Student Leadership Development: Accreditation Considerations For PharmD Programs

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STUDENT LEADERSHIP DEVELOPMENT:
ACCREDITATION CONSIDERATIONS FOR PHARMD PROGRAMS

by

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A DISSERTATION

Presented to the Affiliated Faculty of

The College of Graduate and Professional Studies at the University of New England

Submitted in Partial Fulfillment of Requirements

For the degree of Doctor of Education

Portland & Biddeford, Maine

March, 2020
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2020
STUDENT LEADERSHIP DEVELOPMENT: 
ACCREDITATION CONSIDERATIONS FOR PHARMD PROGRAMS

ABSTRACT
Doctor of Pharmacy professional associations such as the American Association of Pharmacy made a call to increase early leadership development of future generations of pharmacists to better prepare them for future leadership positions. This request for change was based on information related to a shift in demographics, an aging baby boom population, retirement of current leaders, changes in pharmacy practice, and an increase of specialty areas in pharmacy. The Center for the Advancement of Pharmacy Education (CAPE) and Accreditation Council for Pharmacy Education (ACPE) recognized this need for improving student leadership development (SLD) by incorporating it into their guidance documentation, CAPE 2013 and ACPE Standards for Doctor of Pharmacy Programs 2016. A specific ACPE accreditation standard, Standard 4, now required Doctor of Pharmacy programs to include SLD within their programs to allow all students to develop their leadership potential. The situation presented a challenge to academic pharmacy leadership, that is, how to integrate programming into an already full curriculum to achieve outcomes associated with SLD. To meet these SLD outcomes, schools and colleges of pharmacy can start by identifying desired leadership characteristics to incorporate into course content for each professional year. This process provides a baseline for ensuring SLD is integrated vertically and horizontally throughout the curriculum. Mapping the SLD course content to the ACPE standard provides a picture of how the curriculum is addressing each area of
SLD and helps to identify gaps. Gaps can be filled by adding additional courses or other required programming. This completed research study provides an examination of how the public schools of pharmacy in California have incorporated SLD within their curriculum.
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Doctor of Education
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It was presented on
March 17, 2020

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ACKNOWLEDGEMENTS

Thank you to my family for understanding why I needed to miss time together to check off one of my bucket list’s goals, completing my doctorate degree in my golden years. Family acknowledgements to Donald (husband), Jon, Melanie, Jen, Bonnie, Chris, Tre, and grandchildren – Will, Nathan, Ava, Mary and Camlyn.

I would also like to thank my advisors, Dr. Burch, Dr. Wagle, Dr. Collay, and Dr. Alvarez for their wonderful assistance, guidance, patience and positive reinforcement throughout the dissertation process. I would not have been able to complete the final dissertation without their dedicated advisement and oversight.
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CHAPTER 1: INTRODUCTION

The Affordable Care Act has brought over 8 million new patients into the healthcare system (Beaton, 2018). As with any sector that experiences rapid customer growth, the need for workers expanded. This resulted in human resource shortages in many healthcare areas including a need for more pharmacists, physicians, nurses, and health profession education faculty. The research project presented here emerged from a changing health care environment. As of May 2019, the U.S. population was more than 328 million and growing (United States Census Bureau). According to the U.S. Census Bureau, by 2030, 72 million Americans will be 65 or older, a 50% shift in age demographics since 2000. The shift is mostly due to the aging baby boomers, who were born at the conclusion of World War II. The baby boom generation is the largest generation in U.S. history (Colby, 2014, p. 3). With the help of breakthroughs in medical technology, advanced care management, and the healthier lifestyles followed by most boomers, Americans are living longer than ever before. A study conducted by the School of Public Health at the University at Albany (Center for Health Workforce Studies, 2006, p. 1-17) showed that a segment of this aging population includes persons currently employed in the health care workforce, many of whom have worked their way up the ladder into leadership positions and are now entering retirement age.

According to the Center for Health Workforce Studies, one impact of this aging population is the possibility of large numbers of health care workers retiring at the same time that demand for health care is on the rise (Center for Health Workforce Analysis, 2006, p. 10). This situation has already started to occur. After the U.S. economy started to bounce back and stabilize from the Great Recession in 2008, many baby boom generation health professionals elected to retire (Colby, 2014, p. 1). The increase in new patients from the Affordable Care Act,
population increase, aging population, and retirement of health professionals has contributed to not only shortages in the health profession workforce but may also have an effect on the ability of healthcare organizations and health education institutions to fill positions and leadership roles (Gruzd, 2011).

Along with this changing environment a need to offer student leadership development (SLD) arose. The need for early SLD emerged shortly after the ACA went into effect in 2010 (ObamaCareFacts.com, 2014), a time when the healthcare industry and workforce were undergoing many changes due to the increased patient population and the associated demand for health services and an aging health profession workforce.

The resulting workforce situation reflects a need for new employees who can not only assume new roles in health care, but who also can quickly assume leadership roles to fill voids in positions of current middle management who are transitioning into previously held retiree leadership positions (Colby, 2014, p.15). Thus, the need for student leadership development (SLD) arose within the health education curriculum.

The intent of including SLD in the curriculum is to ensure graduates can practice patient-centered care and have the ability to lead change as positional and non-positional leaders in their respective practice areas. The emphasis of the inclusion of leadership development in the health profession curriculum is to prepare new graduates to assume career roles with a foundation of leadership concepts, skills, and knowledge needed for the current and future healthcare environment. According to an article in the California Pharmacist journal, new pharmacy practitioners need to be able to “step into ad hoc leadership roles to advance organizational and professional objectives regardless of their title or position within an organization or a care environment” (Rodondi et al, 2014, p. 35). These authors also recognize most health profession
school curricula are focused on basic and clinical sciences to prepare graduates for traditional practice with few programs offering formal leadership coursework in the core curriculum (Rodondi et al, 2014, p. 37). Although new graduates can fill many positions, they are often unprepared to take a leadership role and often lack the interprofessional and interpersonal skills demanded for such a position (Patterson, 2016, p. 8).

The need to create early student leadership development (SLD) curriculum to better prepare graduates for the workforce demand was noted by several key stakeholders in pharmacy education and pharmacy practice (Janke, et al, 2016, p. 8; Mason, et al, 2011, p. 10) and led to a call for action. The Center for the Advancement of Pharmacy Education (CAPE) answered this call by identifying student leadership development as a desired curricular outcome in the 2013 CAPE Educational Outcomes. The CAPE highlighted this need through Educational Domain 4, Section 4.2, which also provides suggested skills students should develop prior to graduation and examples of outcome measures for program assessment (Medina et al, 2013). This CAPE domain outcome is stated as “Leadership (Leader) for institutions to demonstrate responsibility for creating and achieving shared goals, regardless of position” (Medina et al., 2013).

Professional associations such as the Council for the Advancement of Standards of Education (CAS) and accreditation bodies such as the Accreditation Council for Pharmacy Education (ACPE) developed the need for SLD into specific standardized criteria. The intent of the criteria is to help academic institutions meet curricular outcome goals to better prepare students for the workforce demand.

The CAS developed standards for Student Leadership Development Programs. The CAS standards are focused on advancing students in four categories: foundations of leadership, personal development, interpersonal development, and development of groups, organizations,
and systems (Komives & Smedick, 2012). ACPE revised the accreditation standards for schools of pharmacy in its document *ACPE Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree, “Standards 2016”* (ACPE, 2015). ACPE adopted the SLD elements from CAPE Domain 4.2 and the CAS SLD criteria as a new outcome for the pharmacy programs they accredit. ACPE Standard 4 focuses on providing personal and professional student development from the CAPE Domain and CAS standard (knowledge, skills, abilities, behaviors, and attitudes). The ACPE standard specifically calls for the student development outcomes to demonstrate self-awareness (4.1), leadership (4.2), innovation and entrepreneurship (4.3), and professionalism (4.4). These four domains of ACPE Standard 4 are titled as “personal and professional development” in the ACPE Standards 2016 document (ACPE, 2015, p. 2). These four domains shall be referred to as one term in this study, student leadership development or SLD.

Within the health profession education areas schools of medicine, nursing, and pharmacy, the Accreditation Council for Pharmacy Education (ACPE) is the only health profession accreditation council that has included student leadership development within its Doctor of Pharmacy (PharmD) degree (ACPE Standards, 2015, p. 2). The creation and use of standards and outcome domains provide credibility and reliability for SLD programs and create a set of competencies for outcomes assessment.

Standardization of SLD within PharmD curriculum is also closely associated with the gap areas of health education, practice, and leadership skills for today’s health care environment. These gap areas include not only leadership and professionalism but also development of an understanding of health disparities, interprofessional education, service-learning and community service, and cultural competency (ACPE, 2015, p. 2). The intent of these changes to health
professional education is to better prepare students to transition into leadership positions prepared with the knowledge and skills required of today’s healthcare leaders; to understand the benefits, nuances, and complexities of working as a member of a healthcare team; and to increase awareness of their role in the healthcare community (ACPE, 2015, p. 2).

