“Written Curriculum”)</th>
<th>Final Exam Items (“Taught Curriculum”)</th>
<th>Test Plan Performance Report (“Tested Curriculum”)</th>
<th>Net Percent Point Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction of Risk Potential</td>
<td>0</td>
<td>+15</td>
<td>+15</td>
<td>+30</td>
</tr>
<tr>
<td>Physiological Adaptation</td>
<td>+10</td>
<td>+2</td>
<td>+15</td>
<td>+27</td>
</tr>
<tr>
<td>Psychosocial Integrity</td>
<td>+4</td>
<td>0</td>
<td>+11</td>
<td>+15</td>
</tr>
<tr>
<td>Pharmacological &amp; Parenteral Therapies</td>
<td>-1</td>
<td>0</td>
<td>+15</td>
<td>+14</td>
</tr>
<tr>
<td>Basic Care and Comfort</td>
<td>-4</td>
<td>-2</td>
<td>+12</td>
<td>+6</td>
</tr>
<tr>
<td>Management of Care</td>
<td>-1</td>
<td>-6</td>
<td>+12</td>
<td>+5</td>
</tr>
<tr>
<td>Health Promotion and Maintenance</td>
<td>+2</td>
<td>0</td>
<td>+2</td>
<td>+4</td>
</tr>
<tr>
<td>Safety and Infection Control</td>
<td>-6</td>
<td>-7</td>
<td>+9</td>
<td>-3</td>
</tr>
</tbody>
</table>

Note: (0) = within range, (+) = above range, (-) = below range
Research Question 1B: What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?

Part of the faculty survey sought to investigate the factors that influenced faculty choosing course content and exam items in respect to the NCLEX-RN. This portion quantitatively analyzed a total of five questions. The first four questions each had three to four subsets and four categories in Likert-scale form. The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” and the highest, “4.” The mean responses are given in descending order, from the greatest mean to least (Table 6). One-sample t-tests were used to determine whether the differences between the mean and the test value (2.5) were significant. Level of probability was set for p < .05. The last question asked the participant to choose one of two options, so the total number of responses is given in descending order, from greatest to least (Table 6). This portion of the faculty survey is the same tool Brown (2002) and Parsons (2008) used in their studies on curriculum alignment. It was used by permission of the authors.

In the first subset, the means of “The methods used to plan the semester’s curriculum coverage” as perceived by the faculty ranged from 3.27 (SD = .47) for “Students past performance on exams” to 3.0 (SD = .78) for “Current nursing literature.” One-sample t-tests were used to determine whether the differences between the means were significant. Only “Students” past performance on exams” and “Knowledge of NCLEX coverage” were statistically significant (Table 6).

In the second subset, the means of influences that affect choosing items for exams ranged from 3.64 (SD = .51) for “Test analysis indicates reliable items from previous
years” to 2.82 (SD = .75) “Team meetings and decisions.” T-tests revealed only the first
two means “Test analysis indicates reliable items from previous years” and “Test blue
prints indicating the number of items for each lecture” were significant (Table 6).

For the third subset, the means of factors that influence changes to course content
ranged from 3.45 (SD = .69) for “Current nursing literature” to 2.91 (SD = .83) “Student
evaluations.” T-tests indicated that only the first three, “Current nursing literature,”
“Textbook changes,” and “NCLEX performance data from most recent cohorts” were
statistically significant (Table 6).

In the last subset, the means of the frequency of changes to the following items in
the course syllabus over the last three years ranged from 3.55 (SD = .52) for “Time spent
for lectures on various topics” to 2.64 (SD = 1.12) for “Major content covered.” Only the
first highest mean, “Time spent for lectures on various topics” was statistically
significant (Table 6).

Data analyses revealed that faculty depended more on students’ past performance
on exams and NCLEX coverage than their textbooks and current nursing literature. They
also depended more on past test analysis and test blue prints of lecture, more than team
meetings. However, faculty stated that current nursing literature and textbook changes
were influential factors affecting changes to course content. This was contradictory to
the first set of responses, in which faculty stated they did not primarily rely on these two
to plan curriculum. Only the use of NCLEX performance data was consistently applied
to both planning curriculum and influencing changes to course content. Lastly, more
changes were made to time spent on lectures, than grading, textbook and major content covered.

In sum, faculty used more test-related materials (i.e., NCLEX plan, item analysis and test blue prints) more than non-test-related materials (i.e., textbooks, current nursing literature team meetings, and student evaluations) to plan course material.

Table 6

Mean Ratings and T-tests of the Factors That Influence Faculty in Choosing Course Content and Exam Items in Respect to the NCLEX-RN - by Faculty (N=11)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please indicate how much each of the following methods is used by you to plan your semester’s curriculum coverage.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ past performance on exams</td>
<td>3.27</td>
<td>.47</td>
<td>.000</td>
</tr>
<tr>
<td>Knowledge of NCLEX coverage</td>
<td>3.18</td>
<td>.41</td>
<td>.000</td>
</tr>
<tr>
<td>Textbook outline</td>
<td>3.0</td>
<td>1.27</td>
<td>.219</td>
</tr>
<tr>
<td>Current nursing literature</td>
<td>3.0</td>
<td>.78</td>
<td>.058</td>
</tr>
<tr>
<td>How influential are the following when you choose items to put on student exams?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test analysis indicates reliable items from previous years</td>
<td>3.64</td>
<td>.51</td>
<td>.000</td>
</tr>
<tr>
<td>Test blue prints indicating the number of items for each lecture</td>
<td>3.36</td>
<td>.81</td>
<td>.005</td>
</tr>
<tr>
<td>Team meetings and decisions</td>
<td>2.82</td>
<td>.75</td>
<td>.190</td>
</tr>
<tr>
<td>Subset</td>
<td>$M$</td>
<td>$SD$</td>
<td>$p^*$</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>How much do the following factors influence any changes you have made to the course content covered in your class?</td>
<td>$M3$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current nursing literature</td>
<td>3.45</td>
<td>.69</td>
<td>.001</td>
</tr>
<tr>
<td>Textbook changes</td>
<td>3.36</td>
<td>.92</td>
<td>.011</td>
</tr>
<tr>
<td>NCLEX performance data from most recent cohorts</td>
<td>3.36</td>
<td>.92</td>
<td>.011</td>
</tr>
<tr>
<td>Student evaluations</td>
<td>2.91</td>
<td>.83</td>
<td>.134</td>
</tr>
<tr>
<td>How often have you made changes to the following items in your course syllabus over the last three years?</td>
<td>$M4$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time spent for lectures on various topics</td>
<td>3.55</td>
<td>.52</td>
<td>.000</td>
</tr>
<tr>
<td>Grading policies</td>
<td>3.00</td>
<td>.89</td>
<td>.093</td>
</tr>
<tr>
<td>Textbook required</td>
<td>2.73</td>
<td>1.19</td>
<td>.541</td>
</tr>
<tr>
<td>Major content covered</td>
<td>2.64</td>
<td>1.12</td>
<td>.695</td>
</tr>
</tbody>
</table>

Note: Means ($M$) were calculated from a four-point response set:

$M1$ 1=Not at all, 2=Sometimes, 3=Most of the time, 4=Always

$M2$ 1=Not at all, 2=Somewhat influential, 3=Influential, 4=Decisive

$M3$ 1=Not at all, 2=Somewhat influential, 3=Influential, 4=Decisive

$M4$ 1=Not at all, 2=Once, 3=Twice, 4=Three or more times

*Test value = 2.5; significant at $p < .05$

Lastly, univariate descriptive statistics for the qualitative variables (frequencies and percentages) were used to illustrate the distribution of responses for the subset “Frameworks which align most closely with the faculty’s course.” The responses were almost evenly divided, with some respondents choosing more than one framework:
61.5% chose the “Client Needs” framework, while 38.5% chose the “Human Alterations” (Table 7).

Data analyses revealed that even though the survey question’s choices were intended to be mutually exclusive, faculty chose more than one response. The question was either unclear or the faculty were unclear as to what frameworks were utilized by the NCLEX or by their program (Table 7).

**Table 7**

Frequency of the Factors That Influence Faculty in Choosing Course Content and Exam Items in Respect to the NCLEX-RN - by Faculty (N=11)

<table>
<thead>
<tr>
<th>Subset</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NCLEX-RN presents several frameworks for organizing nursing education content. Which of the two frameworks outlined below aligns most closely with your course?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client Needs</td>
<td>8</td>
<td>61.5%</td>
</tr>
<tr>
<td>Human Alterations</td>
<td>5</td>
<td>38.5%</td>
</tr>
</tbody>
</table>

*Research Question 1C: What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?*

The research question was offered to the faculty as an open-ended question, while it was offered to the graduates as a question with 13 subsets and four categories in Likert-scale form. The 13 subsets differed from the faculty’s open-ended question, as it was thought that the graduates may not have understood the meaning of the “processes faculty
utilize to ensure that their teaching is aligned to the NCLEX-RN standards.” The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” (Not effective at all) and the highest, “4” (Very Effective). Qualitative analysis was performed on the faculty responses. Coding-recoding procedures were done by hand until specific themes emerged. The frequency of themes was then listed in descending order from the most frequent to the least. Quantitative analysis was done on the graduate responses. The mean responses were given in descending order from the greatest mean to least. One-sample t-tests were used to determine whether the differences between the means and the test value (2.5) were significant within the graduate group. Level of probability was set at $p < .05$. Faculty qualitative data and graduate quantitative data were then compared (Table 8).

For the faculty group, two dominant categories on “The processes faculty use to ensure their teaching is aligned to the NCLEX-RN standards” emerged. They ranged from 56.7% % for “NCLEX -related” to 40% % for “Program-related.” For the NCLEX category, 17 subcategories ranged from “NCLEX test plan” (7 items) to “NCLEX reports are infrequently checked and only done by individual faculty” (1 item). The next dominant category was “Program-centered.” Twelve subcategories ranged from “Curriculum and instruction” (6 items) to “Socratic questioning” (1 item). One out-liar was noted to be “Have critical-thinking exercises” (1 item) (Table 8).

For the graduate group, the means of “The processes faculty use to ensure their teaching is aligned to the NCLEX-RN standards” ranged from 3.21 ($SD = .70$) for “Relies on current nursing practice” to 2.53 ($SD = .91$) for “Relies on test blue prints indicating
the number of items for each lecture.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at \( p < .05 \). When SPSS reports a \( p \) value of .000, \( p < .01 \) (Green & Salkind, 2008). Nine out of 13 subsets were statistically significant (Table 8).

Comparing faculty’s emergent themes to the graduates’ means revealed that the faculty’s dominant category, “NCLEX-related” associated with the graduates’ second highest rated subset, “Relies on current NCLEX test plan,” which had a mean of 3.17, \( SD \) of .73 and a \( p = .000 \). This was significant even at the \( p < .01 \) level. However, the graduates’ highest rated subset, “Relies on current nursing practice” (\( M = 3.21; SD=.70; p=.000 \)) was not associated with any emergent themes from the faculty group. Conversely, the faculty’s second dominant theme, “Program-related” did not associate with any of the subsets in the graduate group. Only one out-liar, “Have critical thinking exercises” (1 item) associated with the graduates’ subset of “Relies on case studies in class” which rated ninth out of 13 subsets, even though it was statistically significant (\( p=.003 \)) (Table 8).

Data analyses revealed that both the faculty and the graduates felt that inclusion of the NCLEX test plan played a critical role in ensuring the teaching was aligned with NCLEX standards. This theme was the graduates’ second to the highest ranked subset. Additionally, the faculty, in exclusion of the graduates, felt that curriculum and instruction also played an important role. No other emergent themes by the faculty overlapped with the graduates’ responses, except critical thinking exercises (1 item) and case studies (ranked 9/13), respectively. The top graduate response was “Relies on
current nursing practice.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t(81) = 8.94$, $p = .000$. The effect size $d$ of 1.02 indicated a large effect. The 95% confidence interval for the subset ranged from 3.05 to 3.37, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that graduates felt that faculty relied on current nursing practice the most, rather than the NCLEX test plan, when ensuring the faculty’s teaching was aligned to the NCLEX standards (Table 8).

Table 8
Ratings and Comparison of the Processes the Faculty Utilize to Ensure Their Teaching is Aligned to the NCLEX-RN Standards – Emergent Themes by Faculty (N=11) and Means and T-tests by Graduates (N=82)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Emergent Categories and Subcategories</th>
<th>Frequency</th>
<th>Percent</th>
<th>Graduate</th>
<th>Subset</th>
<th>$M$</th>
<th>$SD$</th>
<th>$p^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCLEX-related</td>
<td>Relies on Current Nursing Practice</td>
<td>3.21</td>
<td>.70</td>
<td>Relies on Current NCLEX Test Plan</td>
<td>3.17</td>
<td>.73</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>NCLEX Test Plan (7)</td>
<td>Read NCLEX standards and test categories (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check NCLEX passing rates with program grades (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ratings and Comparison of the Processes the Faculty Utilize to Ensure Their Teaching is Aligned to the NCLEX-RN Standards – Emergent Themes by Faculty (N=11) and Means and T-tests by Graduates (N=82)
<table>
<thead>
<tr>
<th>Faculty Emergent Categories and Subcategories</th>
<th>Frequency</th>
<th>Percent</th>
<th>Subset</th>
<th>$M$</th>
<th>$SD$</th>
<th>$p^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCLEX-related</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Align SLOs and exam content to NCLEX standards (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not done</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>consistently (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCLEX reports are infrequently checked and only done by individual faculty (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Hospital Protocols</td>
<td>3.11</td>
<td>.78</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Students’ Clinical Experiences</td>
<td>3.01</td>
<td>.78</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Current Nursing Literature</td>
<td>2.94</td>
<td>.80</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Test Item Analysis</td>
<td>2.82</td>
<td>.89</td>
<td>.061</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Textbook Outline</td>
<td>2.72</td>
<td>.78</td>
<td>.014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Emergent Categories and Subcategories</td>
<td>Frequency</td>
<td>Percent</td>
<td>Graduate Subset</td>
<td>M</td>
<td>SD</td>
<td>p*</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------</td>
<td>---------</td>
<td>-----------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Have critical thinking exercises</td>
<td>1</td>
<td>3.3</td>
<td>Relies on Case</td>
<td>2.70</td>
<td>.85</td>
<td>.003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Relies in Post-Conferences</td>
<td>2.68</td>
<td>.77</td>
<td>.048</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Relies on Students’ Past Performance on Exams</td>
<td>2.64</td>
<td>.88</td>
<td>.172</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Relies on Mind Mapping in Class</td>
<td>2.60</td>
<td>.89</td>
<td>.329</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Relies on Test Blue Prints Indicating the # of Items for Each Lecture</td>
<td>2.53</td>
<td>.91</td>
<td>.750</td>
</tr>
<tr>
<td>Program-related</td>
<td>12</td>
<td>40.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum and Instruction (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Meetings (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use NCLEX predictor exam (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Emergent Categories and Subcategories</td>
<td>Frequency</td>
<td>Percent</td>
<td>Subset</td>
<td>Graduate</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------</td>
<td>---------</td>
<td>--------</td>
<td>----------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Use NCLEX predictor exam (1)</td>
<td></td>
<td></td>
<td>M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check Evolve standards with program tests (1)</td>
<td></td>
<td></td>
<td></td>
<td>Check BRN standards of competence (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to review and evaluate curriculum and changes when necessary (1)</td>
<td></td>
<td></td>
<td></td>
<td>Socratic questioning (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Means and SDs were calculated from a four-point response set: 1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

*Test value = 2.5; significant at p < .05

In sum, for the processes faculty used to ensure that their teaching is aligned to NCLEX standards, the faculty’s emergent themes ranged from predominantly NCLEX-related items to program-related curriculum and instruction. Critically thinking was mentioned one time. Comparatively, the graduates’ top five ranked subsets were the following in descending order: the processes relied on current nursing practice, current
NCLEX test plan, hospital protocols, clinical experiences, and current nursing literature (Table 8).

Research Question 2A: What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?

The research question was offered to the faculty as an open-ended question and as a question with 7 subsets and four categories in Likert-scale form. The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” (Not effective at all) and the highest, “4” (Very effective). The research question was offered to the graduates as a questionnaire with nine subsets and four categories in Likert-scale form. The nine subsets differed from the faculty’s, as it was thought that the graduates may not have understood the meaning of “cultural and organizational norms.” The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” and the highest, “4.” These categories were the same as the faculty’s. Qualitative analysis was performed on the faculty responses. Coding-recoding procedures were done by hand, until specific themes emerged. The frequency of themes was then listed in descending order, from the most frequent to the least (Table 9). Quantitative analysis was done on both the faculty and graduate responses. The mean responses were given in descending order, from the greatest mean to least. One-sample t-tests were used to determine whether the differences between the means and the test value (2.5) were significant within each group. Level of probability was set at $p < .05$. Faculty and graduate data were demonstrated in Table 10 and 11, respectively.
For the faculty group, five dominant categories on “Cultural and organizational norms that facilitate the SCC nursing program’s efforts to produce successful graduates” emerged. They ranged from 41.9 % for “Curriculum” to 4.7% for “Instruction.” The majority of subcategories related to the “Curriculum” ranged from “Rigor and cohesive” (16 items) to “Attrition” (2 items). One faculty member summed up the dominant theme of “Rigor and cohesive” as, “a strong commitment to excellence.” The next dominant category was “Student-centered” (20.9%). Its lone subcategory was specifically “Student success and respect” (9 items) and was summarized aptly as “recognizing achievement fosters learning” by one faculty. “Faculty-centered” came up third (18.6%), which had its theme, as “Collaboration” (8 items). This particular subcategory was described as “team culture is vital to our functioning and student success” by one member. “Faculty and student relationships” and “Instruction” came in fourth and last, respectively. Faculty and student relationships were described as “Positive interaction” (6 items). “Instruction” was mentioned as “Content enhancement” (2 items) (Table 9).

Data analyses revealed that the quality of the curriculum was the most dominant theme of cultural and organizational norms. It appeared that the faculty prided themselves in having high academic rigor coupled with high NCLEX pass rates. Student success, faculty collaborative efforts, positive faculty-student relationships and “content enhancement” all gathered steam in producing accepted norms in this institution.
Table 9

Emergent Themes of Cultural and Organizational Norms that Facilitate the SCC Nursing Program’s Efforts to Produce Successful Graduates - by Faculty (N=11)

<table>
<thead>
<tr>
<th>Emergent Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>18</td>
<td>41.9</td>
<td>Rigor and Cohesive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hold high academic standards in theory and clinical (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Immediate feedback on computerized exams (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>On-line course management system (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Program leveled and evaluated for consistency (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Integration of theory into clinical practice (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High commitment of continual improvement (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Curriculum committee is an organizational norm that strives for a cohesive and leveled program” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“A tradition of high NCLEX passing rates is a source of pride for faculty” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“A strong commitment to excellence” (1)</td>
</tr>
<tr>
<td>Attrition</td>
<td></td>
<td></td>
<td>High academic rigor “has been threatened by fear of increased attrition”(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Increasing attrition – must re-exam variables (admission criteria, fast-paced program, demanding curriculum, methods of evaluation, socio-economic level of community college students, differing testing policies [question level, retention based on test analyses]). (1)</td>
</tr>
<tr>
<td>Emergent Category</td>
<td>Frequency</td>
<td>Percent</td>
<td>Subcategories</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
<td>---------------</td>
</tr>
<tr>
<td>Student-centered</td>
<td>9</td>
<td>20.9</td>
<td>Student Success and Respect</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Encourage critical thinking skills (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Value every person (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recognition of past learning (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Recognition of various ways of learning (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Respect for diversity (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High commitment to student success (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Recognizing achievement fosters learning” (1)</td>
</tr>
<tr>
<td>Faculty-centered</td>
<td>8</td>
<td>18.6</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cohesive, mutual trust and respect, commitment and communication (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consistent faculty and team meetings (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Team culture is vital to our functioning and student success” (1)</td>
</tr>
<tr>
<td>Faculty and student relationships</td>
<td>6</td>
<td>13.9</td>
<td>Positive interaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tutoring, coaching and one-to-one counseling (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Open access policy (1)</td>
</tr>
<tr>
<td>Instruction</td>
<td>2</td>
<td>4.7</td>
<td>Content Enhancement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>On-line exams and faculty-created case studies (2)</td>
</tr>
</tbody>
</table>

For the faculty group, the means of “The cultural and organizational norms that facilitate the SCC nursing program’s efforts to produce successful graduates ranged from 3.36 (SD = .81) for “Deep concerns for students” to 2.5 (SD =1.03) for “Shared decision-making.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Only the top three subsets were statistically significant (Table 10).
The top faculty response was “Deep concerns for students.” With alpha set at .05, the one-sample *t* test was significantly different from 2.5, \( t (10) = 3.54, p = .005 \). The effect size *d* of 1.07 indicated a large effect. The 95% confidence interval for the subset ranged from 2.82 to 3.91, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that faculty felt having deep concerns for students was the top cultural and organizational norm that facilitated SCC’s efforts in producing successful graduates.