In order to effectuate results to satisfy industry needs and provide a means of enabling education outcomes to include the gap areas associated with leadership development, there must be intentional action (Rodondi, 2014, p. 36). Leadership knowledge, skills, and behaviors, like other competencies, can be learned (Blumenthal, 2012, p. 513-522) and are essential components for being successful in a fast-paced, ever-changing, and highly complex healthcare environment (Adams, 2007). Leadership training for health professional students and medical residents is a rising topic of discussion (Arroliga, 2014, p. 246–249). This topic requires exploration of compliance and adherence to the SLD accreditation standards to develop an understanding of how pharmacy schools’ leadership can develop best practices for meeting compliance of such standards.

**Problem Statement**

Schools of pharmacy must include student leadership development in the curriculum to meet CAPE outcomes and the associated ACPE accreditation Standard 4, Personal & Professional Development of students. A gap exists in the literature in determining how schools have adapted their curriculum to meet these requirements. Research in articles, books, journals, and dissertations was examined in the literature review for information focused on how schools are including SLD within their programs. A great deal of literature was found for leadership development of students in nursing, medical and other health profession doctoral programs, but very little was found for pharmacy students and PharmD programs. Although information was found for specific PharmD programs in several states, there was a lack of information available
for PharmD programs in the California. For the purpose of this study, public pharmacy schools in California were selected due to the public availability of archival documents on these institution’s web sites.

**Purpose of the Study**

The purpose of this multi-case explanatory qualitative study is to help fill the gap in the literature by exploring how public pharmacy schools in California are currently addressing accreditation standards associated with pharmacy student’s leadership development. This was done by accessing the curriculum of two public pharmacy schools in California then studying and comparing the curriculum to the ACPE standards and domains. The ACPE standards and domain concepts were further defined using health profession leadership characteristics obtained through a literature review.

**Research Questions**

The researcher sought to determine what public pharmacy schools in California are doing to meet accreditation standards associated with student leadership development. This was done by identifying knowledge and key subject areas associated with the ACPE standards and domain. The researcher could then use this criteria to examine the school’s curriculum to develop an understanding of how curriculum does or does not reflect the standards. The primary research questions for the study asked:

1. What are the key concepts, skills, and knowledge competencies associated with health profession leadership and articulated in the standards and related domains?

This identification was needed and considered because accreditation standards are typically more general rather than specific.
2. How does the curriculum of the public Doctor of Pharmacy schools in California reflect the SLD accreditation standard and related domains?

This question was investigated because of the possibility that the sample programs examined may have SLD embedded in the curriculum.

**Conceptual Framework**

The focus of this study is to explore how public pharmacy schools in California are currently meeting accreditation standards associated with student leadership development to prepare students for future career health professional leadership roles. The literature review provides supporting research related to what healthcare leadership is and what knowledge and key subject areas are most relevant to current and future healthcare leadership. This led to the identification of what the literature says about what healthcare leadership characteristics are needed for leadership development. The results of the literature review were used to design and implement a study related to identifying criteria and competencies in pharmacy student leadership training to meet accreditation standards and related domains. Based on these statements the theoretical framework guiding the research is identifying and meeting the SLD criteria for ACPE Standard 4 and the CAPE Domain (AACP, 2016). A visual illustration of the conceptual framework is shown in Figure 1.

**Assumptions**

The researcher’s expectation for the research study is an assumption that colleges and schools of pharmacy have embedded student leadership development within multiple courses of their programs’ curriculum. Embedding the leadership criteria in this fashion will require mapping the accreditation standard criteria to the various courses to ensure the institution is meeting the standards. It is an assumption that the course content clearly reflects the SLD
concepts and their associated terminology. The study assumes schools are meeting compliance and adherence to SLD standards and domains in various forms within their curriculum rather than focused SLD training provided by a leadership specific course.

**Limitations**

Due to health profession specialty areas and organization operation variances, student leadership development alone will not provide all the training needed for future leadership roles. However, student leadership development training within the professional education component helps to develop a pipeline of leaders for the future, setting the foundation for further leadership development of those who may choose to pursue leadership opportunities later in their career (Sonnino, 2016, p. 1). Another limitation is the ability to obtain up-to-date course catalog information and descriptions for the public schools of pharmacy in California. The course descriptions’ information may also be problematic, in that the content may not clearly reflect what is being taught or may not provide enough detail to determine what, if any, leadership development is included.

**Scope**

The scope of this study is narrowed to California public schools offering a Doctor of Pharmacy (PharmD) programs. The reasoning for the narrow health profession education focus was based on the accreditation requirement for student leadership development for these programs and proximity of the target schools to the researcher’s geographic interest area. The American Council for Pharmacy Education (ACPE) is the accreditation council for the Doctor of Pharmacy programs in the United States. ACPE has developed standards for assessing student leadership development. The standard associated with student leadership development is ACPE Standard 4. Additionally, the CAPE Domain 4.2 provides examples of outcome measures for
institutional assessment of leadership to assist PharmD program curriculum development. The health profession programs considered are medicine, pharmacy and nursing. Although all three program accreditation councils mention a need for student leadership development, only the pharmacy accreditation council (ACPE) had instituted a standard for this area at the time the research was under study. Therefore, the findings apply only to the selected schools and Doctor of Pharmacy programs and may not be applicable to any other health education programs or institutions.

**Significance**

The significance of the research is findings will be reported that provide a means to help leadership in academic pharmacy programs to better understand how other schools are meeting accreditation standards and to understand the importance and reasoning of the call to action for schools to implement SLD. The study helps fill a gap in the existing literature associated with determining how Doctor of Pharmacy programs are meeting accreditation standards associated with student leadership development. The study also provides insight into the need for health profession educators to better prepare students for future leadership roles in their chosen profession.

**Definition of Key Terms**

**Accreditation Council for Pharmacy Education (ACPE).** The programmatic accreditation council for Pharmacy education. ACPE accreditation is public recognition that a professional degree program leading to the Doctor of Pharmacy degree is judged to meet established qualifications and education standards through initial and subsequent periodic evaluations. Accreditation is distinguished from licensure, which applies to individuals (ACPE, 2016).
**Affordable Care Act (ACA).** The comprehensive health care reform law enacted in March 2010.

**Center for the Advancement of Pharmacy Education (CAPE).** The CAPE Educational Outcomes are intended to be the target toward which the evolving pharmacy curriculum should be aimed (AACP).

**Council for Advancement of Standards of Education (CAS).** The Council for the Advancement of Standards in Higher Education (CAS), a consortium of professional associations in higher education, promotes the use of its professional standards for the development, assessment, and improvement of quality student learning, programs, and services (CAS).

**Doctor of Pharmacy Degree (PharmD).** A professional doctorate in pharmacy. In some countries, it is a first professional degree, and a prerequisite for licensing to practice the profession of pharmacy or to become a clinical pharmacist. Pharm.D programs have significant experiential or clinical education components in introductory and advanced levels.

**Healthcare Professionals.** The staff at a hospital or clinic which generally consists of physicians, pharmacists, nurses, physician assistants, phlebotomists, radiologists, surgical technologists, pharmacy technologists and all employees with patient care-related roles (Porter, 2015).

**Student Leadership Development (SLD).** Student development programming focused on learning, demonstrating, and applying leadership and professionalism concepts to build a foundation for future leadership roles.
Conclusion

Pharmacist and Pharmacy students have unlimited opportunities to become leaders within their individual practice settings; pharmacy professional organizations on the state, local, and national levels; the overall health care profession; and their communities (Desselle, 2012). Early leadership development of pharmacy students will help build a foundation that can be used along with employer-specific and specialty area management concepts to catapult new graduates into leadership roles in their new careers. For this to occur, pharmacy education leadership must develop SLD programming that is not just a component of the curriculum. The programming must focus on health profession leadership concepts, skills, and knowledge applicable to the profession most of which are contained in the accreditation standards and domains.

The literature review in Chapter 2 is focused on three purpose areas. The first is associated with health profession leadership and health profession SLD. The literature review defines health profession leadership, identifies leadership theories that complement health profession leadership, and determines what concepts, skills, and knowledge are needed for health profession student leadership development. The second purpose of the literature review was to examine SLD accreditation competency criteria for pharmacy education identified by ACPE Standards and CAPE Domains which served as the conceptual framework for the study. The third purpose of the literature review was to document what pharmacy schools are currently doing to meet SLD competency criteria for SLD identified by accreditation.

The research design used is a multi-case explanatory, sometimes called illustrative or descriptive, or a case study using archival data. The archival data used for the public schools in California offering a PharmD program were the school’s college program and course descriptions. The school archival data was compared to the key SLD data associated with
accreditation and outcome criteria identified through the literature review. The case study provides information about how a segment of pharmacy schools are meeting accreditation competency areas for SLD.
CHAPTER 2: LITERATURE REVIEW

The research presented in this study emerged from a changing healthcare atmosphere and the associated need to better prepare students for future leadership roles. Leadership knowledge, skills, and behaviors, like other professional competencies, can be learned (Blumenthal, 2012, p. 513-522) and are essential components for being successful in a fast-paced, ever-changing, and highly complex health environment (Adams, 2007). Leadership training for students and medical residents is a rising topic of discussion (Arroliga, 2014, p. 246–249). Early career leadership training included in health education helps to develop a pipeline of leaders for the future, setting the foundation for further development of those who may choose to pursue leadership opportunities later in their career (Sonnino, 2016, p. 1).