Table 10

<table>
<thead>
<tr>
<th>Subset</th>
<th>( M )</th>
<th>SD</th>
<th>( p^* )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Concerns for Students</td>
<td>3.36</td>
<td>.81</td>
<td>.005</td>
</tr>
<tr>
<td>Collaborative Teaching</td>
<td>3.27</td>
<td>.79</td>
<td>.009</td>
</tr>
<tr>
<td>Collegiality</td>
<td>3.09</td>
<td>.70</td>
<td>.019</td>
</tr>
<tr>
<td>Continuous Communication</td>
<td>2.73</td>
<td>.65</td>
<td>.271</td>
</tr>
<tr>
<td>Peer Coaching</td>
<td>2.73</td>
<td>1.10</td>
<td>.510</td>
</tr>
<tr>
<td>Regular and On-going Communication</td>
<td>2.5</td>
<td>.85</td>
<td>1.000</td>
</tr>
<tr>
<td>Shared Decision-making</td>
<td>2.5</td>
<td>1.03</td>
<td>.669</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –

1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective Level of

*Test value = 2.5; Significant at p < .05
For the graduate group, the means of “The cultural and organizational norms that facilitate the SCC nursing program’s efforts to produce successful graduates ranged from 3.49 ($SD = .66$) for “Supportive atmosphere by peers” to 2.92 ($SD = .920$) for “Open door policy by faculty.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). All nine subsets were statistically significant at $p=.000$ (Table 11).

The top graduate response was “Supportive atmosphere by peers.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t (81) = 12.97, p = .000$. The effect size $d$ of 1.49 indicated a large effect. The 95% confidence interval for the subset ranged from 3.34 to 3.64, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that graduates felt having a supportive atmosphere by their peers was the top cultural and organizational norm that facilitated SCC’s efforts in producing successful graduates.

Data analyses revealed that the quality of the curriculum was the most dominant theme of cultural and organizational norms. It appeared that the faculty prided themselves in having high academic rigor coupled with high NCLEX pass rates. Additionally, deep concerns for student success, faculty collaborative efforts, positive faculty-student relationships and “content enhanced” instruction all gathered steam in producing accepted norms in the SCC institution. In contrast, the graduates’ top response was “Supportive Atmosphere by Peers.” The graduate results supported the conclusion that graduates felt having a supportive atmosphere by their peers was foremost.
Table 11

Mean Ratings and T-tests of the Cultural and Organizational Norms that Facilitate the
SCC Nursing Program’s Efforts to Produce Successful Graduates - by Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>$M$</th>
<th>$SD$</th>
<th>$p^*$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive Atmosphere by Peers</td>
<td>3.49</td>
<td>.66</td>
<td>.000</td>
</tr>
<tr>
<td>High Expectations by Students</td>
<td>3.34</td>
<td>.66</td>
<td>.000</td>
</tr>
<tr>
<td>High Academic Rigor in Theory</td>
<td>3.33</td>
<td>.68</td>
<td>.000</td>
</tr>
<tr>
<td>High Academic Rigor in Clinical</td>
<td>3.33</td>
<td>.74</td>
<td>.000</td>
</tr>
<tr>
<td>High Expectations by Faculty</td>
<td>3.22</td>
<td>.76</td>
<td>.000</td>
</tr>
<tr>
<td>Highly Structured Program</td>
<td>3.21</td>
<td>.64</td>
<td>.000</td>
</tr>
<tr>
<td>High Sensitivity to Diversity</td>
<td>3.09</td>
<td>.90</td>
<td>.000</td>
</tr>
<tr>
<td>Supportive Atmosphere by Faculty</td>
<td>3.04</td>
<td>.93</td>
<td>.000</td>
</tr>
<tr>
<td>“Open Door Policy” by Faculty</td>
<td>2.92</td>
<td>.92</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective
*Test value = 2.5; Significant at $p < .05$

In summary, the top faculty emergent theme was a rigorous and cohesive
curriculum and their top three responses ($p < .05$) were deep concerns for students,
collaborative teaching and collegiality. Comparatively, the graduates’ top three ranked
subsets were the following in descending order: supportive atmosphere by peers, high
expectations by students and high academic rigor. “Supportive atmosphere by faculty”
and “Open door policy by faculty” came in second to the last and last, respectively. The common response between the two groups was the curriculum’s high academic rigor (Table 9, 10 and 11).

*Research Question 2B: What programmatic practices does the SCC nursing program employ that increase the success of its diverse / at-risk students?*

The research question was offered to the faculty and graduates as a question with 17 subsets and four categories in Likert-scale form. The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” (Not effective at all) and the highest, “4” (Very effective). Quantitative analysis was done on both the faculty and graduate responses. The mean responses were given in descending order for each group, from the greatest mean to least. One-sample t-tests were used to determine whether the differences between the means and the test value (2.5) were significant within each group. Independent t-tests were used to determine whether the differences between the means were significant between each group. Level of probability was set at $p < .05$. Faculty, graduate and comparison data were offered in Tables 12, 13 and 14, respectively.

For the faculty group, the means of “Programmatic practices that SCC nursing program employs to increase the success of its diverse / at-risk students” ranged from 3.45 ($SD = .82$) for “Dedicated nursing counselor” to 2.36 ($SD = .81$) for “Peer mentoring program.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. 
Only seven out of 17 subsets were statistically significant, notably the top six and the last one (Table 12).

The top faculty response was a “Dedicated Nursing Counselor.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t (10) = 3.86, p = .003$.

The effect size $d$ of 1.16 indicated a large effect. The 95% confidence interval for the subset ranged from 2.90 to 4.01, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that faculty felt having a dedicated nursing counselor was the top programmatic practice that SCC employs to increase the success of its diverse / at-risk students.

For the graduate group, the means of “Programmatic practices that SCC nursing program employs to increase the success of its diverse / at-risk students” ranged from 3.05 ($SD = .09$) for “Availability of computer labs” to 2.11 ($SD =1.10$) for “Child care funding support.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Nine subsets out of 17 were statistically significant, notably the top seven and the last two (Table 13).

The top graduate response was an “Availability of computer labs.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t (81) = 6.02, p = .000$.

The effect size $d$ of .699 indicated a medium effect. The 95% confidence interval for the subset ranged from 2.87 to 3.24, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that graduates
felt having in increased availability of computer labs was the top programmatic practice
that SCC employs to increase the success of its diverse / at-risk students.

For both the faculty and graduate groups, independent t-tests were applied to
determine whether the differences between the means of the two groups were significant.
Level of probability was set at $p < .05$. Seven subsets were statistically significant. They
ranged from “Competent skills lab staff” ($p = .010$) to “Dedicated nursing counselor”
($p = .047$). Since the variances for the two groups were different and the sample sizes
were unequal, the $t$ value for unequal variances was reported, thereby, avoiding the
homogeneity-of-variance assumption (Green & Salkind, 2008) (Table 14).

An independent –samples $t$ test was conducted to evaluate the differences
between faculty and graduate perspectives on programmatic practices that SCC employs
to increase the success of its diverse / at-risk students. The subset “Competent skills lab
staff” $t$ test was the most significant, $t (14.08) = 2.96, p = .010$. The faculty ($M = 3.44;
SD = .73$) were vastly different from the graduates ($M = 2.88; SD = .68$). The 95%
confidence level interval for the differences of the means was quite wide, ranging from
2.51 to 3.93.
Table 12

Mean Ratings and T-tests of Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students - by Faculty (N=11)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedicated Nursing Counselor</td>
<td>3.45</td>
<td>.82</td>
<td>.003</td>
</tr>
<tr>
<td>Competent Skills Lab Staff</td>
<td>3.44</td>
<td>.73</td>
<td>.005</td>
</tr>
<tr>
<td>Dedicated Skills Lab</td>
<td>3.36</td>
<td>.81</td>
<td>.005</td>
</tr>
<tr>
<td>Availability of Personal Counselor</td>
<td>3.30</td>
<td>.68</td>
<td>.005</td>
</tr>
<tr>
<td>Student Nursing Association</td>
<td>3.11</td>
<td>.78</td>
<td>.047</td>
</tr>
<tr>
<td>Faculty Tutoring</td>
<td>3.00</td>
<td>.63</td>
<td>.026</td>
</tr>
<tr>
<td>Faculty-led Study Groups</td>
<td>3.00</td>
<td>.82</td>
<td>.085</td>
</tr>
<tr>
<td>Required Orientation Prior to Admission</td>
<td>2.75</td>
<td>.71</td>
<td>.351</td>
</tr>
<tr>
<td>Required Orientation Prior to Enrollment</td>
<td>2.67</td>
<td>1.12</td>
<td>.667</td>
</tr>
<tr>
<td>Availability of Computer Labs</td>
<td>2.64</td>
<td>.92</td>
<td>.635</td>
</tr>
<tr>
<td>Peer Tutoring Program</td>
<td>2.36</td>
<td>.81</td>
<td>.588</td>
</tr>
<tr>
<td>Flexible Hours for Skills Lab</td>
<td>2.27</td>
<td>.79</td>
<td>.360</td>
</tr>
<tr>
<td>Peer Mentoring Program</td>
<td>2.22</td>
<td>.83</td>
<td>.347</td>
</tr>
<tr>
<td>Dedicated Retention Program Specialist</td>
<td>2.00</td>
<td>1.00</td>
<td>.172</td>
</tr>
<tr>
<td>Availability of Short-term Emergency Funds</td>
<td>2.00</td>
<td>.87</td>
<td>.122</td>
</tr>
<tr>
<td>Child Care Funding Support</td>
<td>1.86</td>
<td>.90</td>
<td>.108</td>
</tr>
<tr>
<td>Transportation Support</td>
<td>1.57</td>
<td>.79</td>
<td>.021</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

*Test value = 2.5; Significant at Level at p < .05
Table 13
Mean Ratings and T-tests of Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students - by Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of Computer Labs</td>
<td>3.05</td>
<td>.79</td>
<td>.000</td>
</tr>
<tr>
<td>Dedicated Nurse Counselor</td>
<td>3.04</td>
<td>.91</td>
<td>.000</td>
</tr>
<tr>
<td>Dedicated Skills Lab</td>
<td>2.93</td>
<td>.78</td>
<td>.000</td>
</tr>
<tr>
<td>Required Orientation Prior to Admission</td>
<td>2.90</td>
<td>.93</td>
<td>.001</td>
</tr>
<tr>
<td>Availability of Personal Counselor</td>
<td>2.92</td>
<td>.78</td>
<td>.000</td>
</tr>
<tr>
<td>Competent Skills Lab Staff</td>
<td>2.88</td>
<td>.68</td>
<td>.000</td>
</tr>
<tr>
<td>Required Orientation Prior to Enrollment</td>
<td>2.74</td>
<td>.92</td>
<td>.034</td>
</tr>
<tr>
<td>Flexible Hours for Skills Lab</td>
<td>2.68</td>
<td>.84</td>
<td>.071</td>
</tr>
<tr>
<td>Peer Tutoring</td>
<td>2.67</td>
<td>.97</td>
<td>.145</td>
</tr>
<tr>
<td>Faculty Tutoring</td>
<td>2.63</td>
<td>.87</td>
<td>.207</td>
</tr>
<tr>
<td>Availability of Short-term Emergency Funds</td>
<td>2.62</td>
<td>1.02</td>
<td>.317</td>
</tr>
<tr>
<td>Peer Mentoring</td>
<td>2.45</td>
<td>1.00</td>
<td>.682</td>
</tr>
<tr>
<td>Dedicated Retention Program Specialist</td>
<td>2.39</td>
<td>1.00</td>
<td>.376</td>
</tr>
<tr>
<td>Student Nurses Association</td>
<td>2.39</td>
<td>.98</td>
<td>.334</td>
</tr>
<tr>
<td>Faculty-led Study Groups</td>
<td>2.38</td>
<td>.97</td>
<td>.278</td>
</tr>
<tr>
<td>Transportation Support</td>
<td>2.14</td>
<td>1.05</td>
<td>.008</td>
</tr>
<tr>
<td>Child Care Funding Support</td>
<td>2.11</td>
<td>1.10</td>
<td>.008</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

*Test value = 2.5; Significant at $p < .05$
Table 14

T-Tests for Programmatic Practices that SCC Nursing Program Employs to Increase the Success of its Diverse / At-risk Students – by Faculty (N=11) and Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>Faculty</th>
<th></th>
<th>Graduate</th>
<th></th>
<th>t*</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty Tutoring</td>
<td>3.00</td>
<td>.63</td>
<td>2.63</td>
<td>.87</td>
<td>2.28</td>
<td>.032</td>
</tr>
<tr>
<td>Faculty-led Study Groups</td>
<td>3.00</td>
<td>.82</td>
<td>2.38</td>
<td>.97</td>
<td>2.53</td>
<td>.023</td>
</tr>
<tr>
<td>Dedicated Skills Lab</td>
<td>3.36</td>
<td>.81</td>
<td>2.93</td>
<td>.78</td>
<td>2.34</td>
<td>.031</td>
</tr>
<tr>
<td>Competent Skills Lab Staff</td>
<td>3.44</td>
<td>.73</td>
<td>2.88</td>
<td>.68</td>
<td>2.96</td>
<td>.010</td>
</tr>
<tr>
<td>Flexible Hours for Skills Lab</td>
<td>2.27</td>
<td>.79</td>
<td>2.68</td>
<td>.84</td>
<td>.797</td>
<td>.436</td>
</tr>
<tr>
<td>Availability of Computer Labs</td>
<td>2.64</td>
<td>.92</td>
<td>3.05</td>
<td>.79</td>
<td>.542</td>
<td>.595</td>
</tr>
<tr>
<td>Availability of Personal Counselor</td>
<td>3.30</td>
<td>.68</td>
<td>2.92</td>
<td>.78</td>
<td>2.39</td>
<td>.027</td>
</tr>
<tr>
<td>Child Care Funding Support</td>
<td>1.86</td>
<td>.90</td>
<td>2.11</td>
<td>1.10</td>
<td>.288</td>
<td>.780</td>
</tr>
<tr>
<td>Transportation Support</td>
<td>1.57</td>
<td>.79</td>
<td>2.14</td>
<td>1.05</td>
<td>1.27</td>
<td>.233</td>
</tr>
<tr>
<td>Availability of Short-term</td>
<td>2.00</td>
<td>.87</td>
<td>2.62</td>
<td>1.02</td>
<td>1.53</td>
<td>.151</td>
</tr>
<tr>
<td>Emergency Funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Nursing Counselor</td>
<td>3.45</td>
<td>.82</td>
<td>3.04</td>
<td>1.32</td>
<td>2.12</td>
<td>.047</td>
</tr>
<tr>
<td>Student Nurses Association</td>
<td>3.11</td>
<td>.78</td>
<td>2.39</td>
<td>1.22</td>
<td>2.84</td>
<td>.013</td>
</tr>
<tr>
<td>Required Orientation Prior to Admission</td>
<td>2.75</td>
<td>.71</td>
<td>2.90</td>
<td>1.29</td>
<td>.10</td>
<td>.922</td>
</tr>
<tr>
<td>Required Orientation Prior to Enrollment</td>
<td>2.67</td>
<td>1.12</td>
<td>2.74</td>
<td>1.25</td>
<td>.232</td>
<td>.821</td>
</tr>
<tr>
<td>Peer Mentoring Program</td>
<td>2.22</td>
<td>.83</td>
<td>2.45</td>
<td>1.00</td>
<td>.337</td>
<td>.741</td>
</tr>
</tbody>
</table>
In summary, the top five faculty responses (p < .05) were the following in descending order: dedicated nursing counselor, competent skills lab staff, dedicated skills lab, availability of personal counselor and student nursing association. Comparatively, the graduates’ top five responses (p < .05) were the following in descending order: availability of computer labs, dedicated nurse counselor, dedicated skills lab, required orientation prior to admission and availability of personal counselor. Three out of five commonly ranked responses between the two groups were noted (i.e. the dedicated nurse counselor, dedicated skills lab and availability of personal counselor). However, faculty rated competent skills lab staff and student nursing association high, whereas graduates ranked availability of computer labs and required orientation prior to admission more important. Additionally, the three most significant mean differences (p < .05) between the groups for these subsets were the following in descending order: competent skills lab staff, student nurses association, and faculty-led study groups. Thus, the data suggested

<table>
<thead>
<tr>
<th>Subset</th>
<th>Faculty</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer Tutoring</td>
<td>2.36</td>
<td>.81</td>
</tr>
<tr>
<td></td>
<td>2.67</td>
<td>.97</td>
</tr>
<tr>
<td></td>
<td>.601</td>
<td>.555</td>
</tr>
<tr>
<td>Dedicated Retention Program</td>
<td>2.39</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>2.39</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>.664</td>
<td>.519</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

* t value for unequal variance with a significant at p < .05
that faculty and graduates agreed that having a dedicated nurse counselor and skills lab, and a personal counselor were the main programmatic practices that increased the success of SCC’s diverse / at-risk students. However, faculty highly agreed and graduates sharply disagreed that competent skills lab staff, student nurses association, and faculty-led study groups were helpful in assisting these students to be successful (Table 12, 13 and 14).

*Research Question 2C: How do SCC testing practices affect graduates’ performance on the NCLEX-RN?*

The research question was offered to the faculty and graduates as a question with 11 subsets and four categories in Likert-scale form. The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” (Not effective at all) and the highest, “4” (Very effective). Quantitative analysis was done on both the faculty and graduate responses. The mean responses were given in descending order for each group, from the greatest mean to least. One-sample t-tests were used to determine whether the differences between the means and the test value (2.5) were significant within the each group. Independent t-tests were used to determine whether the differences between the means were significant between each group. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Faculty, graduate and comparison data were offered in Tables 15, 16 and 17 respectively.
For the faculty group, the means of “SCC testing practices that affect graduates’ performance on the NCLEX-RN” ranged from 3.70 ($SD = .68$) for “Computerized testing” to 2.80 ($SD = .63$) for “Nursing success course.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Ten out of 11 subsets were statistically significant, notably all but the last subset (Table 15).

The top faculty response was a “Computerized testing.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t(10) = 5.62$, $p = .000$. The effect size $d$ of 1.70 indicated a large effect. The 95% confidence interval for the subset ranged from 3.22 to 4.18, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that faculty felt having a computerized testing was the top SCC testing practice that affects graduates’ performance on the NCLEX-RN.