The purpose of this qualitative study was to explore what is currently being done to teach students leadership at health profession schools and to identify what is needed to improve development in this area. The scope of this study was narrowed to Doctor of Pharmacy (PharmD) programs within California. Through the literature review, the researcher sought to determine what knowledge and key subject areas are most relevant to current and future pharmacy leadership to design and implement a study related to it. The study presented in Chapter 3 examined what is being taught within program curriculum to identify gaps in current student leadership development. The researcher theorized that, for pharmacy schools to prove to ACPE accreditors that they are teaching leadership skills, development of course programming designed specifically for healthcare students must be incorporated into the curriculum. The argument and basis for the study arose out of the existing scholarship and fills a knowledge gap that has neglected to focus on a dedicated means for early leadership development of health
professionals. To carry out this study, it was necessary to complete a critical review of the literature.

The literature review explored concepts related to health profession leadership to develop a better understanding of the subject area. Topics explored in the literature review were healthcare leadership, leadership theories and models related to healthcare, and leadership characteristics. A sub-topic, the PharmD accreditation standard related to leadership development, was examined under the section titled Healthcare Leadership. Consideration of this standard provides guidance for the identification of required leadership competency areas within the research that may prove beneficial for institutional leadership responsible for insuring compliance with such accreditation standards.

This literature review aimed to establish a framework to identify key leadership characteristics and knowledge concepts for incorporating leadership development into health profession education. The keywords used for the literature review are healthcare leadership, health profession leadership theory and models, health profession leadership competencies, leadership traits, leadership skills. The literature review was conducted using an integrative methodology utilizing a broad spectrum of scholarly literature including empirical, non-empirical, conceptual, and theoretical research concepts (Callahan, 2014). The primary sources used for the literature review included books, journal articles, dissertations, professional association journals, internet resources, and ProQuest. The objective of the literature review was to develop a foundation of knowledge in the areas related to healthcare leadership; ideal leadership archetypes for the health professions; and health profession leadership qualities.
Healthcare Leadership

The review of healthcare leadership provided a foundation for what healthcare leadership involves and how it differs from leadership within other professions. Leadership theories reviewed are narrowed to transformational and collaborative. Related to the topic of healthcare leadership is a sub-topic specific to PharmD student leadership development concepts included in the program’s accreditation standards. This is an important area to reference from the literature since it provides a foundation for what institutional leadership was responsible for including in the didactic and experiential components of the curriculum and co-curriculum.

Northouse provided a review of the history and multitude of ways leadership was defined. The result of this examination culminated into the definition “Leadership is a process whereby and individual influences a group of individuals to achieve a common goal” (Northouse, 2016, p. 6). Ledlow and Coppola define leadership with an emphasis on healthcare leadership as

Leadership is the dynamic and active creation and maintenance of an organizational culture and strategic systems that focus on the collective energy of both the collective energy of both leading and managing resources toward meeting the needs of the external environment utilizing the most efficient, effective, and efficacious methods possible by moral means. (Ledlow, 2011, p. 14).

In health care, three of these types are prevalent and most identified (Rogers, 2012, pp. 47-57):

- Transactional leaders, who work within the boundaries and the existing standards of the organization. They are usually not risk takers, but focus on efficiency, control, stability, and predictability.
• Transformational leaders, who raise one another to higher levels of motivation, making changes and shaping the future.

• Servant leaders, who focus on the service aspect first as they have a natural tendency to help others (Greenleaf, 1977; 2002).

Each of these types has its place in health care, but transformational and servant leaders are more likely to help the institution advance, while transactional leaders are most qualified to maintain the status quo.

Health profession leaders often lead within the realm of very complex healthcare systems. This environment is complex because it is composed of several health professional groups with specialty areas, various departments, non-professional staff, the patients and family, vendors, and the community. Many of the associations within this environment are nonlinear, making interactions between them challenging. Within large organizations such as healthcare systems, the numerous groups with associated sub-cultures might support or be in conflict with each other. Thus, health care leadership focuses on the environment, diversity within the organization, efficiently utilizing resources, and encouraging individual personnel to work towards common goals (Al-Sawai, 2013, pp. 285-287).

Leadership within the health professions, as with other professions, can vary based on individual perceptions of what leadership involves. Kumar (2015; 2016) noted that for many decades health care leadership was dysfunctional and led to many healthcare selfish/hypocritical qualities of leaders placing themselves in somewhat dictator-like positions, portraying arrogance and potentially unchallengeable in their decision processes and interaction with others (p. 63). Kumar noted that this form of dictatorial leadership cannot be justified in modern healthcare settings where organizations are comprised of complex interactions between many professionals.
with multiple roles in leadership and management. The development of these qualities may have formed due to a lack of leadership training early in their foundational learning years (Kumar, 2015; 2016, p. 64). Griffith (2018) fundamentally changed this domineering type of leadership approach by suggesting health care organizational structures align more closely with the corporate sector and its executive boards and layers of middle management who work closely with other employees. As a result, there has been an unprecedented interest in developing health care leaders with the leadership skills and qualities needed to work in a multitude of health care settings and with a diverse workforce. This literature reinforces the need for focused leadership training and filling gap areas related to interprofessional education and interpersonal communications to allow for improved leadership abilities for leading and managing employees from various health professions.

Health profession leadership differs from non-health professions in that it involves leading in an environment that focuses on patients and health care outcomes. Effective leadership within the health professions is an important component for successfully leading health care organizations and practice. Leadership within this profession also involves leading and working as a team member with other health professionals to discover new health technologies and medication, make improvements in the delivery of care, and make enhancements and advances in patient outcomes and quality of life (Desselle, 2012, p. 289).

**Healthcare Leadership Characteristics from Accreditation**

In recent years, accreditation standards for the education of health care students changed to include several of the gap areas in competencies and are now included within health profession education curriculum, experiential and or co-curricular components. The accreditation councils calling for the addition of elements of education of these competencies or
outcomes in health profession education, include the Liaison Committee on Medical Education (LCME), the Accreditation Council for Pharmacy Education (ACPE), and the Accreditation Commission for Education in Nursing (ACEN) and National League for Nursing Accrediting Commission (NLNAC).

The importance of leadership in the pharmacy profession has been recognized by the Center for the Advancement of Pharmacy Education (CAPE). The CAPE Outcomes answered the call for increased student leadership development by identifying leadership as a desired curricular goal in CAPE Domain 4 (Medina, 2013, p. 162). In the 2013 CAPE Outcomes, Domain 4 describe the learning objectives as Personal & Professional Development. This component of CAPE is also known as an affective domain. Like cognitive domains, such as those described in Bloom’s Taxonomy of Learning (Bloom, 1956), the affective domain takes a stepwise approach to learning on a continuum, from awareness (lowest level) to placing value on a particular behavior, and ultimately having a value system directing one’s behavior that is consistent, predictable, and characteristic of the highest level, learner (Krathwohl, 1964).

The ACPE was very intentional in ensuring the CAPE Domain 4 elements were included in the Accreditation Standards for the Doctor of Pharmacy Program 2016 (ACPE, 2015). This accreditation board accomplished this goal by incorporating all of the CAPE Domain 4 areas into one of the required standards for pharmacy school accreditation, ACPE Standard 4. ACPE Standard 4 is part of the Educational Outcomes under Personal and Professional Development and is stated as “The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, innovation and entrepreneurship, and professionalism” (ACPE, 2015, p. 2). Under the key elements for this standard additional information is provided as a guide for each of these areas. The key elements
extracted from the ACPE Standard 4 (ACPE, 2015, p. 2) for this study are shown below. The following key elements are the subject of focus for leadership development of PharmD students.

**Standard 4: Personal and Professional Development**

The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, innovation and entrepreneurship, and professionalism.

**Key Elements:**

4.1. *Self-awareness* – The graduate is able to examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

4.2. *Leadership* – The graduate is able to demonstrate responsibility for creating and achieving shared goals, regardless of position.

4.3. *Innovation and entrepreneurship* – The graduate is able to engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

4.4. *Professionalism* – The graduate is able to exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

Several examples of student leadership development elements are provided in the CAPE 2013 Outcomes; however, these examples do not provide a comprehensive set of ideal SLD elements. The examples provided in the CAPE Domain 4, the four key leadership elements described in ACPE Standard 4, leadership in general, and health profession leadership was
explored in the literature review and the related study. This example set of SLD elements or characteristics was used to identify SLD within the curriculum.

**Healthcare Leadership Behaviors and Characteristics**

Developing an understanding of ideal behaviors and characteristics for leadership and healthcare leadership will support the need for identifying important subject matter to include in student leadership development. One result of the literature review is to enable development of a guide or list focused on key elements of healthcare leadership competencies. Sonnino (2016, pp. 19-29) cited two general types of important behaviors for today’s leaders: “task” behaviors and “relationship” behaviors. Task behaviors allow the individual to accomplish his/her goals and enable leaders to guide others in achieving their objectives. Relationship behaviors involve the ability to interact with peers and subordinates in a way that all feel comfortable with themselves, with each other, and their specific setting (Rogers, 2012, p. 47-57). A leader may be more task-oriented in certain situations and more relationship-oriented in others. Therefore, individuals are, by necessity, becoming more aware of their own leadership styles and the way they communicate, usually through feedback from others.