For the graduate group, the means of “SCC testing practices that affect graduates’ performance on the NCLEX-RN” ranged from 3.61 ($SD = .57$) for “Immediate scoring and feedback after testing” to 2.80 ($SD = .63$) for “No rounding of final course grade.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Eight out of 11 subsets were statistically significant, notably all but the last three subsets (Table 16).
Table 15
Mean Ratings and T-tests of SCC Testing Practices That Affect Graduates’ Performance on the NCLEX-RN - by Faculty (N=11)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerized Testing</td>
<td>3.70</td>
<td>.68</td>
<td>.000</td>
</tr>
<tr>
<td>High Frequency of Testing During Nursing Courses</td>
<td>3.56</td>
<td>.73</td>
<td>.002</td>
</tr>
<tr>
<td>Timed Testing Similar to NCLEX</td>
<td>3.50</td>
<td>.85</td>
<td>.005</td>
</tr>
<tr>
<td>Viewing One Question at a Time</td>
<td>3.50</td>
<td>.53</td>
<td>.000</td>
</tr>
<tr>
<td>Current Course Passing Grade at 75%</td>
<td>3.45</td>
<td>.52</td>
<td>.000</td>
</tr>
<tr>
<td>Immediate Scoring and Feedback After Testing</td>
<td>3.40</td>
<td>.70</td>
<td>.003</td>
</tr>
<tr>
<td>Inability to Review Previous Test Items During Testing</td>
<td>3.25</td>
<td>.89</td>
<td>.048</td>
</tr>
<tr>
<td>No Rounding of Final Course Grade</td>
<td>3.18</td>
<td>.98</td>
<td>.044</td>
</tr>
<tr>
<td>Final Grade Dependent on Test Scores Only</td>
<td>3.18</td>
<td>.87</td>
<td>.027</td>
</tr>
<tr>
<td>Using Computerized Standardized Testing (e.g. ATI and Evolve)</td>
<td>3.09</td>
<td>.70</td>
<td>.019</td>
</tr>
<tr>
<td>Nursing Success Course</td>
<td>2.80</td>
<td>.63</td>
<td>.300</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective
*Test value = 2.5; Significant at $p < .05$
The top graduate response was an “Immediate scoring and feedback after testing.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t (81) = 16.53$, $p = .000$. The effect size $d$ of 1.94 indicated a large effect. The 95% confidence interval for the subset ranged from 3.48 to 3.75, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that graduates felt having immediate scoring and feedback after testing was the top priority of SCC testing practices that affects their performance on the NCLEX-RN.

For both the faculty and graduate groups, independent t-tests were applied to determine whether the differences between the means of the two groups were significant. Level of probability was set at $p < .05$. Five subsets were statistically significant. They ranged from “Computerized testing” ($p=.009$) to “Viewing one question at a time” ($p=.044$). Since the variances for the two groups were different and the sample sizes were unequal, the $t$ value for unequal variances was reported, thereby, avoiding the homogeneity-of-variance assumption (Green & Salkind, 2008) (Table 17).

An independent –samples $t$ test was conducted to evaluate the differences between faculty and graduate perspectives on testing practices affect graduates’ performance on the NCLEX-RN. The subset “Computerized Testing” $t$ test was the most significant, $t (21.25) = 2.88$, $p = .009$. The faculty ($M = 3.70; SD = .68$) were different from the graduates ($M = 3.19; SD = .82$). The 95% confidence level interval for the differences of the means was wide, ranging from 2.60 to 4.14.
Table 16
Mean Ratings and T-test of SCC Testing Practices That Affect Graduates’ Performance on the NCLEX-RN - by Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate Scoring and Feedback After Testing</td>
<td>3.61</td>
<td>.57</td>
<td>.000</td>
</tr>
<tr>
<td>High Frequency of Testing During Nursing Course</td>
<td>3.35</td>
<td>.72</td>
<td>.000</td>
</tr>
<tr>
<td>Viewing One Question at a Time During Testing</td>
<td>3.24</td>
<td>.85</td>
<td>.000</td>
</tr>
<tr>
<td>Computerized Testing</td>
<td>3.19</td>
<td>.82</td>
<td>.000</td>
</tr>
<tr>
<td>Current Course Passing Grade at 75%</td>
<td>3.19</td>
<td>.85</td>
<td>.000</td>
</tr>
<tr>
<td>Using Computerized Standardized Testing (e.g. ATI and Evolve)</td>
<td>3.17</td>
<td>.81</td>
<td>.000</td>
</tr>
<tr>
<td>Timed Testing Similar to NCLEX</td>
<td>3.03</td>
<td>.82</td>
<td>.000</td>
</tr>
<tr>
<td>Inability to Review Previous Test Items During Testing</td>
<td>2.99</td>
<td>1.01</td>
<td>.000</td>
</tr>
<tr>
<td>Final Grade Dependent on Test Scores Only</td>
<td>2.73</td>
<td>1.00</td>
<td>.054</td>
</tr>
<tr>
<td>Nursing Success Course</td>
<td>2.47</td>
<td>1.00</td>
<td>.801</td>
</tr>
<tr>
<td>No Rounding of Final Course Grade</td>
<td>2.39</td>
<td>1.07</td>
<td>.373</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

*Test value = 2.5; Significant at p < .05
Table 17

T-Tests of SCC Testing Practices That Affect Graduates’ Performance on the NCLEX-RN – by Faculty (N=11) and Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>Faculty</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Computerized Testing</td>
<td>3.70</td>
<td>.68</td>
</tr>
<tr>
<td>Timed Testing Similar to NCLEX</td>
<td>3.50</td>
<td>.85</td>
</tr>
<tr>
<td>Viewing One Question at a Time</td>
<td>3.50</td>
<td>.53</td>
</tr>
<tr>
<td>Inability to Review Previous Test Items During Testing</td>
<td>3.25</td>
<td>.89</td>
</tr>
<tr>
<td>Immediate Scoring and Feedback After Testing</td>
<td>3.40</td>
<td>.70</td>
</tr>
<tr>
<td>High Frequency of Testing During Nursing Courses</td>
<td>3.56</td>
<td>.73</td>
</tr>
<tr>
<td>Nursing Success Course</td>
<td>2.80</td>
<td>.63</td>
</tr>
<tr>
<td>Using Computerized Standardized Testing (e.g. ATI and Evolve)</td>
<td>3.09</td>
<td>.70</td>
</tr>
<tr>
<td>Final Grade Dependent on Test Scores Only</td>
<td>3.18</td>
<td>.87</td>
</tr>
<tr>
<td>No Rounding of Final Course Grade</td>
<td>3.18</td>
<td>.98</td>
</tr>
<tr>
<td>Current Course Passing Grade at 75%</td>
<td>3.45</td>
<td>.52</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set – 1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

* t value for unequal variance with a significant at p < .05
In summary, the top faculty responses (p < .05) were the following in descending order: computerized testing, high frequency of testing during nursing courses, timed testing similar to NCLEX, viewing one question at a time and current course passing grade at 75%. Comparatively, the graduates’ top five responses (p < .05) were the following in descending order: immediate scoring and feedback after testing, high frequency of testing during nursing course, viewing one question at a time during testing, computerized testing and current course passing grade at 75%. Four of the five subsets were commonly ranked between the two groups (i.e., high frequency of testing during nursing course, viewing one question at a time during testing, computerized testing and current course passing grade at 75%). However, faculty liked timed testing similar to NCLEX, whereas graduates liked immediate scoring and feedback after testing instead. Additionally, the three most significant mean differences (p < .05) between the groups were for these subsets in descending order: computerized testing, no rounding of final course grade and timed testing similar to the NCLEX.

Thus, the data suggested that faculty and graduates agreed that having high frequency of testing during nursing course, viewing one question at a time during testing, computerized testing, and current course passing grade at 75% were the testing practices that affected graduates’ performance on the NCLEX-RN the most. However, faculty rated computerized testing significantly greater than the graduates. Also, faculty highly agreed that no rounding of final course grade and timed testing similar to the NCLEX were more effective testing practices, whereas the graduates sharply disagreed (Table 15, 16 and 17).
Research Question 2D: What are the elements in the SCC nursing program that students attribute to their successful completion of the program?

The research question was offered to the faculty and graduates as an open-ended question. Additionally, the same question was offered to the graduates as a questionnaire with ten subsets and four categories in Likert-scale form. The four categories were given ordinal scales of measurement which ranked the lowest measurement as “1” (Not effective at all) and the highest, “4” (Very effective). Qualitative analysis was performed on both the faculty and graduate responses. Coding-recoding procedures were done by hand, until specific themes emerged. The frequency of themes was then listed in descending order, from the most frequent to the least. Faculty and graduate qualitative data were reported in Tables 18 and 19, respectively. Quantitative analysis was done on the graduate responses. The mean responses were offered in descending order, from the greatest mean to least. One-sample t-tests were used to determine whether the differences between the means and the test value (2.5) were significant within the group. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Graduate quantitative data is presented in Table 20.

For the faculty group, eight dominant categories on “The elements in the SCC nursing program that students attribute to their successful completion of the program” emerged. They ranged from 27.1% for “Curriculum” to 3.4% for “Admissions.” The majority of subcategories related to the “Curriculum” ranged from “High academic standards and rigor” (15 items) to “Attrition” (1 items). The next dominant category was
“Faculty-student-relationships” (22%). Its subcategory, “Supportive and Informed” ranged from “Care for personal welfare of students” (7 items) to “Students’ packed schedules” (1 item). One respondent pointed out, “Elements were effective in the past, ineffective now in getting student “buy in.” “Student support services” came up third (11.9%), in which its subcategories were “Numerous and varied.” They ranged from “Student tutoring” (4 items) to “Financial aid” (1 item). Fourth was “Clinical experiences” (10.2%), in which its subcategory was “Strong application of theory.” The fifth category was “Faculty-centered” (10.2%). The overarching theme was “Dedicated” as its subcategory. Engaged, committed and knowledgeable” was mentioned four times. The sixth category was on “Testing” (10.2%). All six subcategories had similar themes to the data of “SCC testing practices that affect graduates’ performance on the NCLEX-RN.” They ranged from “Standardized testing” (2 items) to “No rounding” (1 item). The seventh category included “Admission” (5.1%), in which the subcategory covered “Admission standards.” One member mentioned the new upcoming admission policy. The last category was “Instruction” (3.4%), in which one respondent aptly mentioned it as “Content enhancement.” This included “Concept mapping” and “Interesting and engaging learning environment” (Table 18).

Data analyses revealed that the quality of the curriculum was the most dominant theme of elements at SCC that students attribute to their successful completion in the program. Having high academic rigor repeated itself here as well. Supportive faculty-student relationships, numerous and varied student support services, strong application of theory to practice clinical experiences, dedicated faculty, NCLEX-related testing, new
admission standards and content-enhanced instruction all created a collective force in producing successful program completion.

Table 18

Ratings of Emergent Themes of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program- by Faculty (N=11)

<table>
<thead>
<tr>
<th>Emergent Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>16</td>
<td>27.1</td>
<td>High academic standards / Rigor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Leveling of tests / objectives from simple to complex (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Consistency of expectations clearly stated in theory and clinical syllabus (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Critical thinking objectives (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Student challenged and motivated (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Remediation opportunities (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Testing prior to re-entry 2nd to 4th semesters (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Deferral and re-entry opportunities (1)</td>
</tr>
<tr>
<td>Program - organized and consistent with requirements (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum change to 12 units per course</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized / relevant SLOs (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attrition

High attrition rate (1)
<table>
<thead>
<tr>
<th>Emergent Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty-student Relationships</td>
<td>13</td>
<td>22.0</td>
<td>Supportive / Informed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Care for personal welfare of students (7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Faculty availability (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Faculty tutoring (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Faculty-student review of low test scores (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Faculty-student review student’s study habits / life barriers to study (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Work tirelessly for student success”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Elements were effective in the past, ineffective now in getting student “buy in” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Students’ packed schedules (1)</td>
</tr>
<tr>
<td>Student Support Services</td>
<td>7</td>
<td>11.9</td>
<td>Numerous /Varied</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Student tutoring (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Computer lab, HOPE center, counseling, seminars on test-taking and study skills (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Open skills lab (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Financial aid (1)</td>
</tr>
<tr>
<td>Clinical Experiences</td>
<td>6</td>
<td>10.2</td>
<td>Strong Application of Theory</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Excellent clinical experiences (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Two clinical days per week (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Preparation prior to clinical (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clinical placements and preceptor-ships integrate theory and practice (1)</td>
</tr>
<tr>
<td>Emergent Category</td>
<td>Frequency</td>
<td>Percent</td>
<td>Subcategories</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>---------</td>
<td>---------------</td>
</tr>
<tr>
<td>Faculty-centered</td>
<td>6</td>
<td>10.2</td>
<td>Dedicated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Engaged, committed, knowledgeable (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Open access policy (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not enough time to help student (1)</td>
</tr>
<tr>
<td>Testing</td>
<td>6</td>
<td>10.2</td>
<td>Standardized testing formats – Evolve NCLEX testing (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High frequency of testing (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Exams modeled after NCLEX focus and format (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Testing that provides feedback and rationales immediately after testing (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No rounding of final course grade leads to increase attrition – faculty must utilize testing statistics and analyses consistently within program (i.e. keep or throw out questions appropriately). (1)</td>
</tr>
<tr>
<td>Admission</td>
<td>3</td>
<td>5.1</td>
<td>Admission Standards</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All pre-requisites completed before admission (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High standard on science pre-requisites (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>New admission criteria (1)</td>
</tr>
<tr>
<td>Instruction</td>
<td>2</td>
<td>3.4</td>
<td>Content Enhancement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concept mapping (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interesting and engaging learning environment 1)</td>
</tr>
</tbody>
</table>
For the graduate group, nine dominant categories on “The elements in the SCC nursing program that students attribute to their successful completion of the program” emerged. They ranged from 36.8% for “Curriculum” to 1.8% for “Admission policy.” All the subcategories under the first category, “Curriculum,” connected to the general theme of “High quality” (21 items). Many lengthy comments were offered. One respondent summarized the curriculum as, “The intensity of this program coupled with high expectations of the clinical instructors prepared me very well for the NCLEX and nursing work.” The next dominant category was “Faculty-student-relationships” (17.5%). This matched the faculty group’s second category. Its subcategory, “Supportive, helpful, patient and listened” occurred nine times. One graduate stated, “Most instructors are tough and motivating in a very productive manner.” “Clinical experiences” came up third (14%), in which its subcategories ranged from “Preceptorship” (4 items) to the “Skills check list” (1 item). The fourth category was “Testing and NCLEX” (8.8%). Graduate comments were lengthy. One described testing in these words: “Keep up the good work. I always tell my friends and coworkers that 95% of why I passed the NCLEX the first time was by just remembering what my teachers said in class about the topic. It’s amazing to know the power and importance of Good teachers.” The fifth category was “Faculty-centered” (7%). Four items were offered, with one being a lengthy summary comment, “It was one of the hardest things I have ever done in my life which makes my success so much more rewarding. It should not be easy considering how critical our role is in the preservation of human life. It was top notch. The instructors work so hard and put so much of their lives into it as well, and
that is vital in our success as students.” The sixth category included “Student Support Services” (5.3%), in which the three subcategories covered the HOPE tutorial center, skills lab and the nursing success course. The seventh category was “Instruction” (5.3%). Three subcategories included NCLEX prep course, job interview and recruiters. The eighth category was “Student-centered” (3.5%). It included two subcategories relating to a medical background and peer support. The last category listed the “Admission policy” (3.8%) which one graduate pointedly stated, “I think that this program needs to have a prescreening process prior to admission into the program. This would save everyone time and trouble” (Table 19).

Data analyses revealed, again, that the quality of the curriculum was the single most dominant feature that students attribute to their successful completion in the program. Having high academic rigor repeated itself here as well. Supportive faculty-student relationships, preceptorships in the clinical experiences, NCLEX-related testing, dedicated faculty, numerous and varied student support services, NCLEX-related and job-related instruction, medical background for student along with a new admission criteria were resonant with the graduates.
Table 19

Ratings of Emergent Themes of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program- by Graduates (N=82)

<table>
<thead>
<tr>
<th>Emergent Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Subcategories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>21</td>
<td>36.8</td>
<td>High Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>High standards, expectations and structure – intense, excellent, hard, more difficult - compared to other programs (9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Very good preparation – stronger mentally and emotionally prepared; perseverance (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Produces competent nurses (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Great NCLEX prep (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“The intensity of this program coupled with high expectations of the clinical instructors prepared me very well for the NCLEX and nursing work.” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“High standards and expect perfection, which makes for a great nurse!” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“Overall, this program is great, hard, but great.” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“As far as nursing theory goes, I think academically the course was very successful.” (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“The SCC program has instilled in me a professional attitude, excellent safety / medication administration practices, and a sense of self awareness and confidence that are extremely important in any setting. As a nurse who is currently working in private practice, I believe these are even more so important in an area such as private practice, where nurses have a greater degree of autonomy, and are required to use a lot of individual nursing judgment.” (1)</td>
</tr>
</tbody>
</table>
“The rigorous and intense AND program at SCC had prepared me very well for two main reasons. First, the majority of instructors had the extensive knowledge, experience, skill and patience to teach students the superior knowledge base needed for NCLEX preparation. Secondly, the program demanded nothing less than 100% effort in order to succeed as a student. The amount of study time needed and the in-depth knowledge and understanding of concepts required to pass SCC exams, trained me well to be prepared for the NCLEX exam. In summary, the superior quality of the majority of instructors, the high standards expected and demanded in the SCC AND program is what prepared me for success in becoming a Registered Nurse.” (1)

<table>
<thead>
<tr>
<th>Faculty-student relationships</th>
<th>10</th>
<th>17.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supportive, helpful, patient and listened (9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“Most instructors are tough and motivating in a very productive manner”(1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinical Experiences</th>
<th>8</th>
<th>14.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorships</td>
<td>extremely valuable, solidified the learning process; same nurse helps with consistency, time management and patient care (4)</td>
<td></td>
</tr>
<tr>
<td>Very effective</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>Pre-conferences</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>Helpful</td>
<td>“to tie together the theory” (1)</td>
<td></td>
</tr>
<tr>
<td>Skills check list</td>
<td>(1)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing / NCLEX</th>
<th>5</th>
<th>8.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scratch paper during testing (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“SCC has a great training program as far as testing formats go” (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“I passed NCLEX in 75 questions with my first attempt, which was nice.” (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergent Category</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Faculty-centered</td>
<td>4</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Support Services</td>
<td>3</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergent Category</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Instruction</td>
<td>3</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student-centered</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>Admission Policy</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the graduate group, the means of the “elements in the SCC nursing program that students attribute to their successful completion of the program” ranged from 3.64 ($SD = .54$) for “Clinical experiences” to 2.67 ($SD = .86$) for “Information meeting.” One-sample t-tests were used to determine whether the differences between the means and the test value were significant. Level of probability was set at $p < .05$. When SPSS reports a $p$ value of .000, $p < .01$ (Green & Salkind, 2008). Nine out of 10 subsets were statistically significant, notably all but the last subset (Table 20).

The top graduate response was a “Clinical Experiences.” With alpha set at .05, the one-sample $t$ test was significantly different from 2.5, $t (81) = 18.14, p = .000$. The effect size $d$ of 2.1 indicated a large effect. The 95% confidence interval for the subset ranged from 3.51 to 3.76, and therefore the hypothesis that the accepted mean is 2.5 was rejected at the .05 alpha level. The result supported the conclusion that graduates felt
having clinical experiences was the top element of SCC that attributed to their successful completion of the program (Table 20).