Today’s leader must possess the skills of listening, empathy, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and building community (Sonnino, 2016, p. 22). Stoller (2014) observed that health care leaders must also possess commitment, integrity, altruism, and authenticity. He listed some of the skills and traits that physician leaders, in particular, must have or acquire. These include a technical knowledge of insurance and reimbursement issues, how to balance expense with quality of patient care, health care regulations, including what has been known as the Affordable Care Act (ACA), understand legal issues in health care and public policy, problem-solving skills, communication
skills, emotional intelligence, and a commitment to lifelong learning. In his editorial in the *American Journal of Medicine*, Alpert (2010) defines qualities that are important for leaders. These include commonly mentioned themes such as equity, justice, role modeling, work ethic, balancing work and personal life, organization, and prioritization.

Chen (2017) and Frenk (2010) provide information for student leadership development that incorporates skills with innovation, scholarship and leadership programming in the curriculum to develop leadership qualities and potential for health profession students for practice within the U.S. and globally. Frenk (2010) noted that there is a need for improvement of health care leadership qualities and competencies to patient and population needs, teamwork to focus on professional and technical skills in a broader contextual understanding of other health care professional areas, and development of leadership for systems-based organizations. The Frenk article also noted that there is a scarcity of information and research about health education and student leadership development at the global level. The information learned from these resources indicate a need for leadership programming that includes entrepreneurship, development of leadership qualities and working skills for practice in health team and that meet patient needs, elements that include working in a diverse and global environment, and an emphasis on professionalism.

**Healthcare Leadership Characteristics from Theory and Models**

Reviewing leadership theory and models for the identification of healthcare leadership characteristics required for current and future healthcare leadership supports and supplements concepts previously identified. The review also provides information about what previous research has shown are proven factors for leadership development. New leadership
characteristics and behavior concepts were included in a “Competency” guide or list and was used for analysis of the data gathered for this study.

Several leadership approaches can be considered as models for health profession leadership development. The theories reviewed for key leadership concepts related to student leadership development include transformational, collaborative, and shared leadership. Transformational leadership theory helps students to learn how to motivate performance through their ability to influence attitudes (Weick, 2006). Collaborative leadership theory includes aspects for focusing in on communication skills to improve abilities for communicating information to coworkers and organizations, to allow them to make their own informed decisions (Chen, 2005). Shared leadership theory focuses on a system of team-level management/leadership that empowers staff within the decision-making processes (Kotter, 2003).

Desselle, Zgarrick, & Alston (2012) provided an excellent review of several leadership models ideal for health profession leadership with examples directly related to the health care environment. These models include Culture Creation, Contingency Leadership, the Dynamic Culture Leadership Model, Servant Leadership, and Strengths-based Leadership (Desselle, 2012). Using these models and leadership theory allowed several prominent authors to emerge in the literature for enacting student leadership development through programs and course curriculum. These authors included Kendall-Gallagher and Bresner (2013), who point out that, ideally, leadership development should focus on the critical behavioral aspect of change including physical, emotional, environmental, technical and tactical using systems-based and change management leadership theory.
Globalization necessitates that responsibility and initiative be more widely distributed and many large corporations have recognized this by becoming less hierarchical and more collaborative in their leadership approach. This distributed leadership approach requires four key leadership characteristics (Garmin, 2011). The four characteristics are sense making - the ability to understand the constantly changing business environment and interpret the ramifications of changes within an organization; relating - the ability to build trusting relationships, balance advocacy with inquiry, and cultivate networks of supportive confidants; visioning - creating credible and compelling images of a desired future that those in the organization can work towards; and inventing - creating new ways of approaching tasks or overcoming seemingly insurmountable problems. A novel and very applicable model to teach future healthcare leaders is the Functional Results Oriented Healthcare Leadership model. This model focuses on consideration of the needs of the wider patient population; making decisions to efficiently and effectively use resources to deliver quality care; and to make sound decisions associated with health care innovation to consistently improves safety and outcomes (Almgren, 2007).

**Healthcare Leadership Competencies**

The previous two sections provided information about what other researchers and authors say are important characteristics and behavior to support identification of healthcare leadership competencies. Additional literature reviewed that did not fit into the previous topic areas, are covered in this section of the literature review and was noted as supplemental information for future study on this topic. The study includes mapping these competencies to PharmD program course curriculum of PharmD schools in California.
Artinian, et al.s (2017) research study provided information about implementing competency material into health education programming that focus on behavior that embraces diversity to ensure future leaders are prepared to provide high quality health care and leadership to a rapidly changing patient and employee population. Michaelsen, (2008) notes that student leadership development should include interprofessional education in course/program models to ensure health care professionals meld well as a team to care for their patients and as a team member within health-care systems’ management and leadership.

Other key competency areas to consider in student leadership development include co-curricular activities and self-awareness exercises (McGee, 2016; Ponder, 2011) and Thompson, 2012). These co-curricular activities should be designed to implement and practice leadership course concepts in the real-world environment and with real people. Examples of co-curricular activities include participation in health fairs to provide health education and health services to underserved populations, getting involved in advocacy for patients and their future profession, and participating in research to advance health care. Self-awareness exercises help one to understand their strengths and weaknesses, the life-work balance, and become attuned to their emotional intelligence and gaps that may need to be addressed (Abraham, 2017).

**Conceptual Framework**

The focus of this study was to explore how public pharmacy schools in California are currently meeting accreditation standards associated with student leadership development to prepare students for future career health professional leadership roles. The literature review provided supporting research related to what healthcare leadership is and what knowledge and key subject areas are most relevant to current and future healthcare leadership. This led to the identification of what the literature says about what healthcare leadership characteristics are
needed for leadership development. The results of the literature review were used to design and implement a study related to identifying criteria and competencies in pharmacy student leadership training to meet accreditation Standards and Domains. Based on these statements the theoretical framework guiding the research was identifying how to meet SLD criteria for ACPE Standard 4 and the CAPE Domain 4.2 (AACP, 2016). The conceptual framework explained in this section has been captured in a visual illustration (Figure 1).

Figure 1. Conceptual Framework

The literature review provided supporting research related to what healthcare leadership is and what knowledge and key subject areas are most relevant to current and future healthcare leadership. This led to the identification of what the literature says about what healthcare
leadership characteristics are needed for leadership development. The results of the literature review were used to design and implement a study related to identifying gaps in pharmacy student leadership training to meet ACPE accreditation Standard 4. Based on these statements, the theoretical framework guiding the research involved identifying and meeting the criteria for ACPE Standard 4, Personal and Professional Development.

**Conclusion**

Literature about leadership programming, specifically research about pharmacy student leadership development and Doctor of Pharmacy institutional capacity to meet the leadership accreditation standards, is scarce. As interest in pharmacy student leadership development continues to grow, examples of leadership-related educational best practices are needed (Smith, 2018). The literature review provided supporting information for defining what health professional leadership encompasses and how it differs from leadership in other professions. Review of literature related to leadership theories and models provide valuable information related to identification of ideal leadership behavior, characteristics, and health related leadership competencies. The result of this identification of concepts was the development of a table (Figure 2) listing important characteristics for healthcare leadership. The information obtained through the literature review and captured in Figure 2 provided key terms for identifying areas that could be mapped to current pharmacy curriculum to determine what pharmacy schools are doing to meet leadership development accreditation standards. In summary, the results of the literature review were used to design and implement a study related to identifying how schools and colleges of pharmacy are delivering student leadership training to meet accreditation criteria for ACPE Standard 4.
CHAPTER 3: METHODOLOGY

The purpose of this multi-case explanatory (sometimes called illustrative or descriptive) qualitative case study was to develop an understanding of how pharmacy schools are providing student leadership development (SLD) criteria associated with Doctor of Pharmacy (PharmD) accreditation. The accreditation council that oversees PharmD programs is the Accreditation Council for Pharmacy Education (ACPE). The SLD criteria is a component of ACPE Standard 4 (ACPE, 2015, p. 2) and Standard 9.1 (ACPE, 2015, p. 5). Standard 4 focuses on the personal and professional development of students. The key elements in this standard applicable to this study are the development of self-awareness (ACPE Standard 4, Domain 4.1), and leadership (ACPE Standard 4, Domain 4.2). The self-awareness component was considered part of the SLD since becoming a leader starts with forming a foundation of who we are and what we can do, or the personal awareness of one’s knowledge, skills, and abilities, and building upon that foundation (Ledlow, 2014, p. 156). The student leadership development component, Standard 4 - Domain 4.2, is the primary focus of the study. The key element associated with SLD contained in Standard 9.1, calls for the organizational culture of the institutions associated with PharmD programs to demonstrate a commitment to developing professionalism and to fostering leadership in administrators, faculty, preceptors, staff, and students. The study used health professional leadership characteristics identified in the literature review and course descriptions to determine how a select group of pharmacy schools are providing SLD. The result of the study can benefit all pharmacy schools accredited by ACPE by filling a gap in the literature that addresses a means of meeting SLD as it applies to ACPE Standard 4, and its associated affective domains. The research study outcome may also provide other health profession programs with best practices for meeting similar accreditation standards focused on SLD.
The selection of a qualitative research approach was based on several factors. First, the study attempts to document and describe how institutions are providing student leadership development from a context-specific perspective. This perspective reflects a social constructivism research paradigm associated with the qualitative approach to inform the research. Second, the type of research genre and design for this study is closely aligned with the qualitative approach.

The research study was intended to be inductive (Ravitch, 2017, p. 72) regarding its focus on idea generation for how professional education institutions are meeting specific accreditation criteria. A small sample of institutions was selected for the study to purposely examine how public schools with a Doctor of Pharmacy degree program are providing the student leadership development criteria in a real-world situation. The researcher designed this qualitative framework to be emergent and flexible with a goal of constructing understanding (Merriam, 2016, p. 24) to inductively build on knowledge of the study’s framework of how pharmacy schools are providing SLD.

This study design differs from quantitative research in its ability to provide idea generation for how pharmacy schools are providing student leadership development (SLD) rather than idea testing. The design allowed for the use of small, purposely selected samples, such as public schools in California, versus a large randomly selected sample of various public and private schools in multiple states (Bloomberg, 2016, p. 39). The multi-case study research design permits generation of transferability of how, and in what ways, understanding and knowledge formation of an issue or concern can be applied to similar contexts and situations (Bloomberg, 2016, p. 489). The last reason for selection of a qualitative research design is the desire to express the study as generalized concepts in a narrative fashion, such as course content.
concepts related to SLD, rather than the use of variables where the concepts are described numerically.

This chapter focuses on the methodology for the study discussed earlier. The first section of the methodology chapter describes the research setting including how the study was conducted and access gained, and the relationship to the sites. The second section will define the sample for the study, the population from which the sample was drawn, and the sampling approach. The data section provides an outline of the steps used to conduct the research and to identify and present the data methods used in the data collection. The data obtained was analyzed, synthesized and reported in the analysis section. The last few sections provide a discussion of participant rights and potential limitations.

**Setting**

A case study allows for the construction of a detailed description of a setting and its participants, together with an analysis of data themes, patterns, and issues (Bloomberg, 2016, p. 46; Merriam, 1998, 2009; Stake, 1995). The data was collected from the public schools in California offering a Doctor of Pharmacy program. The sample group of schools are University of California at San Diego (UCSD) and the University of California at San Francisco (UCSF). The subgroups have been identified as the pharmacy schools associated with these institutions and by the school of pharmacy (SOP) web sites, UCSD SOP, and UCSF SOP.

The UCSD is a public research university located in the southern California the La Jolla neighborhood of San Diego, California. UCSD is one of 10 University of California campuses in the University of California system, offering over 200 undergraduate and graduate degree programs, enrolling approximately 30,000 undergraduate and 8,500 graduate students. The UCSD is accredited by WASC Senior College and University Commission (WSCUC), the
regional accrediting agency serving higher education institutions in California, Hawaii, and the Pacific Region (UCSD). UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences Doctor of Pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education (ACPE). The 4-year Doctor of Pharmacy program enrollment is approximately 280 (UCSD SOP).

UCSF is a public research university located in San Francisco, California. UCSF is part of the 10-campus University of California, the world’s premier public research university system, and the only one of this system’s campuses dedicated to graduate and professional education in the health sciences (University of California at San Francisco, 2019). The university offers nineteen PhD degree programs and eleven master’s degree programs, conferred by four professional schools. The four professional schools are in the health profession areas of dentistry, medicine, pharmacy, and nursing. According to the school’s web page, student attendance within these degree programs includes: 3,300 students, 1600 residents, and 1100 post-doctoral scholars (University of California at San Francisco, 2019). The UCSF is fully accredited by the WASC Senior College and University Commission (WSCUC), one of six accrediting associations in the United States (UCSF, 2019). Individual degree programs requiring such accreditation are also fully accredited through programmatic accreditation such as the Accreditation Council for Pharmacy Education (ACPE) which accredits the Doctor of Pharmacy programs. UCSF School of Pharmacy was the first College of Pharmacy in the western U.S., founded in 1872 (UCSF SOP). The Doctor of Pharmacy program student enrollment as of November 2018, was 475 (UCSF SOP). The Doctor of Pharmacy program is a 3-year program (UCSF, 2018) versus the more widely offered 4-year program (AACP, 2018).
Public schools offering a Doctor of Pharmacy program were selected based on availability and publication of catalogs and course descriptions. These documents are posted on the institutions’ websites and are readily available to the public. Review of website data of similar documents for private schools are not consistently available.

1. Identify all colleges that meet the criteria of a Doctor of Pharmacy (PharmD) program within the state of California.

2. Access each of the identified school websites to obtain copies of their course catalogs containing pharmacy school curriculum and course descriptions.

3. Look for course content that is related to the key terms developed through the literature review.

4. Develop a list of key terms identified in the literature review, the ACPE accreditation standards domain, Standard 4 Personal & Professional Development, associated with pharmacy student leadership development.

The genre and research design for the study is a multi-case explanatory, sometimes called illustrative or descriptive, case study using archival data. The archival data used for the study was a document review of California public pharmacy school’s college programs and course descriptions. The archival data was compared to the key SLD data associated with accreditation and outcome criteria identified through the literature review. It was anticipated that the case study would provide information about how a segment of pharmacy schools are meeting accreditation competency areas for SLD.

The literature review provided insightful information about what skills are needed for leadership in general and healthcare leadership. The literature review also showed that there is a
lack of literature focused on the topic of pharmacy leadership and pharmacy student leadership development. There was also a lack of literature focused on what leaders at pharmacy schools are doing to ensure they are meeting accreditation criteria related to student leadership development. In order to explore how well pharmacy schools are doing in meeting accreditation criteria related to leadership, the researcher must identify what healthcare leadership comprises and what concepts, skills, and knowledge are needed for pharmacy leadership. Thus, the literature review explored pharmacy accreditation criteria related to leadership, defining what healthcare leadership is, and identifying health profession leadership concepts, skills, and knowledge areas. This information can be used to develop a list of key terms for pharmacy student leadership development. The key terms were coded for the study.

Data was collected by the researcher from August 2019 through December 2019 using a stratified purposeful sampling strategy. A two-step system was used to collect the data and to provide for triangulation to provide corroborative evidence of the SLD concepts found within each of the participant school’s curriculum (Bloomberg, 2016, p. 46). The researcher used UCSF and UCSD course catalog descriptions to identify where in the curriculum the coded terms exist. The course catalog was examined for any courses that specifically focus on leadership, such as a Leadership & Professionalism course. The data collected from the document review was captured in qualitative data analysis form.

Analysis

The data analysis was focused on identifying themes, patterns, and issues. This analytic strategy provided a detailed description for each pharmacy school, UCSF and UCSD, and allowed for a thematic analysis across both institutions. The data collected was analyzed by standardized code to determine what components of the accreditation and domain leadership
concepts are included in the curriculum based on the available program and course descriptions. Reasoning for this examination was the possibility that the concepts could be embedded within the content of multiple courses, a leadership specific course, or a combination of both. The synthesis illuminated application of the learning of the concepts in relation to the type of learning environment: didactic (classroom based), experiential (hospital or clinic based), or interprofessional (application exercises with other health professional students such as nursing or medical). The researcher sought to establish creditability and dependability by way of triangulation using the analysis described (Bloomberg, 2016, p. 46).

**Participant Rights**

The research design for this multi-case explanatory qualitative study was reviewed by the University of New England Institutional Review Board (IRB) to assess ethical issues. The research received an IRB exemption based on the fact that the research participants are not human subjects and the data collected was a document review of material that is available to the general public on a website. The intent of the case study was to provide generalized information of how a sample of pharmacy schools are providing SLD within their programs. The study has the potential to be beneficial to other pharmacy schools seeking to develop best practices and strategies for SLD and meeting ACPE accreditation modalities.

**Limitations and Delimitations**

A co-curricular learning environment was not considered in this study. This area was associated with learning outside the curriculum, complements learning concepts from the curriculum, and is required by ACPE accreditation. Selection of co-curricular activities is a personal choice for each student. The type of activities offered to students to select for co-curriculum activities, also varies by the information disseminated to students through the
institution, non-profit organizations, professional associations, and student organization events and opportunities.

There are currently over 130 Doctor of Pharmacy (PharmD) programs in the United States (PharmCAS, 2019). Like Doctor of Medicine (M.D.) programs, PharmD programs are associated with a public or private university. The researcher narrowed this study to a specific region, type of school, and accreditation status. Given this consideration, the focus of the study was limited to fully accredited public pharmacy schools in California. There are currently two public institutions in California with a PharmD program of study that meet these criteria, University of California at San Francisco (UCSF) and University of California at San Diego (UCSD).

It is anticipated that synthesis of the data will lead to a better understanding of how these schools are enacting the student leadership development within the curriculum. The data analysis and synthesis are similar to actions school leadership would organize as part of the accreditation report preparation. The pre-visit preparation is conducted to ensure the institution meets the criteria, and if the criteria is not met, develop strategy and plans to correct the deficiency.