Table 20

Ratings of Means and T-tests of the Elements in the SCC Nursing Program that Students Attribute to Their Successful Completion of the Program - by Graduates (N=82)

<table>
<thead>
<tr>
<th>Subset</th>
<th>M</th>
<th>SD</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Experiences</td>
<td>3.64</td>
<td>.54</td>
<td>.000</td>
</tr>
<tr>
<td>Theory Classes</td>
<td>3.36</td>
<td>.67</td>
<td>.000</td>
</tr>
<tr>
<td>Peers</td>
<td>3.27</td>
<td>.73</td>
<td>.000</td>
</tr>
<tr>
<td>Skills Lab</td>
<td>3.26</td>
<td>.68</td>
<td>.000</td>
</tr>
<tr>
<td>Tests</td>
<td>3.24</td>
<td>.72</td>
<td>.000</td>
</tr>
<tr>
<td>Faculty</td>
<td>3.24</td>
<td>.70</td>
<td>.000</td>
</tr>
<tr>
<td>Admission Criteria</td>
<td>3.10</td>
<td>.87</td>
<td>.000</td>
</tr>
<tr>
<td>Support Services</td>
<td>3.04</td>
<td>.73</td>
<td>.000</td>
</tr>
<tr>
<td>Orientation</td>
<td>2.82</td>
<td>.81</td>
<td>.001</td>
</tr>
<tr>
<td>Information Meeting</td>
<td>2.67</td>
<td>.86</td>
<td>.101</td>
</tr>
</tbody>
</table>

Note: Means were calculated from a four-point response set –
1=Not effective at all, 2=Somewhat effective, 3=Effective, 4=Very effective

*Test value = 2.5; Significant at p < .05
In sum, those subsets which intersected faculty and graduate open-ended responses and graduate survey responses (p < .05) ranged from 1) a high quality rigorous curriculum (38 items), 2) supportive faculty-student relationships (23 items), 3) strong application-of-theory clinical experiences (15 items), 4) NCLEX-related testing (12 items), 5) dedicated faculty (11 items), 6) numerous and varied student support services (11 items), 7) content-enhanced / NCLEX-related instruction (5 items), and 8) new and current admission policy (5 items) (Tables 18, 19 and 20). There were only two student-centered responses by the graduates. These related to having a medical background that would improve clinical performance and having peer support.

Summary

The purpose of the study was to investigate the practices and programmatic features of SCC’s nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN. In this section, the results and analyses were presented in the order of the research questions, along with their respective tables. A mixed method approach was used throughout the study. Discussion of the conclusions and recommendations are discussed in the final chapter, chapter five.

A summary of the findings is offered sequentially by its respective research question.

Question 1A. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?

Data analyses revealed that alignment trends favored those categories in which the written and taught curriculums either exceeded or were in range of the NCLEX test
plan, and the tested curriculum exceeded the passing performance benchmarks. Those curriculums which either exceeded or were within range had a high net percent point difference. These ranged from (+) 30 percent points in “Reduction of risk potential” to (+) 4 in “Health Promotion and Maintenance.” The only category in which the curriculums fell short was “Safety and infection control.” In this category, both the written and taught curriculums were below the test plan range, and the tested curriculum was the second to the lowest when compared to the passing performance benchmark percentage.

Thus, the written, taught and tested curriculums were found to be aligned with seven out of eight categories of the NCLEX-RN test plan, some to a greater extent than others. The only category in which the curriculums were not aligned was in “Safety and Infection Control.”

**Question 1B. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?**

Data analyses revealed that faculty used more test-related materials (i.e., NCLEX plan, item analysis and test blue prints) than non-test-related materials (i.e., textbooks, current nursing literature, team meetings, and student evaluations) to plan course content. Additionally, faculty members were unclear as to which NCLEX framework was utilized by the NCLEX test plan and their program.
Question 1C. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

Data analyses revealed that both the faculty and the graduates felt that inclusion of the NCLEX test plan played a critical role in ensuring that teaching was aligned with NCLEX standards, although the graduates felt that faculty relied on current nursing practice foremost, rather than the NCLEX test plan. Additionally, the faculty felt that curriculum and instruction also played an important role.

In sum, for the processes faculty used to ensure that their teaching is aligned to NCLEX standards, the faculty’s emergent themes ranged from predominantly NCLEX-related items to program-related curriculum and instruction. Critically thinking was mentioned one time. Comparatively, the graduates’ top five ranked subsets were the following in descending order: the processes relied on current nursing practice, current NCLEX test plan, hospital protocols, clinical experiences, and current nursing literature.

Question 2A. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?

Data analyses revealed that the quality of the curriculum was the most dominant theme of cultural and organizational norms. It appeared that the faculty prided themselves in having high academic rigor coupled with high NCLEX pass rates. Additionally, deep concerns for student success, faculty collaborative efforts, positive faculty-student relationships and “content enhanced” instruction all gathered steam in producing accepted norms in the SCC institution. In contrast, the graduates’ top response
was “Supportive Atmosphere by Peers.” The graduate results supported the conclusion that graduates felt having a supportive atmosphere by their peers was the top cultural and organizational norm that facilitated SCC’s efforts in producing successful graduates.

In summary, the top faculty emergent theme was a rigorous and cohesive curriculum and their top three responses (p < .05) were deep concerns for students, collaborative teaching and collegiality. Comparatively, the graduates’ top three ranked subsets were the following in descending order: supportive atmosphere by peers, high expectations by students and high academic rigor. “Supportive atmosphere by faculty” and “Open door policy by faculty” came in second to the last and last, respectively. The common response between the two groups was the curriculum’s high academic rigor.

**Question 2B. What programmatic practices does the SCC nursing program employ that increase the success of its diverse/at-risk students?**

Data analyses revealed that the top faculty response was a “Dedicated Nursing Counselor” as compared to the top graduate response, which was “Availability of computer labs.” However, the subset “Competent skills lab staff” revealed the most significant difference between the two groups.

In summary, the top five faculty responses (p < .05) were the following in descending order: dedicated nursing counselor, competent skills lab staff, dedicated skills lab, availability of personal counselor and student nursing association. Comparatively, the graduates’ top five responses (p < .05) were the following in descending order: availability of computer labs, dedicated nurse counselor, dedicated skills lab, required
orientation prior to admission and availability of personal counselor. Three out of five commonly ranked responses between the two groups were noted (i.e. the dedicated nurse counselor, dedicated skills lab and availability of personal counselor). However, faculty rated competent skills lab staff and student nursing association high, whereas graduates ranked availability of computer labs and required orientation prior to admission more important. Additionally, the three most significant mean differences (p < .05) between the groups for these subsets were the following in descending order: competent skills lab staff, student nurses association, and faculty-led study groups. Thus, the data suggested that faculty and graduates agreed that having a dedicated nurse counselor and skills lab, and a personal counselor were the main programmatic practices that increased the success of SCC’s diverse/at-risk students. However, faculty highly agreed and graduates sharply disagreed that competent skills lab staff, student nurses association, and faculty-led study groups were helpful in assisting these students to be successful.

**Question 2C. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?**

In summary, the top faculty responses (p < .05) were the following in descending order: computerized testing, high frequency of testing during nursing courses, timed testing similar to NCLEX, viewing one question at a time and current course passing grade at 75%. Comparatively, the graduates’ top five responses (p < .05) were the following in descending order: immediate scoring and feedback after testing, high frequency of testing during nursing course, viewing one question at a time during testing,
computerized testing and current course passing grade at 75%. Four of the five subsets were commonly ranked between the two groups (i.e., high frequency of testing during nursing course, viewing one question at a time during testing, computerized testing and current course passing grade at 75%). However, faculty liked timed testing similar to NCLEX, whereas graduates liked immediate scoring and feedback after testing instead. Additionally, the three most significant mean differences (p < .05) between the groups were for these subsets in descending order: computerized testing, no rounding of final course grade and timed testing similar to the NCLEX.

Thus, the top faculty response was a “Computerized testing.” The top graduate response was an “Immediate scoring and feedback after testing.” The data suggested that faculty and graduates agreed that having high frequency of testing during nursing course, viewing one question at a time during testing, computerized testing, and current course passing grade at 75% were the testing practices that affected graduates’ performance on the NCLEX-RN the most. However, faculty rated computerized testing significantly greater than the graduates. Also, faculty highly agreed that no rounding of final course grade and timed testing similar to the NCLEX were more effective testing practices, whereas the graduates sharply disagreed.

*Question 2D. What are the elements in the SCC nursing program that students attribute to their successful completion of the program?*

For the faculty, data analyses revealed that the emergent theme was the quality of the curriculum was the most dominant theme of elements at SCC that students attribute to
their successful completion in the program. Having high academic rigor repeated itself here as well. Supportive faculty-student relationships, numerous and varied student support services, strong application of theory to practice clinical experiences, dedicated faculty, NCLEX-related testing, new admission standards and content-enhanced instruction all created a collective force in producing successful program completion.

For the graduates, data analyses revealed, again, that the quality of the curriculum was the single most dominant emergent theme that students attribute to their successful completion in the program. Having high academic rigor repeated itself here as well. Supportive faculty-student relationships, preceptor-ships in the clinical experiences, NCLEX-related testing, dedicated faculty, numerous and varied student support services, NCLEX-related and job-related instruction, medical background for student, along with a new admission criteria were resonant with the graduates.

Those subsets which intersected both faculty and graduate open-ended responses and graduate survey responses (p < .05) were ranked in descending order: 1) a high quality rigorous curriculum (38 items), 2) supportive faculty-student relationships (23 items), 3) strong application-of-theory clinical experiences (15 items), 4) NCLEX-related testing (12 items), 5) dedicated faculty (11 items), 6) numerous and varied student support services (11 items), 7) content-enhanced / NCLEX-related instruction (5 items), and 8) new and current admission policy (5 items). There were only two student-centered responses by the graduates. These related to having a medical background that would improve clinical performance and having peer support.
Chapter 5

SUMMARY AND CONCLUSIONS

Overview

The central issue in the study is that National Council of Licensure Examination for Registered Nurses (NCLEX-RN) standards have been raised requiring nursing graduates to demonstrate greater knowledge on the national licensure examination, in order to be licensed. This has ramifications for nursing programs and their ability to sustain a high percentage of graduates from diverse backgrounds who go on to pass the NCLEX as first-time test takers. The purpose of this study was to investigate the practices and programmatic features of Sacramento City College’s (SCC) nursing program that produced graduates from diverse backgrounds who passed the NCLEX-RN. This study is needed because the nursing program at SCC appears to be a unique amongst its peers. The program is currently ranked as one of the top six nursing schools for high NCLEX passing rates in California (National Council of State Boards of Nursing, [NCSBN], 2010). However, of the top six schools, which are community colleges incidentally, only SCC primarily uses random selection in its admission process. This is in concert with the community college philosophy of the “open access” policy (Roueche & Roueche, 2007). The other five programs use a multi-criteria selection system similar to the four-year nursing programs. These associate degree programs, as with the bachelor degree programs, are experiencing less ethnic minority admissions (Bissett, 1995; Roueche & Roueche, 2007) - sometimes 42% less (CBRN, 2010), while SCC is
experiencing a rise in ethnic minority admissions – up from 37% in 2009 to 53% in 2010 (SCC, 2010).

While the nursing shortage remains at an all time high and diversity trends rise throughout California and the United States, impacted nursing schools with limited resources struggle to keep up with the market demand for registered nurses and a diverse nursing workforce (American Association Of Colleges Of Nursing, 2009; National League For Nursing, 2009; United States Census Bureau, 2009). To graduate more diverse nurses and alleviate the nursing shortage, nursing student success becomes a priority (Sullivan, 2004). Nursing student success is defined by Jeffreys (2007) as those students who graduate and pass the licensure exam for the first time. Passing the NCLEX-RN is considered a type of “high stakes” testing for three key stakeholders in nursing education: the nursing program, the student, and the faculty (Parsons, 2008, p. 21).

The nursing program, the first key stakeholder, pays a great amount of attention to its NCLEX passing rates, as the National Council of State Boards of Nursing (NCSBN) which develops the NCLEX, can initiate administrative sanctions if low pass rates persist (NCSBN, 2010). Also, nursing schools can risk losing accreditation for persistently low pass rates, the public and the nursing communities often interpret the NCLEX-RN results as an indicator of the nursing program’s quality and pass rates are universally cited as outcome indicators of the nursing curriculum (Jacobs & Koehn, 2004; Mackey, 2001; Parsons, 2008).
The student, who is the second stakeholder, relies on passing the exam in order to enter into nursing practice. Failing the exam may cause personal, emotional and financial failure (Seago, Wong, Keane, & Grumbach, 2008). It also may make the student forfeit two or more years of schooling (Ashley & O’Neil, 1991).

Lastly, the third key stakeholder is the faculty. “High stakes” testing demands that nursing faculty provide maximal efforts to ensure NCLEX success among their graduates (Parsons, 2008). The NCSBN rely exclusively on the nursing faculty to develop, maintain and monitor the quality of their nursing programs so that students pass the program and the NCLEX (NCSBN, 2010). It is incumbent upon nursing faculty to review the NCLEX-RN test plan and consider ways to incorporate the content throughout the curriculum (NCSBN, 2009). This not only maintains continuity, but also facilitates student success and determines gaps in the curriculum that may be responsible for declining performance on the NCLEX-RN (Parsons, 2008).

Conceptual Models

Two conceptual models were used to guide the study which included all three stakeholders. The major model underlying the study describes factors that influence nursing program success (Fraher, Bellsky, Carpenter, & Gaul, 2008) (Appendix B). The model divides the factors into student-level and program-level characteristics. Student-level characteristics include demographics and socioeconomic factors. Program-level characteristics are admissions policies, faculty, curriculum and instruction and student
support services. The outcome that determines a successful ADN program is passing the NCLEX-RN on the first attempt (Fraher, Bellsky, Carpenter, & Gaul, 2008).

The second model describes curriculum alignment by English and Steffy (2001) (Appendix C). This model could be considered as a part of the program-level characteristic of the program success model mentioned above. Curriculum alignment is an interdependent relationship between the written curriculum (i.e., intended curriculum), the taught curriculum (i.e., delivered curriculum), and the tested curriculum (i.e., achieved curriculum). The model suggests that these three distinct curriculums must be linked or aligned so that optimal program outcomes occur, specifically passing the NCLEX (English & Steffy, 2001).

Thus, the study investigated student-level and program-level factors that could have influenced the NCLEX-RN passing rate. Specifically, the study looked at student and faculty perspectives, and curriculum alignment trends that might have influenced the NCLEX-RN passing rate.

Research Questions

Seven research questions incorporated the two conceptual models mentioned above. They were two major questions. The first had three and the second had four sub-questions, respectively. The study sought to answer the seven sub-questions.

1. What measures has the SCC nursing program taken to increase the success of its graduates on the updated NCLEX-RN?
   a. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?
b. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?

c. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

2. What are the perspectives of the faculty’s and graduates’ on how the SCC nursing program ensures the success of its graduates on the NCLEX-RN?

a. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?

b. What programmatic practices does the SCC nursing program employ that increase the success of its diverse/at-risk students?

c. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

d. What are the elements in the SCC nursing program that students attribute to their successful completion of the program?

Methodology

The mixed methods study involved collecting qualitative and quantitative data. A qualitative approach, using grounded theory and the constant comparative method, analyzed the alignment of SCC’s curriculum (i.e., SLOs, final exam questions, and graduates’ NCLEX performance data) with the NCLEX-RN Test Plan (research question #1a). It also analyzed faculty’s and graduates’ responses on the open-ended portion of a survey (Appendices E and F, respectively). These questions looked faculty’s
perspectives on the alignment of teaching and NCLEX standards; cultural and organizational norms of SCC; and elements to successful program completion (research questions #1c, 2a, and 2d). Collected data was examined for trends and categorized by common themes.

Quantitative data was collected from the Likert-scale portion of the surveys, and ranking of means and t-tests were conducted. The quantitative data identified factors that influenced the faculty in choosing course content and exam items in respect to the NCLEX; faculty’s and graduates’ perspectives on programmatic practices that increase success of at-risk/diverse students; testing practices that affect graduates’ performance on the NCLX-RN; and graduates’ perspectives on the cultural and organizational norms of SCC (research question #1b, 2a, 2b and 2c).

In the fall of 2010, the study collected responses from 11 core nursing faculty who taught at Sacramento City College Associate Degree Nursing (SCC-ADN) program, as well as responses from 82 graduates from the accelerated, traditional and part-time cohorts of the program. The cohorts were the graduates from the academic year of 2009-2010. Student-level data were combined with program-level data of the SCC nursing program. Findings and practice recommendations are offered in the following sections.

Findings

Of the eleven faculty surveys sent out, all core faculty participated (n=11), excluding the researcher. Of the 139 graduate surveys sent out, 82 participants
responded, with a response rate of 59%. Of the graduates who responded, 99.8% indicated that they passed the NCLEX, with 97.6 % passing on their first attempt. A summary of the findings is offered sequentially by its respective research question.

1A. To what extent is SCC’s curriculum aligned with the NCLEX-RN Test Plan?

Data analyses revealed that alignment trends favored those categories in which the written and taught curriculums either exceeded or were in range of the NCLEX test plan, and the tested curriculum exceeded the passing performance benchmarks. Those curriculums which either exceeded or were within range had a high net percent point difference. These ranged from (+) 30 percent points in “Reduction of risk potential” to (+) 4 in “Health Promotion and Maintenance.” The only category in which the curriculums fell short was “Safety and infection control.” In this category, both the written and taught curriculums were below the test plan range, and the tested curriculum was the second to the lowest when compared to the passing performance benchmark percentage.

Thus, the written, taught and tested curriculums were found to be aligned with seven out of eight categories of the NCLEX-RN test plan, some to a greater extent than others. The only category in which the curriculums were not aligned was in “Safety and Infection Control.”

1B. What factors influence the faculty in choosing course content and exam items in respect to the NCLEX-RN?
Data analyses revealed that faculty used more test-related materials (i.e., NCLEX plan, item analysis and test blue prints) more than non-test-related materials (i.e., textbooks, current nursing literature, team meetings, and student evaluations) to plan course content. Additionally, faculty members were unclear as to which NCLEX framework was utilized by the NCLEX test plan and their program.

1C. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

Data analyses revealed that both the faculty and the graduates felt that inclusion of the NCLEX test plan played a critical role in ensuring that teaching was aligned with NCLEX standards, although the graduates felt that faculty relied on current nursing practice foremost, rather than the NCLEX test plan. Additionally, the faculty felt that curriculum and instruction also played an important role.

In sum, for the processes faculty used to ensure that their teaching is aligned to NCLEX standards, the faculty’s emergent themes ranged from predominantly NCLEX-related items to program-related curriculum and instruction. Critically thinking was mentioned one time. Comparatively, the graduates’ top five ranked subsets were the following in descending order: the processes relied on current nursing practice, current NCLEX test plan, hospital protocols, clinical experiences, and current nursing literature.

2A. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?
Data analyses revealed that the quality of the curriculum was the most dominant theme of cultural and organizational norms. It appeared that the faculty prided themselves in having high academic rigor coupled with high NCLEX pass rates. Additionally, deep concerns for student success, faculty collaborative efforts, positive faculty-student relationships and “content enhanced” instruction all gathered steam in producing accepted norms in the SCC institution. In contrast, the graduates’ top response was “supportive atmosphere by peers.” The graduate results supported the conclusion that graduates felt having a supportive atmosphere by their peers was foremost.

In summary, the top faculty emergent theme was a rigorous and cohesive curriculum and their top three responses (p < .05) were deep concerns for students, collaborative teaching and collegiality. Comparatively, the graduates’ top three ranked subsets were the following in descending order: supportive atmosphere by peers, high expectations by students and high academic rigor. “Supportive atmosphere by faculty” and “Open door policy by faculty” came in second to the last and last, respectively. The common response between the two groups was the curriculum’s high academic rigor.

Both faculty and graduates commonly ranked high academic rigor as being one of the top cultural norms at SCC. However, faculty perceived themselves as being highly connected to faculty and students: one faculty member aptly stated “team culture is vital to our functioning and student success” and another described student success as “recognizing achievement fosters learning.” Dichotomously, the graduates perceived themselves as being highly connected to their peers as the one of the top cultural norms.
2B. What programmatic practices does the SCC nursing program employ that increase the success of its diverse/at-risk students?

Data analyses revealed that the top faculty response was a “Dedicated Nursing Counselor” as compared to the top graduate response, which was “Availability of computer labs.” However, the subset “Competent skills lab staff” revealed the most significant difference between the two groups.

In summary, the top five faculty responses (p < .05) were the following in descending order: dedicated nursing counselor, competent skills lab staff, dedicated skills lab, availability of personal counselor and student nursing association. Comparatively, the graduates’ top five responses (p < .05) were the following in descending order: availability of computer labs, dedicated nurse counselor, dedicated skills lab, required orientation prior to admission and availability of personal counselor. Three out of five commonly ranked responses between the two groups were noted (i.e. the dedicated nurse counselor, dedicated skills lab and availability of personal counselor). However, faculty rated competent skills lab staff and student nursing association high, whereas graduates ranked availability of computer labs and required orientation prior to admission more important. Additionally, the three most significant mean differences (p < .05) between the groups for these subsets were the following in descending order: competent skills lab staff, student nurses association, and faculty-led study groups.

Thus, the data suggested that faculty and graduates agreed that having a dedicated nurse counselor and skills lab, and a personal counselor were the main programmatic practices that increased the success of SCC’s diverse / at-risk students. However, faculty
highly agreed and graduates sharply disagreed that competent skills lab staff, student
nurses association, and faculty-led study groups were helpful in assisting these students
to be successful.

2C. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

In summary, the top faculty responses (p < .05) were the following in descending
order: computerized testing, high frequency of testing during nursing courses, timed
testing similar to NCLEX, viewing one question at a time and current course passing
grade at 75%. Comparatively, the graduates’ top five responses (p < .05) were the
following in descending order: immediate scoring and feedback after testing, high
frequency of testing during nursing course, viewing one question at a time during testing,
computerized testing and current course passing grade at 75%. Four of the five subsets
were commonly ranked between the two groups (i.e., high frequency of testing during
nursing course, viewing one question at a time during testing, computerized testing and
current course passing grade at 75%). However, faculty liked timed testing similar to
NCLEX, whereas graduates liked immediate scoring and feedback after testing instead.
Additionally, the three most significant mean differences (p < .05) between the groups
were for these subsets in descending order: computerized testing, no rounding of final
course grade and timed testing similar to the NCLEX.

The top faculty response was a “Computerized testing.” The top graduate
response was an “Immediate scoring and feedback after testing.” The data suggested that
faculty and graduates agreed that having high frequency of testing during nursing course,
viewing one question at a time during testing, computerized testing, and current course
passing grade at 75% were the testing practices that affected graduates’ performance on
the NCLEX-RN the most. However, faculty rated computerized testing significantly
greater than the graduates. Also, faculty highly agreed that no rounding of final course
grade and timed testing similar to the NCLEX were more effective testing practices,
whereas the graduates sharply disagreed.

2D. What are the elements in the SCC nursing program that students attribute to their
successful completion of the program?

For the faculty, data analyses revealed that the emergent theme was the quality of
the curriculum was the most dominant theme of elements at SCC that students attribute to
their successful completion in the program. Having high academic rigor repeated itself
here as well. Supportive faculty-student relationships, numerous and varied student
support services, strong application of theory to practice clinical experiences, dedicated
faculty, NCLEX-related testing, new admission standards and content-enhanced
instruction all created a collective force in producing successful program completion.
One faculty member described herself as one who “works tirelessly for student success.”

For the graduates, data analyses revealed, again, that the quality of the curriculum
was the single most dominant emergent theme that students attribute to their successful
completion in the program. One respondent summarized the curriculum as, “The
intensity of this program coupled with high expectations of the clinical instructors
prepared me very well for the NCLEX and nursing work.” Having high academic rigor
repeated itself here as well. Faculty-student relationships subset was cited by many respondents as being “supportive, helpful, patient and listening.” In fact, one graduate stated, “Most instructors are tough and motivating in a very productive manner.” NCLEX-related testing also was mentioned. One described testing in these words: “Keep up the good work. I always tell my friends and coworkers that 95% of why I passed the NCLEX the first time was by just remembering what my teachers said in class about the topic. It’s amazing to know the power and importance of Good teachers.” Preceptor-ships in the clinical experiences, dedicated faculty, numerous and varied student support services, NCLEX-related and job-related instruction, medical background for student, along with a new admission criteria resonated with the graduates. One graduate summed up the program in this way, “It was one of the hardest things I have ever done in my life which makes my success so much more rewarding. It should not be easy considering how critical our role is in the preservation of human life. It was top notch. The instructors work so hard and put so much of their lives into it as well, and that is vital in our success as students.”

Those subsets which intersected both faculty and graduate open-ended responses and graduate survey responses (p < .05) were ranked in descending order: 1) a high quality rigorous curriculum (38 items), 2) supportive faculty-student relationships (23 items), 3) strong application-of-theory clinical experiences (15 items), 4) NCLEX-related testing (12 items), 5) dedicated faculty (11 items), 6) numerous and varied student support services (11 items), 7) content-enhanced / NCLEX-related instruction (5 items), and 8) new and current admission policy (5 items). One graduate pointedly stated, “I
think that this program needs to have a prescreening process prior to admission into the program. This would save everyone time and trouble.” There were only two student-centered responses by the graduates. These related to having a medical background that would improve clinical performance and having peer support.

Recommendations for Policy, Delivery, and Practice

The nursing program success study by Fraher, Bellsky, Carpenter, and Gaul (2008) was used as a guide to offer recommendations in the study.

Best Practices in Associate Degree Nursing Education

Although findings from this study are not conclusive, several practices of a high performing nursing program have emerged which have been supported by observations and published recommendations of nursing education experts. These should be considered by similar programs seeking to improve NCLEX passing rates.

Increasing Content Coverage

Keating (2006) confirms the applicability of outcome measurement to nursing curriculum evaluation as “being essential to measuring success, establishing benchmarks, and continually improving the quality of the program (Keating, 2006, p. 258). English’s model evaluates to what degree are these three distinct curriculums are interdependent and aligned so that optimal program outcomes occur (English & Steffy, 2001).

A portion of the study sought to estimate the curriculum coverage (i.e. written and taught curriculums) for each of the eight contents areas of the Client Needs Framework (NCLEX Test Plan), and compare it to the NCLEX Test Plan and the NCLEX-RN
performance data (i.e. tested curriculum) of the SCC graduates. Although this process is not a perfect reflection of the entire curriculum that is covered or of all the influences that impact NCLEX passes rates, it provides a basis for reasonable conclusions about SCC’s content coverage based on the NCLEX-RN Test Plan. Data revealed that the majority, seven out of eight areas, of content coverage were linked to a higher percentage performance of that corresponding content area. Conversely, the minority, one area of coverage of the content was linked with lower percentage performance ranks of that corresponding content area. These relationships served as the basis for recommendations for increasing coverage in the content area with the lower percentage performance rank, in order to maximize SCC’s student performance on the NCLEX-RN. For nursing programs, it is incumbent upon the faculty, the third stakeholder, to maintain or increase content coverage based on the NCLEX-RN Test Plan, at all levels of the curriculum, including its written and taught curricula.

Including the NCLEX into the Practice Analysis

According to the findings, faculty members incorporated a formal, systematic analysis of NCLEX –related practice on a regular basis. Their use of data to drive program investments and decision-making were evident. Faculty reported that the SCC nursing curriculum was reviewed monthly, in which they incorporated student summative feedback, methods of instruction, grading practices, textbook reviews, assessments of learning assignments and NCLEX-related items. Test-related items took precedent over non-test-related items. Other studies and the current findings attest to the fact that an NCLEX-related analysis is necessary because of the following: 1) NCLEX-RN changes
every three years and it relates more specifically to the most recent nursing practice
survey distributed to new nursing graduates within their first six months of employment
(NCSBN, 2010); 2) graduates ranked “relies on current nursing practice” as the foremost
process that ensures teaching is aligned to NCLEX standards; 3) definite and significant
changes are included in the new NCLEX-RN, as these changes are due to rapidly
changing technology and healthcare, more demands on nursing staff and greater aging
and diverse populations trends (AACN, 2009; ANA, 2004; NCSBN, 2010; Whitney,
Maltby, & Carr, 2004); and 4) with the influx of new faculty and many more diverse / at-
risk students at SCC, the nursing curriculum remains the common metric to measure
program performance throughout the program’s three tracks.

Thus, curriculum evaluation must regularly incorporate the NCLEX test plan into
its formal practice analysis as such. Incorporating practices and programmatic features
that relate specifically to the NCLEX-RN maintains continuity, facilitates student success
on the licensure exam, and determines possible gaps in the curriculum that may be
responsible for students’ performance on the NCLEX-RN (Parsons, 2008). Nursing
programs should have regularly program and curriculum evaluations which include the
NCLEX test plan, in order to perfect rigorous curricula which are central to preparing
students for the NCLEX-RN and the challenging workforce.

*Increasing Test-related Material and NCLEX-style Testing*

Even though Bissett (1995) asserted the amount of nursing research on the
variables associated with NCLEX-RN success in two-year community college programs
was limited, many studies found overall academic factors such as test-related items were
stronger predictors to NCLEX success, than nonacademic factors (Carpenter & Bailey, 1999; Crow, Handley, Morrison, & Shelton, 2004; Nibert, Young, & Britt, 2003; Seldomridge & Dibartolo, 2004). The current study validated the increased use of test-related materials, over non-test-related materials, in planning course content and in constructing and writing NCLEX-style tests.

Nursing programs should prepare students for the NCLEX-RN by constructing and administering examinations that mimic the format of the licensure examination and encourage students to practice the questions in varying formats, such as standardized testing, NCLEX-style test banks and clinical applications.

Faculty should also use test blueprints, established item-writing guidelines, the NCLEX test plan, critical thinking test items and item analysis when constructing all nursing exams. Doing so will increase self-satisfaction, make the test more defensible, include the steps of the nursing process, address the NCLEX test plan and cognitive levels, and ensure content validity (Caputi, 2010).

*Increasing Critical Thinking*

Critical thinking was an emergent theme in the study by both faculty and graduates, as it was clearly outlined in the literature as being a salient component associated with instruction and the NCLEX (Rogers, 2010). Faculty need to assist students to think critically through test questions and their clinical implications. Faculty must consider ways in which to improve classroom learning. Both instructors and students recognize that lecture-focused classroom environment does not stimulate critical
thinking (Rogers, 2010). Higher level thinking must be modeled and practiced in every nursing course.

Increasing Student Support Services

Seago and Spetz’s (2003) large California study of 68 community college nursing programs found that support programs for all nursing students, specifically those aimed at diverse students were one of the main institutional factors that predicted more successful first pass rates on the NCLEX. The current study supported these finding as well. Both faculty and graduates identified “numerous and varied” support services increased the success of SCC’s diverse / at-risk students throughout the program. Nursing programs, especially faculty, must be active referral centers, posing as the gateway for those support programs within their program or on campus. They must continue to identify and disseminate information about cost-effective support services, especially those intended to retain students from diverse / at-risk backgrounds.

Working in Health Care

An association between background in health care and student success was another emergent theme noted by the graduates in the study. Nursing programs should encourage students, who are new to health care or need to improve critical thinking skills, to work in health care before applying to nursing school or while attending nursing school. Participants in a study by Rogers (2010) believed these experiences contributed to growth and success.
Critical Policy and Delivery Recommendations Using Informed Decision Making

Although findings from this study are not conclusive, several policy implications have emerged and should be considered by similar programs seeking to improve NCLEX passing rates.

Equity

Enhance the Educational Pipeline

At the program level, the demographic makeup of the student body proved the only factor to powerfully influence both graduation and NCLEX pass rates (Fraher, Bellsky, Carpenter, and Gaul, 2008). The authors found that nursing programs with higher proportions of white and Asian students, and lower proportions of African American, Latino, and American Indians students had higher graduation rates and higher NCLEX pass rates. When interpreting these findings, the authors suggested racial/ethnic characteristics act as proxies for the quality of secondary education students received prior to program enrollment. Swail (2000) found that early academic preparation is a key contributor to college success. The author stated that educators must provide health care career information about high school and postsecondary academic preparation and requirements early on. The study recommends that following strategies and interventions for advancing student success throughout secondary education and beyond: recruitment strategies that use learning communities to get students through the pre-requisites and into the appropriate health occupations program; 2) outreach to young students from underrepresented groups; 3) introductory courses that assist students determine whether
health care is best suited for them and, if so, which health occupation is best suited for their skills and personality; and 4) introductory courses that help students make sure they are in the right program and that help them develop skills, competencies and attitudes required for success in the program.

Although the current study demonstrated the opposite effect from the findings of Fraher et al (2008), in that SCC’s graduating class, which was composed of 39% of underrepresented groups, passed the NCLEX at a 98% pass rate. However, the study speaks indirectly of the importance of identifying the quality of secondary education and exposure to health-related careers, in respect to future college success. Thus, it is unknown in the current findings if student success was associated with the quality of their secondary education, especially for underrepresented groups. Future research must catalogue and document the curriculum and outcomes of secondary education and pre-enrollment introductory health occupation classes, and their impact on the future college success.

Standardize Performance Measures

A uniform method should be used by the California Board of Registered Nursing and the California Community College Chancellor’s Office (2010) to calculate whether a first time pass rate is the best measure of performance. The study did not explore the role of the findings in admission, retention, attrition, graduation and employment rates.

Adjust Performance Evaluations to Reflect Differences in Service Populations

Performance measures that evaluate NCLEX passing rates should be adjusted to reflect student body characteristics. This adjustment should include the following
characteristics: age, gender, race / ethnicity, education, financial aid, part-time / full-time enrollment status, socioeconomic characteristics of zip code of residence, including rural locale, poverty level, educational attainment and proportion of active duty military in the student’s home community.

Adjust the Admission Criteria

Although the participants in Rogers (2010) study did not cite pre-nursing academic achievement as a determinant of success in nursing, Bissett (1995) found that admission policies that balance academic achievement and subjective data may better predict student success. In fact, findings from studies that explored predictors affecting NCLEX-RN pass rates for all students are often contradictory but tended to agree on four areas: use of entrance exams to screen students; screening for math, science, and reading standardized test scores; screening for a minimum grade point average (GPA); and dismissal for failing two or more nursing classes (Crow, Handley, Morrison, & Shelton, 2004; Giddens & Gloeckner, 2005; Higgins, 2005; Morrison, Free, & Newman, 2006; Waterhouse & Beeman, 2003). As stated in the findings of the current study by both faculty and graduates, SCC’s admission criteria should be reconsidered.

Adjusting the admission criteria potentiates student success and respects “open access” policies, diversity and socioeconomic trends. Because admission policies in California are not standardized, students who want to apply to multiple nursing programs often need to take more prerequisites courses than necessary, in order to meet the diverse requirements of programs. Students who are placed in lotteries may never receive a slot in the program. Standardized admission practices would be more equitable to students.
Standardization should result from a collaborative effort of the state’s nursing programs, with guidance and coordination from the California Community College Chancellor’s Office (CCCCO). The CCCC0 should commission a study by California Postsecondary Education Commission (CPEC) to determine the success of this strategy. Seago and Spetz (2003) found that two of the three California ADN programs with particularly diverse student bodies and extremely high on-time completion rates have selective admission practices. However, although the available research suggests that selective admissions might increase program success, the current study recommends that some share of nursing programs slots be allocated on a first-come, first-served or waiting list basis. The recommendation is based on preserving the open-access benefit of community colleges.

A new law, the Community College: Associate Degree Nursing Programs Merit-Based Admission Policy, enacted January 1, 2008, requires community college registered nursing (RN) programs that elect to use a multi-criteria screening process to evaluate applicants for admission to include specified criteria relating to the academic performance, work or volunteer experience, foreign language skills, life experiences, and special circumstances of the applicant (Board of Registered Nursing [BRN], 2008). The California Community College Chancellor’s Office mandated use of the current admission criteria formula for all community college nursing programs that desired to switch to a multi-criteria admission system (BRN, 2008). The current study recommends a multi-criteria admission policy for SCC based on the mandate, which
maximizes student success without negatively affecting the participation of diverse and underrepresented populations (Appendix I).

*Focus on Program Improvement - An Alternative to Program Expansion*

While increasing the number of new nursing programs and adding additional slots to existing programs is one way to increase more nurses in the workforce, such growth is limited by the shortage of nursing faculty and high cost of nursing education (AACN, 2010).

First, program expansion is hindered by shortage of nursing faculty. While the shortage will not be alleviated soon (AACN, 2010), the state has enacted various measures to increase the supply of faculty, including offsetting the cost of graduate education for prospective nursing faculty, expanding financial aid for nursing students in both public and private institutions at both the associate and bachelor’s degree levels, and offering scholarships to nurses seeking graduate degrees with the intention of teaching in nursing education programs (California Community Colleges Chancellor’s Office, 2010 [CCCC], 2010). Such efforts focusing on educating future nursing faculty, while essential to ensuring the security of the state’s future nurse supply, will not have an immediate effect on increasing the number of nursing graduates available to provide nursing care.

Second, another barrier to program expansion and adding new ones is the high cost of nursing education (AACN, 2010). Currently, California community colleges struggle to meet the high financial costs of operating nursing schools (CCCCCO, 2010). Even though it would be in the best interest of the state’s legislature to reclassify
community college nursing programs as “high cost,” affording them a higher rate of reimbursement per full-time equivalent (FTE) student, this has not occurred. Most recurring funds for allied health programs fall short of the overall gap between cost of health science education programs and state funding (CCCC, 2010).

Because faculty shortages and resource constraints limit the degree to which the state can increase output from educational institutions in the short-term, it seems apparent to address student success in existing nursing programs. The California Legislative Analyst’s Office in 2007 went so far as to argue that, with respect to the state’s nursing shortage, reductions in community college ADN program attrition rates could render further program expansions unnecessary (Fraher, Bellsky, Carpenter, & Gaul, 2008).

Thus, program improvements may increase the potential to significantly expand RN production in the short-term without significant demands for new faculty or resources.

The current study supports best practices and programmatic features that are associated with graduates who pass the NCLEX. Therefore, real and substantial gains in RN production can be realized with moderate improvements in ADN programs at the practice and program levels.

*Initiate a Registered Nurse Workforce Policy*

Higher rates of practice in urban settings among advanced practice nurses who first earned an ADN highlight the importance of improving articulation between ADN, Bachelor of Science degree in Nursing (BSN) and Master of Science in Nursing (MSN) programs. The study recommends that the California Community College Chancellor’s Office (2010) request the California General Assembly direct a Nursing Articulation
Legislative Study be conducted by the California Legislative Analyst’s Office or CPEC. The purpose of the study would be to identify and to make recommendations about, barriers and opportunities that exist for increasing number of ADN nurses who pursue additional education.

Decisions about whether to open new nursing programs or expand existing ones, to enact or change policies regarding the regulation of educational programs, and other educational policy decisions concerning the nursing workforce affect a wide range of stakeholders and can be a source of contentious debate. The ability of educators, legislators, legislative staff and policymakers to understand, consider, and debate pressing issues and identify potential policy solutions exist only if decision makers have access to a ready source of rich data and researchers who can work with that data to objectively present the analyses as they currently are.

The study recommends the California Community College Chancellor’s Office (2010) to pursue funding from the legislature in the 2011 session to undertake workforce analyses that will provide policy makers the evidence base needed to make informed decisions about how to best invest in preparing the nursing workforce to meet the demands of California’s rapidly growing and aging population.

Transformational Leadership

Increase Collaboration and Mentoring

In this study, faculty perceived themselves as being highly connected to faculty and students (i.e., deep concerns for students, collaborative teaching and collegiality), whereas the graduates perceived themselves as being highly connected to their peers (i.e.,
supportive atmosphere by peers and high expectations by students). Graduate rankings of the subsets “supportive atmosphere by faculty” and “open door policy by faculty” came in second to the last and last, respectively. The study recommends that faculty make efforts to mentor and coach students, and form trusting professional relationships. Positive feedback and encouragement assist students to achieve their goals and nurture the internal motivation necessary for their success (Habel & Sherman, 2010; Sayles, Shelton & Powell, 2003). Additionally, students should be encouraged to form faculty networks and establish professional support systems.

On the other hand, a number of transformational leadership traits emerged from the findings of the study. The SCC educators were found to be committed to high standards and the rigors of the nursing program, served as role models, communicated a vision, and stimulated intellectual growth. They were concerned for the needs of the nursing students and knew the student’s career aspirations. As transformational leadership implies, the faculty member was in an ideal position to guide the student to invaluable mentoring opportunities.