Chapter Summary

The research design utilized was a multi-case explanatory qualitative study of how pharmacy schools are providing student leadership development (SLD) to meet ACPE accreditation standards. The qualitative research design is ideal for this study based on its ability to provide idea generation, with an inductive focus on idea generation. A small select design is used for sampling and its ability to prompt the study in a narrative fashion based on generalized concepts. The qualitative research design also allows for a flexible research design. The
participants have been identified as two public schools in California, both of which offer a PharmD program. These schools were selected based on website and public availability of program curriculum and course descriptions and the researcher’s experience working at PharmD schools in California. The data collection method was a document review of the website data compared to coded leadership characteristics identified through the literature review and ACPE SLD criteria. The data was collected by the researcher from the schools’ websites onto qualitative data sheets for analysis. The purpose of the analysis was to develop an understanding of how the participant schools are providing SLD. Although the study focuses on public pharmacy schools in California, this study fills a knowledge gap for all pharmacy schools accredited by ACPE who strive to provide SLD curriculum content to meet accreditation criteria.
CHAPTER 4: RESULTS

The purpose of the study was to help fill a gap in the literature by exploring how fully accredited public doctoral level pharmacy schools in California are currently addressing CAPE domains and accreditation standards associated with personal and professional development of doctor of pharmacy students, also known as student leadership development (SLD). Various forms of data were collected in order to ensure the triangulation of data. This chapter presents the findings in this study. Four themes with connected elements emerged from the data analysis. The implications and recommendations from these results are discussed in Chapter 5.

Description of the Sample

Doctoral level pharmacy programs are known as Doctor of Pharmacy or PharmD. Two PharmD programs were studied. These programs are associated with the institutions of University of California at San Francisco (UCSF) located in the city of San Francisco California and Skaggs School of Pharmacy and Pharmaceutical Sciences at University of California at San Diego (UCSD) which is located in the outskirts of San Diego in the city of La Jolla. A description of both institutions and the PharmD programs were provided in chapter 3 under the section Setting. In this chapter, UCSF’s PharmD program was referred to as School A.

School A’s PharmD program is a three-year trimester program with a seven-week break between the first and second year and shorter breaks (1-3 weeks) thereafter between trimesters. The trimester system is a year-round program with three semesters which include a fall semester, spring semester, and a summer semester. This type of program is often referred to as an accelerated Doctor of Pharmacy degree curriculum.

UCSD’s PharmD program was referred to as School B. School B’s PharmD program is a traditional four-year program that is based on a quarter system. Both School A and School B are
fully accredited and public programs in California. A third PharmD program is under
development at the University of California at Irvine (UCI). Since this program is under
development and has not achieved full accreditation, it was not considered for the purpose of this
study.

**Analysis Method**

The multi-case explanatory qualitative study sought comprehensive qualitative collection
in various forms to ensure the triangulation of data. The researcher began by collecting and
examining literature related to leadership, health profession leadership, and SLD requirements
for PharmD programs. The data collection method was a document review of the data compared
to coded leadership characteristics descriptors through the literature review to ACPE SLD key
element criteria. The ACPE Standard 4 outcome goals were further defined using health
profession leadership characteristics obtained in the literature review (Figure 2). These ACPE
standard descriptors and key elements were included and identified in advance (Creswell, 2013).
The study was completed by accessing curriculum archival data, curriculum descriptions, and the
program information on the web sites of two public pharmacy schools in California, then
studying and comparing the curriculum to the ACPE standards and domains. Thus, the
triangulated archived data included: archived curriculum maps, curriculum descriptions and
program information.

**Presentation of the Results**

The literature review was used to identify key concepts, skills, and knowledge associated
with overall leadership competencies, health profession leadership competencies, and the
language contained in the ACPE Standard 4. Several terms were identified as having similar
definitions. For example, *listen intently* and *communicating in a professional manner*, were
merged into a communication theme. The data was input into a data table and sorted by type, merged into themes and coded for relevance to the four key SLD areas associated with ACPE Standard 4 (Figure 2).

Figure 2 – Health Care Leadership Competencies
Mapped to ACPE Standard 4

<table>
<thead>
<tr>
<th>Competency identified through literature review</th>
<th>STD 4.1 Self-Awareness</th>
<th>STD 4.2 Leadership</th>
<th>STD 4.3 Innovation &amp; Entrepreneurship</th>
<th>STD 4.4 Professionalism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to work as a team member</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Advocacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication skills</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conflict management</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding of business</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Administrative skills</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to adapt to change</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Introspection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening skills</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Emotional intelligence</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persuasion</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Integrity</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altruism</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Justice</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good work ethic</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Curricular Mapping

The curriculum maps were examined for both samples, School A (UCSF, 2019) and School B (UCSD, 2020). The curriculum maps provided an overall view of the complete program with course titles, the type of course, the associated professional year, and other information for the program. The types of courses included didactic, research, inter-professional
education, optional summer experiences, and experiential education clinical rotations at various pharmacy and health care facilities.

The experiential education occurred in two forms, one type for early experiences and an immersion year that occurs at the end of the program. These are noted on the curriculum maps as IPPEs (Introduction to Pharmacy Practice Experiences) and APPEs (Advanced Pharmacy Practice Experiences).

The academic year for PharmD programs is often referred to as a professional year and by the year the student is in the program. Thus, the first professional year is known as P1, second as P2, third as P3, and for four-year programs the fourth year is referred to as P4.

Other information contained on the curriculum maps (Figure 3 and Figure 4) provided information for elective summer research, internships, elective courses, end of year review sessions, and board exam review sessions.

Figure 3 - School A* Curriculum Program Map

Course Descriptions

Curriculum descriptions varied for the sample population. School A’s course description information was included in a course listing for Pharmacy Integrated Sciences on the school of pharmacy’s web site. The web site archival information provided the type of course as lecture, lab, or other form and what academic year the course occurs. School A requires completion of a short inquiry immersion project in the P1 and P2 years and a discovery research project during the 3rd trimester of the P2 and throughout the P3 year. The immersion project and the discovery research project are correlated with ACPE Standard 4 Key Element 4.3. The course descriptions were used to identify key elements related to ACPE Standard 4 (Figure 5).

The course description for School B was not located in the usual course catalog information on school web sites. The information was described in general form through the
course titles and web site information listed under faculty and course coordinators. Clarification for the type of course and whether it was an elective or required course could be obtained directly from course coordinators. The courses and course coordinators along with their contact information were listed on the school website under faculty and course information. A faculty member and program administrator confirmed course descriptions provided. Course content was mapped to the standards (Figure 6).

Figure 5 - School A Program Curriculum\(^1\) Mapping to ACPE Standard 4

<table>
<thead>
<tr>
<th>Identifier</th>
<th>Title/Name</th>
<th>Associated themes based on description</th>
<th>Professional Year</th>
<th>Key element 4.1: Self-Awareness</th>
<th>Key element 4.2: Leadership</th>
<th>Key element 4.3: Innovation &amp; Entrepreneurship</th>
<th>Key element 4.4: Professionalism</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Foundations I</td>
<td>Introduction to pharmacy practice to include a broad range of knowledge topics focused on the profession of pharmacy</td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Cardiovascular Science &amp; Therapeutics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Respiratory Science &amp; Therapeutics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X X X X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Renal Science &amp; Therapeutics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X X X X X X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Gastrointestinal Science &amp; Therapeutics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X X X X X X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Applied Patient Care Skills</td>
<td></td>
<td>1-2</td>
<td>X</td>
<td>X</td>
<td>X X X X X X</td>
<td></td>
</tr>
<tr>
<td>D, E</td>
<td>Elective Courses</td>
<td>Key elements cannot be measures for electives due to the associated variance of course offerings.</td>
<td>1-2</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>Introductory Pharmacy Practice Experiences (IPPEs)</td>
<td>Management, spans all levels of pharmacy practice</td>
<td>1-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Foundations II</td>
<td>Management, spans all levels of pharmacy practice</td>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Endocrine Science &amp; Therapeutics</td>
<td>Explores knowledge gaps, inquiry</td>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Neuroscience &amp; Therapeutics</td>
<td>Explores knowledge gaps, inquiry</td>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Oncology Science &amp; Therapeutics</td>
<td>Explores knowledge gaps, inquiry</td>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>Discovery Project Research</td>
<td>Scientific inquiry</td>
<td>2-3</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>IPE</td>
<td>Interprofessional Education (IPE)</td>
<td>Conflict management, self-awareness, continuous learning</td>
<td>1,2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Synthesis Weeks</td>
<td>Activities to build community, promote professional success</td>
<td>1,2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>EE</td>
<td>Advanced Pharmacy Practice Experiences (APPEs)</td>
<td>Clinical pharmacy rotations within practice.</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>About: One program, two aims</td>
<td>Well-being, professional success</td>
<td>1-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>PRIDE Values</td>
<td>Professionalism</td>
<td>1-3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

\(^{1}\)School A Curriculum Map: [https://pharm.ucsf.edu/sites/pharm.ucsf.edu/files/2019.0220%20Curriculum.pdf](https://pharm.ucsf.edu/sites/pharm.ucsf.edu/files/2019.0220%20Curriculum.pdf)

\(^{*}\)School A Program Key

D - Didactic Curriculum (Lecture, labs, and simulations)

E - Elective Course (required)

IPE - Inter-Professional Education

EE - Experiential Education Curriculum (Clinical Practice Rotations: IPPEs and APPEs)

R - Research

O - Other (About: [https://pharm.ucsf.edu/about](https://pharm.ucsf.edu/about), PRIDE: [https://diversity.ucsf.edu/PRIDE-values](https://diversity.ucsf.edu/PRIDE-values))
**Figure 6 - School B Program Curriculum\(^1\) Mapping to ACPE Standard 4**