In sum, transformational leadership sets the tone for an agenda committed to student success. It sets the tone for how faculty work together and for how students are served. This type of leadership should inculcate no noticeable barrier between administration, faculty and students. In the study, faculty members’ commitment to student success and the student awareness of this commitment were profoundly evident.
The faculty members as transformational leaders were innovators and cheerleaders (Habel & Sherman, 2010; Kezar & Carducci & Contreras-McGavin, 2006).

Additional Research Recommendations

Qualitative Studies

More studies need to investigate the subjective nature of the predictability of success. Work should be conducted to validate this qualitative data and also to explore the role of these findings in admission and curricular policy decisions. It would be also valuable to compare the findings of this study and those of a qualitative study involving students who were not successful either in program completion or on the NCLEX-RN.

Academic Achievement

Another perspective should investigate the connection between the data in this study and the academic achievement backgrounds of the graduates involved in this study. A comparison of the participants’ academic backgrounds and the backgrounds of unsuccessful students would also add insight to the results of this study.

Conclusion

This study explored practices and programmatic features that produced diverse/at-risk graduates who passed the NCLEX-RN. Despite a lack of consistency in the quantitative research in nursing education, the findings of this mixed methods study supported observations and published recommendations of nursing education experts. This study also presented factors not commonly found in the research, such as
maintaining a rigorous nursing program and high NCLEX passing rates while upholding diversity trends within its student body and the open access policy on a community college campus.

These findings should be interpreted with caution, as a small select sample was used in this study. Without empirical evidence, it is impossible to know whether, for example, SCC’s testing, in fact, screened out students unlikely to pass the NCLEX, or whether the testing was simply more common at more academically rigorous programs. More evaluation research is required to further explore differences in the classroom, clinical, and lab that affect NCLEX pass rates and are not included in this analysis.

Challenges that are universal to nursing programs exist, but it is incumbent on each nursing program to assess the specific needs of the program and its students, and develop a mind set of continuous improvement by the administration and the faculty. While policy makers are keenly aware that passing the NCLEX is problematic, there is a lack of empirical evidence identifying common factors contributing to NCLEX success. More studies need to develop an evidence base to inform efforts to address NCLEX success in nursing programs. These studies must explicitly recognize that the state’s investment in nursing education cannot be evaluated by simply examining NCLEX success – the ultimate return on investment in these programs is having graduates practice nursing in California.
Appendix A

Sacramento City College Associate Degree Nursing Program

NCLEX Pass Rates (2004-2010)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass</td>
<td>100%</td>
<td>98.9%</td>
<td>99.3%</td>
<td>96.5%</td>
<td>92.5%</td>
<td>92.9%</td>
<td>96.7%</td>
</tr>
<tr>
<td>n</td>
<td>79</td>
<td>93</td>
<td>144</td>
<td>143</td>
<td>160</td>
<td>85</td>
<td>704</td>
</tr>
</tbody>
</table>

(California Board of Registered Nursing [CBRN], 2010)
Appendix B

Program Success Model

(Fraher, Belsky, Carpenter & Gaul, 2008)
Appendix C

Curriculum Alignment Model

(English & Steffy, 2001)
Appendix D

Sacramento City College Associate Degree Nursing Program
Student Demographics (N=200)
(2009-2010)

Demographic Data

- Caucasian (n=127)
- Other (n=25)
- Filipino (n=16)
- Hispanic (n=15)
- Non-Filipino Pacific Islander (n=11)
- African-American (n=10)
- American Indian / Alaskan Native (n=1)

(Sacramento City College, 2010)
Appendix E

2010 NCLEX-RN® Test Plan (NCSBN, 2010)

Test Plan Structure

The framework of Client Needs was selected for the examination because it provides a universal structure for defining nursing actions and competencies, and focuses on clients in all settings.

Client Needs and Distribution of Content

The content of the NCLEX-RN® Test Plan is organized into four major Client Needs categories. Two of the four categories are divided into subcategories. The percentage of test questions assigned to each Client Needs category and subcategory of the NCLEX-RN® Test Plan is based on the results of the Report of Findings from the 2008 RN Practice Analysis: Linking the NCLEX-RN® Examination to Practice (NCSBN, 2009) and expert judgment provided by members of the NCSBN Examination Committee.

<table>
<thead>
<tr>
<th>Client Needs</th>
<th>Percentage of Items from Each Category/Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe and Effective Care Environment</td>
<td></td>
</tr>
<tr>
<td>▪ Management of Care</td>
<td>16-22%</td>
</tr>
<tr>
<td>▪ Safety and Infection Control</td>
<td>8-14%</td>
</tr>
<tr>
<td>Health Promotion and Maintenance</td>
<td>6-12%</td>
</tr>
<tr>
<td>Psychosocial Integrity</td>
<td>6-12%</td>
</tr>
</tbody>
</table>
### Physiological Integrity

- **Basic Care and Comfort**
  - 6-12%

- **Pharmacological and Parenteral Therapies**
  - 13-19%

- **Reduction of Risk Potential**
  - 10-16%

- **Physiological Adaptation**
  - 11-17%

### Overview of Content

All content categories and subcategories reflect client needs across the life span in a variety of settings.

### Safe and Effective Care Environment

The nurse promotes achievement of client outcomes by providing and directing nursing care that enhances the care delivery setting in order to protect clients, family/significant others and other health care personnel.

1. **Management of Care** – providing and directing nursing care that enhances the care delivery setting to protect clients, family/significant others and health care personnel.

   Related content includes, but is **not limited** to:

   1. **Advance Directives**
      - Assess client and/or staff member knowledge of advance directives (e.g., living will, health care proxy, Durable Power of Attorney for Health Care [DPAHC])
      - Integrate advance directives into client plan of care
      - Provide client with information about advance directives

   2. **Advocacy**
      - Discuss identified treatment options with client and respect their decisions
      - Provide information on advocacy to staff members
      - Act as a client advocate*
      - Utilize advocacy resources appropriately (e.g., social worker, chain of command, interpreter)
3. Case Management
Explore resources available to assist client in achieving or maintaining independence
Assess client need for supplies and equipment (e.g., oxygen, suction machine, wound care supplies)
Plan safe, cost effective care for the client
Plan individualized care for client based on need (e.g., client diagnosis, self-care ability, prescribed treatments)
Provide client with information on discharge procedures to home, hospice, or community setting
Initiate, evaluate, and update plan of care, care map, clinical pathway used to guide and evaluate client care
Incorporate evidence-based practice/research results when providing care
Evaluate and revise client plan of care as needed (e.g., change in client status)

4. Client Rights
Recognize client right to refuse treatment/procedures
Discuss treatment options/decisions with client
Educate client and staff about client rights and responsibilities (e.g., ethical/legal issues)
Evaluate client/staff understanding of client rights

5. Collaboration with Interdisciplinary Team
Identify need for interdisciplinary conferences
Identify significant information to report to other disciplines (e.g., health care provider, pharmacist, social worker, respiratory therapist)
Review plan of care to ensure continuity across disciplines
Collaborate with healthcare members in other disciplines when providing client care
Serve as resource person to other staff

6. Concepts of Management
Identify roles/responsibilities of health care team members
Plan overall strategies to address client problems
Act as liaison between client and others (e.g., coordinate care, manage care)
Manage conflict among clients and health care staff
Evaluate management outcomes

7. Confidentiality/Information Security
Assess staff member and client understanding of confidentiality requirements (e.g., HIPAA)
Maintain client confidentiality/privacy
Intervene appropriately when confidentiality has been breached by staff members

8. Consultation
Assess need for consultation with other health care providers
Initiate consultations (e.g., another care provider, social services)
Use clinical decision making/critical thinking in consultation situations
Evaluate outcomes of consultation and need for revising care should client needs change

9. Continuity of Care
Provide and receive report on assigned clients
Use documents to record and communicate client information (e.g., medical record, referral/transfer form)
Use approved abbreviations and standard terminology when documenting care
Perform procedures necessary to safely admit, transfer, or discharge a client
Maintain continuity of care between/among healthcare agencies
Follow up on unresolved issues regarding client care (e.g., laboratory results, client requests)
10. Delegation
. Identify tasks for delegation based on client needs
. Ensure appropriate education, skills and experience of personnel performing delegated task
. Communicate task to be completed and client concerns that need to be reported immediately
. Utilize five rights of delegation (e.g., right task, right circumstances, right person, right direction or communication, right supervision or feedback)
. Evaluate delegated tasks to ensure correct completion of activity

11. Establishing Priorities
. Assess/ triage client(s) to prioritize the order of care delivery
. Apply knowledge of pathophysiology when establishing priorities for interventions with multiple clients
. Prioritize workload to manage time effectively
. Evaluate plan of care for multiple clients and revise plan of care as needed

12. Ethical Practice
. Recognize ethical dilemmas and take appropriate action
. Inform client/staff members of ethical issues affecting client care
. Practice in a manner consistent with a code of ethics for registered nurses
. Evaluate outcomes of interventions to promote ethical practice

13. Informed Consent
. Identify appropriate person to provide informed consent for client (e.g., client, parent, legal guardian)
. Provide written materials in client's spoken language, when possible
. Describe components of informed consent
. Participate in obtaining informed consent
. Verify that the client comprehends and consents to care/procedures, including procedures requiring informed consent

14. Information Technology
. Receive and/or transcribe health care provider orders
. Use information technology (e.g., computer, video, books) to enhance the care provided to a client
. Apply knowledge of facility regulations when accessing client records
. Access data for client through online databases and journals
. Enter computer documentation accurately, completely and in a timely manner
. Use emerging technology in managing client health care (e.g., telehealth, electronic records)

15. Legal Rights and Responsibilities
. Identify legal issues affecting client (e.g., refusing treatment)
. Identify and manage client valuables according to facility/agency policy
. Recognize limitations of self/others, seek assistance and/or begin corrective measures at the earliest opportunity*
. Review facility policy and state mandates prior to agreeing to serve as an interpreter for staff or primary health care provider
. Educate client/staff on legal issues
. Comply with state and/or federal regulations for reporting client conditions (e.g., abuse/neglect, communicable disease, gunshot wound, dog bite)
. Report unsafe practice of health care personnel to internal/external entities and intervene as appropriate (e.g. substance abuse, improper care, staffing practices)
. Provide care within the legal scope of practice
Performance Improvement (Quality Improvement)

- Define performance improvement/quality assurance activities
- Participate in performance improvement/quality assurance process (e.g., collects data or participate on a team)
- Report identified client care issues/problems to appropriate personnel (e.g., nurse manager, risk manager)
- Utilize research and other references for performance improvement actions
- Evaluate the impact of performance improvement measures on client care and resource utilization

Referrals

- Assess the need to refer clients for assistance with actual or potential problems (e.g., physical therapy, speech therapy)
- Recognize the need for referrals and obtain necessary orders
- Identify community resources for client (e.g., respite care, social services, and shelters)
- Identify which documents to include when referring a client (e.g., medical record, referral form)

Supervision

- Supervise care provided by others (e.g., LPN/VN, assistive personnel, other RNs)
- Evaluate ability of staff members to perform assigned tasks for the position (e.g., job description, scope of practice, training, experience)
- Evaluate effectiveness of staff member’s time management skills

Safety and Infection Control – protecting clients, family/significant others and health care personnel from health and environmental hazards.

- Accident/Injury Prevention
  - Determine client/staff member knowledge of safety procedures
  - Identify factors that influence accident/injury prevention (e.g., age, developmental stage, lifestyle, mental status)
  - Identify deficits that may impede client safety (e.g., visual, hearing, sensory/perceptual)
  - Identify and verify prescriptions for treatments that may contribute to an accident or injury (does not include medication)
  - Identify and facilitate correct use of infant and child car seats
  - Provide client with appropriate method to signal staff members
  - Protect client from injury (e.g., falls, electrical hazards)
  - Review necessary modifications with client to reduce stress on specific muscle or skeletal groups (e.g., frequent changing of position, routine stretching of the shoulders, neck, arms, hands, fingers)
  - Implement seizure precautions for at-risk clients
  - Make appropriate room assignment for cognitively impaired client

- Emergency Response Plan
  - Identify which client(s) to recommend for discharge in a disaster situation
  - Identify nursing roles in disaster planning
  - Use clinical decision-making/critical thinking for emergency response plan
  - Implement emergency response plans (e.g., internal/external disaster)
  - Participate in disaster planning activities/drills

- Ergonomic Principles
.Assess client ability to balance, transfer and use assistive devices prior to planning care (e.g., crutches, walker).
.Provide instruction and information to client about body positions that eliminate potential for repetitive stress injuries.
.Use ergonomic principles when providing care (e.g., assistive devices, proper lifting).

4. **Error Prevention**
. Assess for client allergies/sensitivities and intervene as needed (e.g., food, latex, environmental allergies).
. Ensure proper identification of client when providing care.
. Verify appropriateness and/or accuracy of a treatment order.

5. **Handling Hazardous and Infectious Materials**
. Identify biohazardous, flammable and infectious materials.
. Follow procedures for handling biohazardous materials.
. Demonstrate safe handling techniques to staff and client.
. Ensure safe implementation of internal radiation therapy.

6. **Home Safety**
. Assess need for client home modifications (e.g., lighting, handrails, kitchen safety).
. Apply knowledge of client pathophysiology to home safety interventions.
. Educate client on home safety issues.
. Encourage the client to use protective equipment when using devices that can cause injury (e.g., home disposal of syringes).
. Evaluate client care environment for fire/environmental hazard.

7. **Reporting of Incident/Event/Irregular Occurrence/Variance**
. Identify need/situation where reporting of incident/event/irregular occurrence/variance is appropriate.
. Acknowledge and document practice error (e.g., incident report for medication error).
. Evaluate response to error/event/occurrence.

8. **Safe Use of Equipment**
. Inspect equipment for safety hazards (e.g., frayed electrical cords, loose/missing parts).
. Teach client about the safe use of equipment needed for health care.
. Facilitate appropriate and safe use of equipment.
. Remove malfunctioning equipment from client care area and report the problem to appropriate personnel.

9. **Security Plan**
. Use clinical decision making/critical thinking in situations related to security planning.
. Apply principles of triage and evacuation procedures/protocols.
. Participate in institution security plan (e.g., newborn nursery security, bomb threats).

10. **Standard Precautions/Transmission-Based Precautions/Surgical Asepsis**
. Assess client care area for sources of infection.
. Understand communicable diseases and the modes of organism transmission (e.g., airborne, droplet, contact).
. Apply principles of infection control (e.g., hand hygiene, room assignment, isolation, aseptic/sterile technique, universal/standard precautions).
. Follow correct policy and procedures when reporting a client with a communicable disease.
. Educate client and staff regarding infection control measures.
. Utilize appropriate precautions for immunocompromised clients.
Use correct techniques to apply and remove mask, gloves, gown, protective eyewear
Use appropriate technique to set up a sterile field/maintain asepsis (e.g., gloves, mask, sterile supplies)
Evaluate infection control precautions implemented by staff members
Evaluate whether aseptic technique is performed correctly

**Use of Restraints/Safety Devices**
Assess appropriateness of the type of restraint/safety device used
Comply with federal/state/institutional requirements regarding the use of client restraints and/or safety devices
Monitor/evaluate client response to restraints/safety device

**III. Health Promotion and Maintenance**

The nurse provides and directs nursing care of the client and family/significant others that incorporates the knowledge of expected growth and development principles; prevention and/or early detection of health problems, and strategies to achieve optimal health.

Related content includes, but is **not limited** to:

1. **Aging Process**
Assess client reactions to expected age-related changes
Provide care and education that meets the special needs of the infant client 1 month to 1 year
Provide care and education that meets the special needs of the preschool client ages 1 year to 4 years
Provide care and education that meets the special needs of the school age client ages 5 to 12 years
Provide care and education that meets the special needs of the adolescent client ages 13 to 18 years
Provide care and education that meets the special needs of the adult client ages 19 to 64 years
Provide care and education that meets the special needs of the older adult client ages 65 to 85 years
Provide care and education that meets the special needs of the older adult, over 85 years

2. **Ante/Intra/Postpartum and Newborn Care**
Assess client psychosocial response to pregnancy (e.g., support systems, perception of pregnancy, coping mechanisms)
Assess client for symptoms of postpartum complications (e.g., hemorrhage, infection)
Recognize cultural differences in childbearing practices
Calculate expected delivery date
Check fetal heart rate during routine pre-natal exams
Assist client with performing/learning newborn care (e.g., feeding)
Provide pre-natal care and education*
Provide intrapartum care and education (e.g., care provided during labor and birth)
Provide post-partum care and education
Provide newborn care and education
Provide discharge instructions (e.g., post-partum and newborn care)
Evaluate client ability to care for the newborn

3. **Developmental Stages and Transitions**
Identify expected physical, cognitive and psychosocial stages of development
Identify expected body image changes associated with client developmental age (e.g., aging, pregnancy)
Identify family structures and roles of family members (e.g., nuclear, blended, adoptive)
. Compare client development to expected age/developmental stage and report any deviations.
. Assess impact of change on family system (e.g., one-parent family, divorce, ill family member).
. Recognize cultural and religious influences that may impact family functioning.
. Assist client to cope with life transitions (e.g., attachment to newborn, parenting, puberty, retirement).
. Modify approaches to care in accordance with client developmental stage (use age appropriate explanations of procedures and treatments).
. Provide education to client/staff members about expected age-related changes and age specific growth and development (e.g., developmental stages).
. Evaluate client achievement of expected developmental level (e.g., developmental milestones).
. Evaluate impact of expected body image changes on client and family.

4. **Health and Wellness**
. Assess client perception of health status.
. Assess client knowledge of immunization schedules and educate as needed.
. Identify client health-oriented behaviors.
. Identify precautions and contraindications to immunizations.
. Apply knowledge of nutrition to assessing client weight.
. Encourage client participation in appropriate behavior modification programs related to health and wellness (e.g., smoking cessation, stress management).
. Assist client to identify/participate in activities fitting client age, preference, physical capacity and psychosocial/behavior/physical development.
. Evaluate and treat side effects/allergic reactions/adverse reactions to immunizations.

5. **Health Promotion/Disease Prevention**
. Identify risk factors for disease/illness (e.g., age, gender, ethnicity, lifestyle).
. Assess and teach client about health risks based on known population or community characteristics.
. Plan and/or participate in the education of individuals in the community (e.g., health fairs, school education).
. Educate client on actions to promote/maintain health and prevent disease (e.g., smoking cessation, diet, weight loss).
. Integrate complementary therapies into health promotion activities for the well client.
. Provide information about healthy behaviors and health promotion/maintenance recommendations (e.g., physician visits, immunizations).
. Provide follow-up to the client following participation in health promotion program (e.g., diet counseling).
. Assist client in maintaining an optimum level of health.
. Evaluate client understanding of health promotion behaviors/activities (e.g., weight control, exercise actions).

6. **Health Screening**
. Apply knowledge of pathophysiology to health screening.
. Identify risk factors linked to ethnicity (e.g., hypertension, diabetes).
. Perform health history/health and risk assessments (e.g., lifestyle, family and genetic history).
. Perform targeted screening examination (e.g., scoliosis, vision and hearing assessments).
. Utilize appropriate procedure and interviewing techniques when taking the client health history.

7. **High Risk Behaviors**
. Assess client lifestyle practice risks that may impact health (e.g., excessive sun exposure, lack of regular exercise).
. Assist client to identify behaviors/risks that may impact health (e.g., fatigue, calcium deficiency).
.Provide information for prevention of high risk health behaviors (e.g., smoking cessation, safe sexual practices, drug education)

8. Lifestyle Choices
. Assess client lifestyle choices (e.g., home schooling, rural or urban living)
. Assess client attitudes/perceptions on sexuality
. Assess client need/desire for contraception
. Identify contraindications to chosen contraceptive method (e.g., smoking, compliance, medical conditions)
. Identify expected outcomes for family planning methods
. Recognize client who is socially or environmentally isolated
. Educate client on sexual identity and personal choices/lifestyle (e.g., sexual orientation)
. Educate client on sexuality issues (e.g., family planning, safe sexual practices, menopause, impotence)
. Evaluate client alternative or homeopathic health care practices (e.g., massage therapy, acupuncture, herbal medicine and minerals)

9. Principles of Teaching/Learning
. Assess readiness to learn, learning preferences and barriers to learning
. Select appropriate teaching methods (e.g., lecture, written materials)
. Evaluate client understanding of the information provided

10. Self Care
. Assess client understanding of and ability to manage self care in the home environment (e.g. community resources)
. Consider client self care needs before developing or revising care plan
. Assist primary caregivers working with client to meet self-care goals

11. Techniques of Physical Assessment
. Apply knowledge of nursing procedures and psychomotor skills to techniques of physical assessment
. Choose physical assessment equipment and technique appropriate for client (e.g., age of client, measurement of vital signs)
. Perform comprehensive health assessment

IV. Psychosocial Integrity

The nurse provides and directs nursing care that promotes and supports the emotional, mental and social wellbeing of the client and family/significant others experiencing stressful events, as well as clients with acute or chronic mental illness.

Related content includes, but is not limited to:

1. Abuse/Neglect
. Assess client for potential or actual abuse/neglect and intervene when appropriate
. Identify risk factors for domestic, child, elder abuse/neglect and sexual abuse
. Plan interventions for victims/suspected victims of abuse
. Counsel victims/suspected victims of abuse and their families on coping strategies
. Provide safe environment for abused/neglected client
. Evaluate client response to interventions

2. Behavioral Interventions
.Assess client appearance, mood, and psychomotor behavior and identify/respond to inappropriate/abnormal behavior
.Assist client with achieving and maintaining self-control of behavior (e.g., contract, behavior modification)
.Assist client to develop and use strategies to decrease anxiety
.Orient client to reality
.Participate in group sessions (e.g., support groups)
.Incorporate behavioral management techniques when caring for a client (e.g., positive reinforcement, setting limits)*
.Evaluate client response to treatment plan

3. Chemical and Other Dependencies
.Assess client reactions to the diagnosis/treatment of substance-related disorder
.Assess client for drug/alcohol related dependencies, withdrawal or toxicities and intervene when appropriate*
.Plan and provide care to client experiencing substance-related withdrawal or toxicity (e.g., nicotine, opioid, sedative)
.Provide information on substance abuse diagnosis and treatment plan to client
.Provide care and/or support for a client with non-substance related dependencies (e.g., gambling, sexual addiction)
.Provide symptom management for clients experiencing withdrawal or toxicity
.Encourage client to participate in support groups (e.g., Alcoholics Anonymous, Narcotics Anonymous)
.Evaluate client response to treatment plan and revise as needed

4. Coping Mechanisms
.Assess client support systems and available resources
.Assess client ability to adapt to temporary/permanent role changes
.Assess client reaction to diagnosis of acute or chronic mental illness (e.g., rationalization, hopefulness, anger)
.Identify situations which may necessitate role changes for client (e.g., spouse with chronic illness, death of parent)
.Provide information to client on stress management techniques (e.g. relaxation techniques, exercise, meditation)
.Provide support to the client with unexpected altered body image (e.g., alopecia)
.Provide support to client in coping with life changes (e.g., loss, new diagnosis, role change, stress)
.Evaluate constructive use of defense mechanisms by client
.Evaluate whether client has successfully adapted to situational role changes (e.g. accept dependency on others)

5. Crisis Intervention
.Assess the potential for violence and initiate/maintain safety precautions (e.g., suicide, homicide, self-destructive behavior)
.Identify client in crisis
.Use crisis intervention techniques to assist client in coping
.Apply knowledge of client psychopathology to crisis intervention
.Guide client to resources for recovery from crisis (e.g., social supports)

6. Cultural Diversity
.Assess importance of client culture/ethnicity when planning/providing/evaluating care
. Recognize cultural issues that may impact client understanding/acceptance of psychiatric diagnosis
. Identify clients who do not understand English
. Incorporate client cultural practice and beliefs when planning and providing care
. Respect cultural background/practices of the client (does not include dietary preferences)
. Use appropriate interpreters to assist in achieving client understanding
. Evaluate and document how client language needs were met

7. **End of Life Care**
. Assess client ability to cope with end-of-life interventions
. Identify end of life needs of client (e.g., financial concerns, fear, loss of control, role changes)
. Recognize need for and provide psychosocial support to family/caregiver
. Assist client in resolution of end-of-life issues
. Provide end of life care and education to clients (e.g., hospice)

8. **Family Dynamics**
. Recognize impact of illness/disease on individual/family lifestyle
. Assess barriers/stressors that impact family functioning (e.g., meeting client care needs, divorce)
. Assess family dynamics in order to determine plan of care (e.g., structure, bonding, communication, boundaries, coping mechanisms)
. Assess parental techniques related to discipline
. Encourage client participation in group/family therapy
. Assist client to integrate new members into family structure (e.g., new infant, blended family)
. Evaluate resources available to assist family functioning

9. **Grief and Loss**
. Assist client in coping with suffering, grief, loss, dying, and bereavement
. Support the client in anticipatory grieving
. Inform client of expected reactions to grief and loss (e.g., denial, fear)
. Provide client with resources to adjust to loss/bereavement (e.g., individual counseling, support groups)
. Evaluate client coping and fears related to grief and loss

10. **Mental Health Concepts**
. Identify signs and symptoms of impaired cognition (e.g., memory loss, poor hygiene)
. Recognize signs and symptoms of acute and chronic mental illness (e.g., schizophrenia, depression, bipolar disorder)
. Recognize client use of defense mechanisms
. Explore why client is refusing/not following treatment plan (e.g., non-adherence)
. Assess client for alterations in mood, judgment, cognition and reasoning
. Apply knowledge of client psychopathology to mental health concepts applied in individual/group/family therapy
. Provide care and education for acute and chronic behavioral health issues (e.g., anxiety, depression, dementia, eating disorders)
. Evaluate client ability to adhere to treatment plan
. Evaluate client abnormal response to the aging process (e.g., depression)

11. **Religious and Spiritual Influences on Health**
. Identify the emotional problems of client or client needs that are related to religious/spiritual beliefs (e.g., spiritual distress, conflict between recommended treatment and beliefs)
. Assess psychosocial, spiritual, and occupational factors affecting care and plan interventions, as appropriate*
Assess and plan interventions that meet the client emotional and spiritual needs
Evaluate whether client religious/spiritual needs are met

12. Sensory/Perceptual Alterations
- Identify time, place and stimuli surrounding the appearance of symptoms
- Address client needs based on visual, auditory or cognitive distortions (e.g., hallucinations)
- Assist client to develop strategies for dealing with sensory and thought disturbances
- Provide care in a nonthreatening and nonjudgmental manner
- Provide reality-based diversions

13. Stress Management
- Recognize nonverbal cues to physical and/or psychological stressors
- Assess stressors, including environmental, that affect client care (e.g., noise, fear, uncertainty, change, lack of knowledge)
- Implement measures to reduce environmental stressors (e.g., noise, temperature, pollution)
- Evaluate client use of stress management techniques

14. Support Systems
- Assist family to plan care for client with impaired cognition (e.g., Alzheimer’s disease)
- Encourage client involvement in the health care decision-making process
- Evaluate client feelings about the diagnosis/treatment plan

15. Therapeutic Communication
- Assess verbal and non-verbal client communication needs
- Respect client personal values and beliefs
- Allow time to communicate with client
- Establish and maintain a therapeutic relationship with client
- Use therapeutic communication techniques to provide support to client
- Encourage client to verbalize feelings (e.g., fear, discomfort)
- Evaluate effectiveness of communication with client

16. Therapeutic Environment
- Identify external factors that may interfere with client recovery (e.g., stressors, family dynamics)
- Make client room assignments that support the therapeutic milieu
- Provide a therapeutic environment for clients with emotional/behavioral issues

Physiological Integrity The nurse promotes physical health and wellness by providing care and comfort, reducing client risk potential and managing health alterations.

V. Basic Care and Comfort – providing comfort and assistance in the performance of activities of daily living.

Related content includes, but is not limited to:

1. Assistive Devices
   - Assess client for actual/potential difficulty with communication and speech/vision/hearing problems
   - Assess client use of assistive devices (e.g., prosthetic limbs, hearing aid)
   - Assist client to compensate for a physical or sensory impairment (e.g., assistive devices, positioning, compensatory techniques)*
.Manage client who uses assistive devices or prostheses (e.g., eating utensils, telecommunication devices, dentures)
.Evaluate correct use of assistive devices by client

2. Elimination
.Assess and manage client with an alteration in elimination (e.g., bowel, urinary)
.Perform irrigations (e.g., of bladder, ear, eye)
.Provide skin care to clients who are incontinent (e.g., wash frequently, barrier creams/ointments)
.Use alternative methods to promote voiding
.Evaluate whether client elimination is restored/maintained

3. Mobility/Immobility
.Identify complications of immobility (e.g., skin breakdown, contractures)
.Assess client for mobility, gait, strength and motor skills
.Perform skin assessment and implement measures to maintain skin integrity and prevent skin breakdown (e.g., turning, repositioning, pressure-relieving support surfaces)
.Apply knowledge of nursing procedures and psychomotor skills when providing care to clients with immobility
.Apply, maintain or remove orthopedic devices (e.g., traction, splints, braces, casts)
.Apply and maintain devices used to promote venous return (e.g., anti-embolic stockings, sequential compression devices)
.Educate client regarding proper methods used when repositioning an immobilized client
.Maintain client correct body alignment
.Maintain/correct adjustment of client traction device (e.g., external fixation device, halo traction, skeletal traction)
.Promote circulation (e.g., active or passive range of motion, positioning and mobilization)
.Evaluate client response to interventions to prevent complications from immobility

4. Non-Pharmacological Comfort Interventions
.Assess client need for alternative and/or complementary therapy
.Assess client need for palliative care
.Assess client need for pain management and intervene as needed using non-pharmacological comfort measures
.Recognize differences in client perception and response to pain
.Apply knowledge of pathophysiology to non-pharmacological comfort/palliative care interventions
.Incorporate alternative/complementary therapies into client plan of care (e.g., music therapy, relaxation therapy)
.Counsel client regarding palliative care
.Respect client palliative care choices
.Assist client in receiving appropriate end of life physical symptom management
.Plan measures to provide comfort interventions to clients with anticipated or actual impaired comfort
.Provide therapies for comfort and treatment of inflammation, swelling (e.g., apply heat and cold treatments, elevate limb)
.Evaluate client response to non-pharmacological interventions (e.g., pain rating scale, verbal reports)
.Evaluate client outcomes of alternative and/or complementary therapy practices
.Evaluate outcome of palliative care interventions

5. Nutrition and Oral Hydration
.Assess client ability to eat (e.g., chew, swallow)
Assess client for actual/potential specific food and medication interactions
Consider client choices regarding meeting nutritional requirements and/or maintaining dietary restrictions, including mention of specific food items
Monitor client hydration status (e.g., edema, signs and symptoms of dehydration)
Calculate client intake and output
Initiate calorie counts for clients
Apply knowledge of mathematics to client nutrition (e.g., body mass index [BMI])
Promote client independence in eating
Provide/maintain special diets based on the client diagnosis/nutritional needs and cultural considerations (e.g., low sodium, high protein, calorie restrictions)
Provide nutritional supplements as needed (e.g., high protein drinks)
Provide client nutrition through continuous or intermittent tube feedings
Manage the client who has an alteration in nutritional intake (e.g., adjust diet, monitor height and weight, change delivery to include method, time and food preferences)
Evaluate side effects of client tube feedings and intervene, as needed (e.g., diarrhea, dehydration)
Evaluate impact of disease/illness on nutritional status of client

6. Personal Hygiene
Assess client for personal hygiene habits/routine
Assess and intervene in client performance of activities of daily living (ADL) and instrumental activities of daily living (IADL)
Provide information to client on required adaptations for performing activities of daily living (e.g., shower chair, hand rails)
Perform post-mortem care

7. Rest and Sleep
Assess client need for sleep/rest and intervene, as needed
Apply knowledge of client pathophysiology to rest and sleep interventions
Schedule client care activities to promote adequate rest

VI. Pharmacological and Parenteral Therapies– providing care related to the administration of medications and parenteral therapies.

Related content includes, but is not limited to:

1. Adverse Effects/Contraindications/Side Effects/Interactions
Identify a contraindication to the administration of a medication to the client
Identify actual and potential incompatibilities of prescribed client medications
Identify symptoms/evidence of an allergic reaction (e.g., to medications)
Assess client for actual or potential side effects and adverse effects of medications (e.g., prescribed, over-the-counter, herbal supplements, preexisting condition)
Provide information to client on common side effects/adverse effects/potential interactions of medications and when to notify primary health care provider
Notify primary health care provider of side effects, adverse effects and contraindications of medications and parenteral therapy
Document side effects and adverse effects of medications and parenteral therapy
Monitor for anticipated interactions among the client prescribed medications and fluids (e.g., oral, IV, subcutaneous, IM, topical prescriptions)
Manage client experiencing side effects and adverse reactions of medication*
Evaluate and document client response to actions taken to counteract side effects and adverse effects of medications and parenteral therapy
2. **Blood and Blood Products**
   . Identify client according to facility/agency policy prior to administration of red blood cells/blood products (e.g., prescription for administration, correct type, correct client, cross matching complete, consent obtained)
   . Check client for appropriate venous access for red blood cell/blood product administration (e.g., correct gauge needle, integrity of access site)
   . Document necessary information on the administration of red blood cells/blood products
   . Administer blood products and evaluate client response*

3. **Central Venous Access Devices**
   . Educate client on the reason for and care of venous access device
   . Access venous access devices, including tunnelled, implanted and central lines
   . Provide care for client with a central venous access device (e.g., port-a-cath, Hickman)

4. **Dosage Calculation**
   . Perform calculations needed for medication administration
   . Use clinical decision making/critical thinking when calculating dosages

5. **Expected Actions/Outcomes**
   . Obtain information on prescribed medication for client (e.g., review formulary, consult pharmacist)
   . Use clinical decision making/critical thinking when addressing expected effects/outcomes of medications (e.g., oral, intradermal, subcutaneous, IM, topical)
   . Evaluate client use of medications over time (e.g., prescription, over-the-counter, home remedies)
   . Evaluate therapeutic effect of medications

6. **Medication Administration**
   . Educate client about medications
   . Educate client on medication self-administration procedures
   . Prepare and administer medications, using rights of medication administration
   . Review pertinent data prior to medication administration (e.g., vital signs, lab results, allergies, potential interactions)
   . Mix medications from two vials when necessary (e.g., insulin)
   . Administer and document medications given by common routes (e.g., oral, topical)
   . Administer and document medications given by parenteral routes (e.g., intravenous, intramuscular, subcutaneous)
   . Titrate dosage of medication based on assessment and ordered parameters (e.g., giving insulin according to blood glucose levels, titrating medication to maintain a specific blood pressure)
   . Dispose of unused medications according to facility/agency policy
   . Evaluate appropriateness/accuracy of medication order for client per institution policy, including reconciling orders

7. **Parenteral/Intravenous Therapies**
   . Identify appropriate veins that should be accessed for various therapies
   . Educate client on the need for intermittent parenteral fluid therapy
   . Apply knowledge and concepts of mathematics/nursing procedures/psychomotor skills when caring for a client receiving intravenous and parenteral therapy
   . Prepare client for intravenous catheter insertion
   . Insert, maintain and remove a peripheral intravenous line
   . Monitor the use of an infusion pump (e.g., IV, patient-controlled analgesia (PCA) device)
   . Monitor intravenous infusion and maintain site (e.g., central, PICC, epidural and venous access)
   . Evaluate client response to intermittent parenteral fluid therapy
8. Pharmacological Pain Management
- Assess client need for administration of a PRN pain medication (e.g., oral, topical, subcutaneous, IM, IV)
- Administer and document pharmacological pain management appropriate for client age and diagnoses (e.g., pregnancy, children, older adults)
- Use pharmacological measures for pain management, as needed
- Comply with requirements governing controlled substances
- Evaluate and document client use and response to pain medications

9. Total Parenteral Nutrition (TPN)
- Identify side effects/adverse events related to TPN and intervene, as appropriate (e.g., hyperglycemia, fluid imbalance, infection)
- Educate client on the need for and use of TPN
- Apply knowledge of nursing procedures and psychomotor skills when caring for a client receiving TPN
- Apply knowledge of client pathophysiology and mathematics to TPN interventions
- Administer parenteral nutrition and evaluate client response (e.g., TPN)

VII. Reduction of Risk Potential – reducing the likelihood that clients will develop complications or health problems related to existing conditions, treatments or procedures.

Related content includes, but is not limited to:

1. Changes/Abnormalities in Vital Signs
- Assess and respond to changes in client vital signs
- Apply knowledge needed to perform related nursing procedures and psychomotor skills when assessing vital signs
- Apply knowledge of client pathophysiology when measuring vital signs
- Evaluate invasive monitoring data (e.g., pulmonary artery pressure, intracranial pressure)

2. Diagnostic Tests
- Apply knowledge of related nursing procedures and psychomotor skills when caring for clients undergoing diagnostic testing
- Compare client diagnostic findings with pre-test results
- Perform diagnostic testing (e.g., electrocardiogram, oxygen saturation, glucose monitoring)
- Perform fetal heart monitoring
- Monitor results of maternal and fetal diagnostic tests (e.g., non-stress test, amniocentesis, ultrasound)
- Evaluate the results of diagnostic testing and intervene as needed

3. Laboratory Values
- Identify laboratory values for ABGs (pH, PO2, PCO2, SaO2, HCO3), BUN, cholesterol (total) glucose, hematocrit, hemoglobin, glycosylated hemoglobin (HgbA1C), platelets, potassium, sodium, WBC, creatinine, PT, PTT & APTT, INR
- Recognize deviations from normal for values of albumin (blood), ALT (SGPT), AST (SGOT), ammonia, bilirubin, bleeding time, calcium (total), cholesterol (HDL & LDL), digoxin, ESR, lithium, magnesium, phosphorous/phosphate, protein (total), urine (specific gravity, albumin, pH, WBC)
- Educate client about the purpose and procedure of prescribed laboratory tests
- Obtain blood specimens peripherally or through central line*
- Obtain specimens other than blood for diagnostic testing (e.g., wound, stool, urine specimens)
- Monitor client laboratory values (e.g., glucose testing results for the client with diabetes)
4. Potential for Alterations in Body Systems
- Identify client potential for aspiration (e.g., feeding tube, sedation, swallowing difficulties)
- Identify client potential for skin breakdown (e.g., immobility, nutritional status, incontinence)
- Identify client with increased risk for insufficient vascular perfusion (e.g., immobilized limb, post-surgery, diabetes)
- Educate client on methods to prevent complications associated with activity level/diagnosed illness/disease (e.g., contractures, foot care for client with diabetes mellitus)
- Compare current client data to baseline client data (e.g., symptoms of illness/disease)
- Monitor client output for changes from baseline (e.g., nasogastric [NG] tube, emesis, stools, urine)

5. Potential for Complications of Diagnostic Tests/Treatments/Procedures
- Assess client for an abnormal response following a diagnostic test/procedure (e.g., dysrhythmia following cardiac catheterization)
- Apply knowledge of nursing procedures and psychomotor skills when caring for a client with potential for complications
- Monitor client for signs of bleeding
- Position client to prevent complications following tests/treatments/procedures (e.g., elevate head of bed, immobilize extremity)
- Insert, maintain, and remove nasogastric tubes and/or urethral catheters
- Maintain tube patency (e.g., NG tube for decompression, chest tubes)
- Use precautions to prevent injury and/or complications associated with a procedure or diagnosis
- Provide care for client undergoing electroconvulsive therapy (e.g., monitor airway, assess for side effects, teach client about procedure)
- Intervene to manage potential circulatory complications (e.g., hemorrhage, embolus, shock)
- Intervene to prevent aspiration (e.g., check NG tube placement)
- Intervene to prevent potential neurological complications (e.g., foot drop, numbness, tingling)
- Evaluate responses to procedures and treatments

6. Potential for Complications from Surgical Procedures and Health Alterations
- Apply knowledge of pathophysiology to monitoring for complications (e.g., recognize signs of thrombocytopenia)
- Evaluate client response to post-operative interventions to prevent complications (e.g., prevents aspiration, promote venous return, promote mobility)

7. System Specific Assessment
- Assess client for abnormal peripheral pulses after a procedure or treatment
- Assess client for abnormal neurological status (e.g., level of consciousness, muscle strength, mobility)
- Assess client for peripheral edema
- Assess client for signs of hypoglycemia or hyperglycemia
- Identify factors that result in delayed wound healing
- Recognize trends and changes in client condition and intervene appropriately
- Perform a risk assessment (e.g., sensory impairment, potential for falls, level of mobility, skin integrity)
- Perform focused assessment and re-assessment (e.g., gastrointestinal, respiratory, cardiac)

8. Therapeutic Procedures
- Assess client response to recovery from local, regional or general anesthesia

- Notify primary health care provider about laboratory test results
Apply knowledge of related nursing procedures and psychomotor skills when caring for clients undergoing therapeutic procedures. Educate client about treatments and procedures. Educate client about home management of care (tracheostomy and ostomy). Use precautions to prevent further injury when moving a client with a musculoskeletal condition (e.g., log-rolling, abduction pillow). Monitor client before, during, and after a procedure/surgery (e.g., casted extremity). Monitor effective functioning of therapeutic devices (e.g., chest tube, drainage tubes, wound drainage devices, continuous bladder irrigation). Provide pre and/or postoperative education. Provide preoperative care. Provide intraoperative care. Manage client during and following procedure with moderate sedation.