<table>
<thead>
<tr>
<th>Identifier</th>
<th>School B Title/Name</th>
<th>Associated themes based on description</th>
<th>Professional Year</th>
<th>Key element 4.1: Self-Awareness</th>
<th>Key element 4.2: Leadership</th>
<th>Key element 4.3: Innovation &amp; Entrepreneurship</th>
<th>Key element 4.4: Professionalism</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Leadership &amp; Professional Development</td>
<td>Longitudinal course which allows student professional development in several key areas of ACPE Standard 4</td>
<td>1-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>R</td>
<td>Scientific Discovery Project</td>
<td>Longitudinal course which allows student professional development in the innovation &amp; entrepreneurship key element of ACPE Std 4</td>
<td>1-4</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Introduction to Pharmacy Practice</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Concepts in Pharmacy Practice</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Biostatistics</td>
<td></td>
<td>1</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Law &amp; Ethics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Pharmaceutics</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Pharmaceutical Chemistry</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Health Policy</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Clinical Research Design</td>
<td></td>
<td>1</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Anatomy</td>
<td></td>
<td>1</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Informatics</td>
<td></td>
<td>1</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Drug Information</td>
<td></td>
<td>1</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>E</td>
<td>P1 Electives</td>
<td>Key elements cannot be measured for this study due to the variance of course offerings.</td>
<td>1</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Foundations of Medicine</td>
<td>Interprofessional Biomedical Studies.</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Cardiovascular</td>
<td>Interprofessional Biomedical Studies.</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Pulmonary</td>
<td>Interprofessional Biomedical Studies.</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Gastrointestinal</td>
<td>Interprofessional Biomedical Studies.</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Pharmacology &amp; Physiology</td>
<td>Interprofessional Biomedical Studies. Team-based learning pedagogy</td>
<td>2</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>D, IPE</td>
<td>Renal</td>
<td>Team-based learning pedagogy</td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Laboratory Medicine</td>
<td></td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Endocrine, Metabolism, &amp; Reproductive</td>
<td></td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Immunology &amp; Hematology</td>
<td></td>
<td>2</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D, IPE</td>
<td>Microbiology</td>
<td></td>
<td>2</td>
<td></td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Identifier</td>
<td>School B Title/Name</td>
<td>Associated themes based on description</td>
<td>Professional Year</td>
<td>Key element 4.1: Self-Awareness</td>
<td>Key element 4.2: Leadership</td>
<td>Key element 4.3: Innovation &amp; Entrepreneurship</td>
<td>Key element 4.4: Professionalism</td>
</tr>
<tr>
<td>------------</td>
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<td>-------------------------------</td>
<td>-----------------</td>
<td>---------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>E</td>
<td>P2 Electives</td>
<td>Elective course offerings change each academic year. Key elements cannot be measured for this study due to the variance of course offerings.</td>
<td>2</td>
<td></td>
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<tr>
<td>EE</td>
<td>Introductory to Pharmacy Practice Experiences (IPPEs)</td>
<td>Community Practice (occurs between P1 &amp; P2 year)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>OA</td>
<td>Exploratory Pursuits</td>
<td>Summer research program, fellowships, internships, career exploration</td>
<td>2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Therapeutics</td>
<td></td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Human Disease</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Contemporary Topics in Pharmacology</td>
<td></td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>O</td>
<td>Advanced Professional Practice</td>
<td></td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>D</td>
<td>Pharmacogenomics</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Applied Pharmacoeconomics</td>
<td></td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>OA</td>
<td>Exploratory Pursuits</td>
<td>Summer research program, fellowships, internships, career exploration</td>
<td>3</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EE</td>
<td>Introductory Pharmacy Practice Experiences (IPPEs)</td>
<td>Institutional</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>EE, IPE</td>
<td>Introductory Pharmacy Practice Experiences (IPPEs)</td>
<td>Simulation and Health-Related Service Learning</td>
<td>1 – 3</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>D,EE</td>
<td>Co-Curriculum Courses</td>
<td>Required courses of self-selected co-curricular activities with reflections</td>
<td>1-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EE, IPE</td>
<td>Advanced Pharmacy Practice Experiences (APPEs)</td>
<td>5 core + 2 elective courses</td>
<td>4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

*School Curriculum [https://pharmacy.ucsd.edu/degree-programs/doctor-pharmacy-curriculum](https://pharmacy.ucsd.edu/degree-programs/doctor-pharmacy-curriculum)*

* School B Program Key
D - Didactic Curriculum (Lecture, labs, and simulations)
E – Elective Course (required)
EE - Experiential Education Curriculum (Clinical Practice Rotations: IPPEs and APPEs)
IPE - Inter-Professional Education
R - Research
OA - Optional Activity
Chapter Summary

The classification of leadership competencies through the literature review and accreditation criteria provided codes that were used to examine the sample school’s curriculum. The coded information was mapped to ACPE Standard 4 elements of self-awareness, leadership, innovation and entrepreneurship, and professionalism. The next step in the data collection involved accessing archival data in the form of the curriculum, curriculum content, course descriptions, the time period of the academic program the course occurred, and co-curriculum requirements.

The course content for both School A and School B were reviewed and mapped to the key elements of the ACPE Standard 4. The resulting information provided data to identify which courses included SLD elements associated with ACPE Standard 4, what type of SLD element(s) existed within the course, and what time period within the program the course occurred, such as P1, P2, P3, or P4 academic year. The data collection also provided information associated with what type of programming the SLD elements were provided, such as an experiential education, research, elective or other type of course.
CHAPTER 5: CONCLUSION

This study examined course content in public pharmacy schools in California to document how their school’s curriculum reflects the accreditation standard associated with student leadership development. The researcher used this criterion to examine the school’s curriculum to develop an understanding of how their curriculum does or does not reflect the standards. The research questions for the study of how public university pharmacy programs address student leadership development accreditation criteria were:

1. What are the key concepts, skills, and knowledge competencies associated with health profession leadership and articulated in the standards and related domains?

2. How does the curriculum of the public Doctor of Pharmacy schools in California reflect the SLD accreditation standard and related domains?

This chapter will present a summary of the findings from Chapter 4, leading to a discussion of the research questions posed. Recommendations and implications for schools of pharmacy are also considered. Implications for future research conclude this chapter.

Interpretation of the Findings

The Center for the Advancement of Pharmacy Education (CAPE) Outcomes 2013 added student leadership development (SLD) as a desired outcome of the pharmacy curricula (Medina, 2013) to meet the increased demand for leadership in pharmacy practice. In addition to the CAPE Outcomes, the importance of implementing SLD into the pharmacy curricula was included in the Accreditation Council for Pharmacy Education (ACPE) 2016 Standards in Standard 4 (Accreditation Council for Pharmacy Education, 2015, p. 2).

ACPE Standard 4 listed four desired student leadership outcomes, self-awareness, leadership, innovation and entrepreneurship, and professionalism. Meeting these specific
outcomes, required colleges and schools of pharmacy to intentionally add the specified leadership components to their curricula.

While research has shown there is a need for further SLD of pharmacy students, there lacks an in-depth look at how SLD has been implemented into the curricula. The aim or purpose of this multi-case explanatory qualitative study is to help fill the gap of lack of exemplars, or models, in the literature by exploring how public pharmacy schools in California are deliberately addressing pharmacy student’s leadership development within their curricula.

Through the coding and mapping of the data, themes and key associated components were made evident. From these elements emerged an exemplar regarding how the leadership domains associated with leadership can be incorporated into pharmacy curricula to meet accreditation outcomes. The following themes were identified to help answer the research questions: (a) identification of leadership elements, (b) integration of SLD, and (c) how the SLD outcomes are measured.

SLD should involve all students, have a longitudinal and experiential nature, achieve outcomes which prepare students pharmacists with the leadership skills necessary for entry-level positions, and create a desire to engage in life-long reflection and development (Janke, 2016). Janke (2016) pointed out that, although each program’s SLD curriculum may vary, elements of SLD are essential for all PharmD leadership development curricula. The identification of SLD elements occurred in this study through a review of the literature and the use of the descriptions of the desired outcomes of SLD provided in ACPE Standard 4 (Figure 4). The SLD elements were mapped to course descriptions and other archival data obtained on websites to identify SLD content within the curriculum.
Careful consideration must be given to the integration of SLD within the full framework of the curriculum to achieve the desired outcomes associated with pharmacy SLD. SLD integration is especially difficult given the short time period of either an accelerated three year or standard four-year PharmD program. Both school A and school B integrated SLD throughout their institution’s curriculum if one looks at the overall picture or bird’s eye view of the curricula. This bird’s eye view of the curriculum was conveyed through curriculum maps of the entire program (Figure 3 and Figure 4). The curriculum maps show which academic year students take courses and or other required programming to complete their degree. The curriculum maps also helped to identify each academic year’s curriculum. This year by year information provided information for a data analysis of ACPE Standard 4 outcomes for curriculum programming based on each professional year for each sample school.

Integrated Themes

Integration of SLD was evident in both programs. School A requires completion of a short inquiry immersion project in the P1 and P2 years and a discovery research project during the 3rd trimester of the P2 and throughout the P3 year. The immersion project and the discovery research project are correlated with ACPE Standard 4 Key Element 4.3.

School B requires completion of two longitudinal courses that are directly correlated to ACPE Standard 4. The longitudinal component encompasses all four academic years. The first course is a Leadership and Professional Development course of which the description inferences a relationship with the standard’s key elements of 4.1, 4.2, and 4.4. The second course is a research course titled Scientific Discovery Project. This course is relevant to the standard’s Key Element 4.3. The course descriptions were used to identify key elements related to ACPE Standard 4 (Figure 5).
The outcome of the competencies mapped to the ACPE Standard 4 provided valuable information to enable identifying the key SLD elements within School A and School B’s curriculum. The three major themes that were identified through data analysis presented a model for integrating SLD into pharmacy curricula. Furthermore, they informed the research questions as discussed in the next section.

**Discussion of the Research Questions**

This study was designed to answer two research questions: What are the key concepts, skills, and knowledge competencies associated with health profession leadership and articulated in the standards and related domains? How does the curriculum of the public Doctor of Pharmacy schools in California reflect the SLD accreditation standard and related domains?

**Research Question 1: What are the key concepts, skills, and knowledge competencies associated with health profession leadership and articulated in the standards and related domains?**

Based on the results of the study, the answer shows that key concepts, skills, and knowledge competencies associated with health profession programs and specifically a pharmacy program can be identified through literature review of leadership and healthcare leadership. Identification of the information specifically for pharmacy programs requiring certain desired SLD outcomes can be expanded by extracting terminology used in the identification of SLD by CAPE and ACPE. This study used both the results of a literature review and descriptions of the key elements for the domains associated with CAPE and ACPE Standard 4 (Figure 2, Figure 3). Portrayal of these data may also provide an approach for how an institution might identify key SLD competencies. These identified competencies can then to be used for mapping to the institution’s curricula.
**Research Question 2:** How does the curriculum of the public Doctor of Pharmacy schools in California reflect the SLD accreditation standard and related domains?

The program mapping of the curriculum for School A and School B were reviewed to identify program content by the professional year in order to develop an understanding of SLD occurrence by year and to identify longitudinal content. Archival data from the school’s web sites pertaining to course content were scanned for the coded leadership competencies. The results were input into a data table and charts for each institution (Figure 8, Figure 9). The data provided an answer the following research question posed for the study by showing how didactic, clinical and other curriculum content can provide the desired SLD accreditation outcomes and in longitudinal, or year to year, arrangement.

In order to measure outcomes associated with SLD, School A requires completion of a short inquiry immersion project in the P1 and P2 years and a discovery research project during the 3rd trimester of the P2 and throughout the P3 year. The immersion project and the discovery research project are correlated with ACPE Standard 4 Key Element 4.3. The course descriptions were used to identify key elements related to ACPE Standard 4 (Figure 4).

School B provided similar programmatic and graduate outcomes on their web site. The program’s curriculum was not the focus of SLD but rather the entire student experience. This included expectations for co-curricular activities. The PharmD program experience and the expected outcomes of graduates for School B are very closely aligned with ACPE Standard 4 and all the expected key SLD elements.

The curriculum data for School A and School B provided information to answer the research question (Figures 8 and 9). The curriculum for both institutions embedded SLD in the core curriculum and include it in the experiential and co-curriculum. At least one institution has
a focused leadership component, and both institutions require students to complete a research or other type of discovery project which fulfill outcomes for ACPE Standard 4.3. The research component at both School A and School B were longitudinal with a capstone project at the end of the program. The results of the data collection enabled an assessment of how both institutions provide relevant content for ACPE Standard 4 SLD for their students and outcomes of these achievement by academic year. The PharmD program experience and the expected outcomes of graduates for both School A and School B are very closely aligned with ACPE Standard 4 and all the expected key SLD elements.

Figure 7 - School A: Student Leadership Development by ACPE Key Element

![School A: Student Leadership Development by ACPE Key Element](image1)

Figure 8 - School B: Student Leadership Development by ACPE Key Element

![School B: Student Leadership Development by ACPE Key Element](image2)
Implications

The purpose of this multi-case explanatory qualitative study was to document SLD content in the curricula of two pharmacy schools in relation to ACPE key elements. These findings help fill the gap in the literature by exploring how public pharmacy schools in California are currently addressing accreditation standards associated with pharmacy student’s leadership development. The process can be used as an exemplar or model to help guide and assure institutions are meeting the desired SLD accreditation outcomes.

Recommendations for Action

This study provided a set of examples of how SLD can be incorporated into the curricula of Doctor of Pharmacy programs to help prepare all students for future leadership roles. Doctor of Pharmacy programs that are currently struggling with determining a course of action to include SLD within their curriculum should consider using the information obtained in this study for either School A, School B, or perhaps a blended set that includes both schools and current in-house practices that have proven to be ideal for SLD.

The study showed that SLD was not a component of just one required or elective leadership course but rather interwoven throughout the entire program. Doctor of Pharmacy programs must show how they are meeting SLD competency outcomes as a component of accreditation. Identification of key elements and characteristics of SLD developed in this study can be used to identify where SLD exists within course context. This will require detailed course descriptions that list all the desired outcomes, including SLD. Academic affairs and curriculum committees must be diligent in their efforts to ensure course content described in the description adequately measures the SLD outcomes.
The study showed that the integration of SLD occurs both horizontally, on an academic year basis, and vertically throughout the program. This type of integration is ideal and should be adopted by all pharmacy programs to provide for a means of learning in a longitudinal manner. This approach to learning helps students to develop life-long learning habits. The study also showed that the ACPE key elements associated with SLD were interwoven throughout the curriculum. For example, the study showed the ACPE key element associated with innovation and entrepreneurship was lacking within the course content. The sample schools overcame the lack of SLD in this area by providing a required research and or discovery course. Pharmacy programs should consider mapping the ACPE Standard 4 key elements to courses to determine what elements are insufficient then develop a plan to include programming in this area.

**Recommendations for further study**

The Doctor of Pharmacy SLD competencies identified in the CAPE 2013 Domain 4 and ACPE Standard 2016 have been described as affective domains. A recommended and overarching consideration for this type of domain is the incorporation of learning that includes “doing” in addition to learning facts and concepts (Posner, 2009). Future studies should incorporate examination of SLD competencies and outcomes from co-curricular activities and self-awareness exercises (McGee, 2016; Ponder, 2011); and Thompson, 2012). These co-curricular activities are designed to implement and practice leadership course concepts in the real-world environment and with real people, they are the SLD “doing”. Examples of co-curricular activities include participation in health fairs to provide health education and health services to underserved populations, getting involved in advocacy for patients and their future profession, and participating in research to advance health care.
Although course mapping to the sample schools in this study showed some elements of self-awareness, it is difficult to measure to what extent this element was learned. Self-awareness exercises help one to understand their strengths and weaknesses, strategies for life-work balance, and become attuned to their emotional intelligence and gaps that may need to be filled (Abraham, 2017). This SLD expands beyond what is learned in school and must be practiced throughout one’s career. Future studies should also include delving more in depth to what is learned in school and how this training and “doing” prepares the student for continuing to develop their self-awareness.

**Limitations**

Limitations to the breadth of health profession programs included in this study is noted. Since other health profession programs of study may also call for similar inclusion of leadership programming, future research on this topic should consider the entire spectrum of the health professions as they relate to this area of research. Other health profession accreditation councils may have instituted similar calls to action; however, this research study was limited to pharmacy education and the ACPE accreditation for PharmD programs.

There were limitations to the breadth of U.S. geographic locations, types of schools, and a global perspective in this research study. Researchers interested in this topic might consider one or all of these topics in future studies to provide an all-inclusive perspective of how SLD may be preparing the next generation of health care professionals to lead. Geographic location consideration should include multistate institutions. This study considered only public schools in one state, future studies should be expanded to include multiple states and public and private institutions. A study or comparison of the U.S verses another country for one type of health
profession program may also be beneficial for developing an understanding of how SLD is being incorporated globally.

**Conclusion**

Student leadership development was described as an element required for pharmacists and others entering health care professions. Recognizing this need, professional and accreditation bodies answered the call to action by incorporating SLD as a desired curricular goal. One such accrediting body, ACPE, the accrediting body for Doctor of Pharmacy programs developed a SLD into their required standards. ACPE Standard 4 required schools/colleges of pharmacy to meet this outcome. The literature review showed a lack of research in how schools should implement SLD elements into their curriculum to provide leadership foundations for their students and meet required accreditation SLD outcomes.

The research completed for this study provided methods of assessment and two exemplars of public schools of pharmacy that successfully achieved the objective of meeting SLD accreditation outcomes. The institutions integrated SLD horizontally within course content in each professional school year and vertically via longitudinal courses which often were delivered throughout the program and culminated in a capstone project. This type of integration of SLD has been associated with students developing life-long learning habits. In this case study, the development of life-long leadership habits was the ultimate and overarching outcome of SLD. Although not specifically mentioned, such development is the overarching reason for including SLD within the Doctor of Pharmacy program curriculum.

Implementing SLD into the pharmacy curriculum is still evolving. Research such as this study provides valuable information for schools to use as a resource for identifying leadership
competencies within their curriculum, locating holes that require attention, and implementing longitudinal programming to create life-long leadership learners.

Achieving the outcomes in the ACPE Standard 4 requires intentional planning and dedicated implementation involving curriculum committees, administrators, and faculty members. A strong SLD program must involve all student pharmacists, focusing on preparing students with the skills necessary for entry-level leadership, and instill in students an intention to engage in lifelong leadership development (Janke, 2016).
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