VIII. Physiological Adaptation – managing and providing care for clients with acute, chronic or life threatening physical health conditions.

Related content includes, but is not limited to:

1. Alterations in Body Systems
   - Assess adaptation of client to health alteration, illness and/or disease.
   - Assess tube drainage during the time the client has an alteration in body system (e.g., amount, color).
   - Assess client for signs and symptoms of adverse effects of radiation therapy.
   - Identify signs of potential prenatal complications.
   - Identify signs, symptoms and incubation periods of infectious diseases.
   - Apply knowledge of nursing procedures, pathophysiology and psychomotor skills when caring for a client with an alteration in body systems.
   - Educate client about managing health problems (e.g., chronic illness).
   - Assist with invasive procedures (e.g., central line placement).
   - Implement and monitor phototherapy.
   - Implement interventions to address side/adverse effects of radiation therapy (e.g., dietary modifications, avoid sunlight).
   - Maintain desired temperature of client (e.g., cooling and/or warming blanket).
   - Monitor and care for clients on a ventilator.
   - Monitor wounds for signs and symptoms of infection.
   - Monitor and maintain devices and equipment used for drainage (e.g., surgical wound drains, chest tube suction, negative pressure wound therapy).
   - Perform and manage care of client receiving peritoneal dialysis.
   - Perform suctioning (e.g. oral, nasopharyngeal, endotracheal, tracheal).
   - Promote client progress toward recovery from an alteration in body systems.
   - Provide wound care and/or assist with dressing change.
   - Provide ostomy care and education (e.g. tracheal, enteral).
   - Provide care to client who has experienced a seizure.
   - Provide care of client with an infectious disease.
   - Provide pulmonary hygiene (e.g., chest physiotherapy, incentive spirometry).
   - Provide care for client experiencing complications of pregnancy/labor and/or delivery (e.g., eclampsia, precipitous labor, hemorrhage).
   - Provide care for client experiencing increased intracranial pressure.
   - Provide postoperative care.
   - Remove sutures or staples.
   - Evaluate client response to surgery.
. Evaluate achievement of client treatment goals
. Evaluate client response to treatment for an infectious disease (e.g., acquired immune deficiency syndrome [AIDS], tuberculosis [TB])
. Evaluate and monitor client response to radiation therapy

2. **Fluid and Electrolyte Imbalances**
. Identify signs and symptoms of client fluid and/or electrolyte imbalance
. Apply knowledge of pathophysiology when caring for client with fluid and electrolyte imbalances
. Manage the care of the client with a fluid and electrolyte imbalance
. Evaluate client response to interventions to correct fluid or electrolyte imbalance

3. **Hemodynamics**
. Assess client for decreased cardiac output (e.g., diminished peripheral pulses, hypotension)
. Identify cardiac rhythm strip abnormalities (e.g., sinus bradycardia, premature ventricular contractions [PVCs], ventricular tachycardia, fibrillation)
. Apply knowledge of pathophysiology to interventions in response to client abnormal hemodynamics
. Provide client with strategies to manage decreased cardiac output (e.g., frequent rest periods, limit activities)
. Intervene to improve client cardiovascular status (e.g., initiate protocol to manage cardiac arrhythmias, monitor pacemaker functions)
. Monitor and maintain arterial lines
. Manage the care of a client with a pacing device (e.g., pacemaker, biventricular pacemaker, implantable cardioverter defibrillator)
. Manage the care of a client on telemetry
. Manage the care of a client receiving hemodialysis
. Manage the care of a client with alteration in hemodynamics, tissue perfusion and hemostasis (e.g., cerebral, cardiac, peripheral)

4. **Illness Management**
. Identify client data that needs to be reported immediately
. Apply knowledge of client pathophysiology to illness management
. Educate client about managing illness (e.g., AIDS, chronic illnesses)
. Implement interventions to manage client recovering from an illness
. Perform gastric lavage
. Promote and provide continuity of care in illness management activities (e.g., cast placement)
. Manage the care of a client with impaired ventilation/oxygenation*
. Evaluate the effectiveness of the treatment regimen for a client with an acute or chronic diagnosis

5. **Medical Emergencies**
. Apply knowledge of pathophysiology when caring for a client experiencing a medical emergency
. Apply knowledge of nursing procedures and psychomotor skills when caring for a client experiencing a medical emergency
. Explain emergency interventions to client
. Notify primary health care provider about client unexpected response/emergency situation
. Perform emergency care procedures (e.g., cardio-pulmonary resuscitation, abdominal thrust maneuver, respiratory support, automated external defibrillator)
. Provide emergency care for wound disruption (e.g., evisceration, dehiscence)
. Evaluate and document client response to emergency interventions (e.g., restoration of breathing, pulse)

6. **Pathophysiology**
. Identify pathophysiology related to an acute or chronic condition (e.g., signs and symptoms)
. Understand general principles of pathophysiology (e.g., injury and repair, immunity, cellular structure)

7. **Unexpected Response to Therapies**
   . Assess client for unexpected adverse response to therapy (e.g., increased intracranial pressure, hemorrhage)
   . Recognize signs and symptoms of complications and intervene appropriately when providing client care
   . Promote recovery of client from unexpected response to therapy (e.g., urinary tract infection)
Appendix F

Faculty Survey

Part I. The first part of the survey looks at measures the SCC nursing program has taken to increase the success of its graduates on the updated NCLEX-RN. It is specifically interested in the factors that influence the faculty in choosing course content and exam items in respect to the NCLEX-RN.

1. Please indicate how much each of the following methods is used by you to plan your semester’s curriculum coverage:

<table>
<thead>
<tr>
<th>Method</th>
<th>Not at all</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbook outline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current nursing literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge of NCLEX coverage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ past performance on exams</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (List)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How influential are the following when you choose items to put on student exams?

<table>
<thead>
<tr>
<th>Method</th>
<th>Not at all</th>
<th>Somewhat influential</th>
<th>Influential</th>
<th>Decisive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team meetings and decisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test blue prints indicating the # of items for each lecture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test analysis indicates reliable items from previous years</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (List)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. **How much do the following factors influence any changes you have made to the course content covered in your class?**

<table>
<thead>
<tr>
<th>Factor</th>
<th>No influence at all</th>
<th>Somewhat influential</th>
<th>Influential</th>
<th>Decisive</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCLEX performance data from most recent cohorts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current nursing literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student evaluations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Textbook changes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (List)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **How often have you made changes to your course syllabus over the last three years?**

<table>
<thead>
<tr>
<th>Component</th>
<th>Not at all</th>
<th>Once</th>
<th>Twice</th>
<th>Three or more times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbook required</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grading policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major content covered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time spent for lectures on various topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (List)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. The NCLEX-RN presents several frameworks for organizing nursing education content. Which of the two frameworks outlined below (CLIENT NEEDS or CATEGORIES OF HUMAN ALTERATIONS) aligns most closely with your course? (circle either A or B)

A. CLIENT NEEDS:
   Safe Effective Care Environment

   Health Promotion and Maintenance

   Psychosocial Integrity

   Physiological Integrity

B. CATEGORIES OF HUMAN ALTERATIONS
   Cardiovascular

   Endocrine / Metabolic

   Gastrointestinal

   Reproductive

   Integumentary / Musculoskeletal Immune

   Nervous / Sensory

   Psychosocial Behaviors
Part II. The second half of the survey is interested in the faculty member’s perspective on how the SCC nursing program ensures the success of its graduates on the NCLEX-RN. Please answer the following questions.

1. What processes do the nursing faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

2. Please rate each of the following elements in terms of how well they are exemplified by the SCC nursing department.

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegiality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Coaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regular and On-going Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Decision-Making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaborative Teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep Concerns for Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. What cultural and organizational norms in the SCC nursing department help facilitate the program’s efforts to produce successful graduates?

4. What programmatic practices does the SCC nursing program employ that increase the success of its at-risk students?

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Tutoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty-led Study Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Skills Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent Skills Lab Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Hours for Skills Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Computer Labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Personal Counselor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Care Funding Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Short-term Emergency Funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Counselor for Nursing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Nursing Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Orientation Program Prior to Admission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Required Orientation Program Prior to Enrollment

Peer Mentoring Program

Peer Tutoring Program

Dedicated Retention Program or Specialist

5. How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerized Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed Testing Similar to NCLEX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viewing One Question at a Time During Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inability to Review Previous Test Items During Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate Scoring and Feedback After Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Frequency of Testing in Nursing Courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Success Course (e.g. N370)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Computerized Standardized Testing (e.g. ATI and Evolve)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. **What are the elements in the SCC nursing program that help students successfully complete of their program?**

<table>
<thead>
<tr>
<th>Final Course Grade Dependent on Test Scores Only</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Rounding of Final Course Grade</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Course Passing Grade at 75%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G
Graduate Survey

The survey is interested in the graduate’s perspective on how the SCC nursing program ensures the success of its graduates on the NCLEX-RN.

Please answer the following questions.

1. Did you pass the NCLEX-RN?
   a. Yes
   b. No

2. Did you pass the NCLEX-RN on your very first attempt?
   a. Yes
   b. No

3. What processes does the faculty utilize to ensure that their teaching is aligned to the NCLEX-RN standards?

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses Textbook Outline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Current Nursing Literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Current Nursing Practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Hospital Protocols</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Current NCLEX Test Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Students’ Past Performance on Exams</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on the Test Blue Prints Indicating the # of Items for Each Lecture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Test Item Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relies on Mostly Lecturing Format During Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element</td>
<td>Not Effective At All</td>
<td>Somewhat Effective</td>
<td>Effective</td>
<td>Very Effective</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Highly Structured Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Expectations by Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Expectations by Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Academic Rigor in Theory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Academic Rigor in Clinical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Open Door Policy” by Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive Atmosphere by Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supportive Atmosphere by Peers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Sensitivity to Diversity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. What cultural and organizational norms help facilitate the SCC community college nursing program’s efforts to produce successful graduates?
5. What programmatic practices does the SCC nursing program employ that increase the success of its at-risk students?

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty Tutoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty-led Study Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Skills Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent Skills Lab Staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flexible Hours for Skills Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Computer Labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Personal Counselor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Care Funding Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of Short-term Emergency Funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Counselor for Nursing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Nursing Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Required Orientation Program Prior to Admission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How do SCC testing practices affect graduates’ performance on the NCLEX-RN?

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computerized Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timed Testing Similar to NCLEX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viewing One Question at a Time During Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inability to Review Previous Test Items During Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate Scoring and Feedback After Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Frequency of Testing During Nursing Courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Success Course (e.g. N370)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Computerized Standardized Testing (e.g. ATI and Evolve)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Final Course Grade  
Dependent on Test  
Scores Only

<table>
<thead>
<tr>
<th>Element</th>
<th>Not Effective At All</th>
<th>Somewhat Effective</th>
<th>Effective</th>
<th>Very Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Meeting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission Criteria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Classes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Experiences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skills Lab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support Services and Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. **What are the elements in the SCC nursing program that help students successfully complete their program?**

7. **What comments would you like to share regarding your training in the SCC nursing program?**
Appendix H

SACRAMENTO CITY COLLEGE

ASSOCIATE DEGREE NURSING PROGRAM

PROGRAM LEVEL STUDENT LEARNING OUTCOMES

(SCC, 2010)

1. Utilize the nursing process with critical thinking skills to meet the patient's basic human needs within organized health care systems in a variety of settings and provide direct and indirect care of patients of all ages with significant health problems.

2. Provide individualized nursing measures assisting patients of all ages in need of rehabilitation including lifestyle changes in the hospital, home, or in the community.

3. Apply established standards of care, critical thinking skills and scientific knowledge when performing nursing functions and procedures.

4. Maintain therapeutic communication essential to the achievement of health related patient and/or organizational goals.

5. Demonstrate the ability to accurately and succinctly report and document patient assessments, interventions, outcomes of care, and new/unusual circumstances.

6. Act as a patient advocate and teacher in assisting patients and families to prevent illness, attain wellness, and maintain their optimum level of functioning and health.

7. Utilize leadership concepts to function as a manager of nursing care for a group of patients, delegating tasks, and supervising skills of health team members consistent with job description guidelines.

8. Determine patient care priorities, using critical thinking and time management skills, to organize and provide nursing care for a group of patients with significant health problems.

9. Apply knowledge of cultural patterns, beliefs, and practices in providing culturally sensitive competent care.
10. Identify individual learning needs and utilize opportunities and resources for ongoing professional development, maintaining theoretical and technical competency.

11. Function with accountability within the ethical and legal boundaries and standards of registered nursing practice.

12. Objectively assess own strengths and weaknesses needing further development for accurate, safe provision of standards of registered nursing care.
# Appendix I

Sacramento City College ADN Program

## Enrollment Criteria Recommendation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Max Points</th>
<th>Element</th>
<th>Point Value</th>
<th>Supporting Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous academic degrees or relevant health care certificates held by applicant</td>
<td>10</td>
<td>AA/AS degree or higher</td>
<td>5</td>
<td>Official transcript from regionally credited U.S. colleges or universities with degree posted</td>
</tr>
<tr>
<td>Currently licensed (LVN, Paramedic, Respiratory Therapist, Occupational Therapy Assistant, Physical Therapy Assistant Certified CNA, EMT, Psych Technician, Medical Assistant)</td>
<td></td>
<td>Current license</td>
<td>5</td>
<td>Copy of your current California License or certificate with your license number date of issue and date of expiration</td>
</tr>
<tr>
<td>Grade Point Average in relevant course work- Minimum 3.0 GPA in Anatomy, Physiology, and Microbiology (BIOL 430 and BIOL 431 and BIOL 440)</td>
<td>30</td>
<td>GPA=3.8-4.00</td>
<td>30</td>
<td>For prerequisite courses taken outside the Los Rios District, official/sealed transcripts are required. For prerequisites taken at any regionally accredited schools in the United States, submit all transcripts, regardless of applicability to nursing requirements. All transcripts from outside the United States must be evaluated by a NACES approved foreign transcript evaluation service. All prerequisite courses must be completed with a grade of “C” or better and final grades must be posted on a transcript.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=3.5-3.79</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=3.3-3.49</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=3.0-3.29</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Grade Point Average in electives. Minimum 2.5 GPA in other prerequisite courses See college catalogs at ARC and SCC for required prerequisite courses.</td>
<td>20</td>
<td>GPA=4.00-3.75</td>
<td>20</td>
<td>Helpful Note: If you are applying for the SCC Nursing Program and your courses are listed on the “SCC Nursing Equivalent Courses Grid” that can be found on the SCC Nursing Department home page, you need not submit course descriptions for those classes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=3.50-3.74</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=3.00-3.49</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPA=2.50-2.99</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Criteria</strong></td>
<td><strong>Max Points</strong></td>
<td><strong>Element</strong></td>
<td><strong>Point Value</strong></td>
<td><strong>Supporting Evidence</strong></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>----------------</td>
<td>-------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Life Experiences or special circumstances – Select only one</td>
<td>2.5</td>
<td>Disabilities</td>
<td>2.5</td>
<td>Documented disability from college Learning Disability or Disability Support Programs and Services</td>
</tr>
<tr>
<td>Low family income</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Proof of eligibility or proof of financial aide. e.g. BOGG fee waiver, Cal Grant, Pell Grant or other federal grant, CalWORKS</td>
</tr>
<tr>
<td>First generation to attend college</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Complete the ADN Supporting Documentation Form explaining situation or circumstances.</td>
</tr>
<tr>
<td>Need to work</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Paycheck stub during period enrolled in perquisite course or letter from employer must be an organization letterhead verifying was at least a part-time while completing perquisites</td>
</tr>
<tr>
<td>Disadvantaged social or educational environment</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Participation or eligibility for Extended Opportunity Programs &amp; Services</td>
</tr>
<tr>
<td>Difficult personal or family situation / environment</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Complete ADN Admission Supporting Document Form explaining situation or circumstances.</td>
</tr>
<tr>
<td>Refugee Status</td>
<td>2.5</td>
<td></td>
<td></td>
<td>Documentation of United States Citizens Immigration Service (USCIS)</td>
</tr>
<tr>
<td>Veteran Status-</td>
<td>5.0</td>
<td>Veteran Status or eligible spouse status</td>
<td>5.0</td>
<td>Copy of Defense Form DD-214 Honorable Discharge required</td>
</tr>
<tr>
<td>Reading eligibility</td>
<td>5.0</td>
<td>TEAS Score</td>
<td>5.0</td>
<td>Score above the 50th percentile in the Reading Section of the TEAS test (first test only)</td>
</tr>
<tr>
<td>Proficiency or advanced level coursework in languages other than English</td>
<td>2.5</td>
<td>Proficiency in a language other than English</td>
<td>2.5</td>
<td>Official transcript from a U.S. regionally accredited college or university verifying four (3) semesters of foreign language – OR – Verification of proficiency – Complete the ADN Admission Supporting Documentation Form</td>
</tr>
<tr>
<td>Approved Diagnostic assessment /readiness tool, Test of Essential Academic Skills TEAS</td>
<td>25</td>
<td></td>
<td></td>
<td>TEAS taken at Sacramento City College—Applicants do not need to submit any documentation; your results will be on file.</td>
</tr>
</tbody>
</table>
Sacramento City College uses the Test of Essential Academic Skills (TEAS). The minimum adjusted individual score required for admission is a 67%. Only the FIRST passing score will be counted towards the cumulated score for admission. If a student does not attain the minimum of 67%. They may retest within one year of a previous test if they provide proof of remediation.

TEAS taken at any other location—Do NOT send your official TEAS results unless you are invited to submit documentation in support of your application information. If documentation is required, you must go to www.atitesting.com online store and request your official TEAS results are sent to the college. There is a fee for this service.
REFERENCES


Sacramento City College Associate Degree Nursing Program. (2010). *Status report and action plan* (Unpublished report from Sacramento City College's Associate Degree Nursing program to the California Board of Registered Nursing).


http://www2.ed.gov/about/bdscomm/list/hiedfuture/actionplan-factsheet.html


