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Examining Leadership Knowledge and Skills Development Opportunities for Physical Therapist Students: A Multiple Case Study Design

Abstract

This study examined leadership knowledge and skills development in accredited physical therapist programs. Data were triangulated across program director and faculty member interviews, course descriptions and student learning outcomes. The use of the FINHOP framework by Schafer et al. (2007) facilitated an analysis of the data and a delineation of knowledge development versus skills acquisition. Additionally, programs with and without pro bono clinics were compared. This multiple case study examined four purposively recruited physical therapy programs. Four themes and related subthemes were identified through data analysis and included: (a) inconsistent definition of leadership; (b) leading leaders with subthemes professional socialization, networking, and pedagogy of integrated leadership; (c) business savvy with one subtheme of resource management; and (d) never enough time. Programs demonstrated consistency in evaluation of graduates' acquisition of leadership knowledge, but lacked measurement of graduates' application of leadership skills. The comparison between programs with and without pro bono clinics identified a weak link between pro bono clinical experiences and graduates' leadership knowledge and skills development. The voluntary status of student and faculty participation within the pro bono clinics in combination with a lack of measurable student learning outcomes limited linking leadership knowledge and skills development to pro bono clinic participation. Recommendations for future research included: programs' use of a consistent definition of leadership threaded across the curriculum, graduates self-assessment of leadership knowledge and skills development, and programs' use of student learning outcomes to link pro bono clinic participation to leadership knowledge and skills development.

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Elizabeth Clark PT, DPT, NCS

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Supervised by

Dr. Marie Cianca

Committee Member

Dr. Joellen Maples

Ralph C. Wilson, Jr. School of Education

St. John Fisher College

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Dedication

This dissertation is dedicated to my tribe, a loving and supportive group of family and friends that have not only pushed me to persevere, but have consistently and compassionately supported me along this journey. Special thanks to my dissertation committee, Dr. Marie Cianca and Dr. Joellen Maples, my fieldwork mentors Dr. Sue O'Brien and Dr. Jennifer Collins, my parents Jim and Carol Buchholz, my son Colby James, and my love Dr. Michael Huson. This journey may have been successful, but would not have been as rewarding without your love and encouragement along the way. For that, I am forever grateful and choose to dedicate this manuscript to each and every one of you.

Biographical Sketch

Dr. Elizabeth Clark is an Assistant Professor in Physical Therapy at Adventist University of Health Sciences (ADU) in Orlando, Florida. Prior to joining ADU, she was a full time Clinical Assistant Professor at Nazareth College for 5 years, and a clinician for Rochester Regional Health System for 14 years, in Rochester, New York. Dr. Clark received her Bachelor of Arts in Biology at SUNY Geneseo in 1999, and graduated from SUNY Upstate Medical University magna cum laude with both a Bachelor of Science in Health Science and a Masters in Physical Therapy in 2002. Additionally, she received her Doctorate in Physical Therapy from Upstate Medical University in 2006, her board certification in neurologic physical therapy in 2008, and served as Co-Director during successful credentialing of a Residency Program in Neurologic Physical Therapy at Rochester Regional Health in 2011. Dr. Clark's primary areas of interest in clinical practice, teaching, and research include neurologic physical therapy and leadership in health care. Dr. Clark has previously provided physical therapist education locally and internationally in the area of neurologic physical therapy.

Abstract

This study examined leadership knowledge and skills development in accredited physical therapist programs. Data were triangulated across program director and faculty member interviews, course descriptions and student learning outcomes. The use of the FINHOP framework by Schafer et al. (2007) facilitated an analysis of the data and a delineation of knowledge development versus skills acquisition. Additionally, programs with and without pro bono clinics were compared. This multiple case study examined four purposively recruited physical therapy programs. Four themes and related subthemes were identified through data analysis and included: (a) inconsistent definition of leadership; (b) leading leaders with subthemes professional socialization, networking, and pedagogy of integrated leadership; (c) business savvy with one subtheme of resource management; and (d) never enough time. Programs demonstrated consistency in evaluation of graduates' acquisition of leadership knowledge, but lacked measurement of graduates' application of leadership skills. The comparison between programs with and without pro bono clinics identified a weak link between pro bono clinical experiences and graduates' leadership knowledge and skills development. The voluntary status of student and faculty participation within the pro bono clinics in combination with a lack of measurable student learning outcomes limited linking leadership knowledge and skills development to pro bono clinic participation. Recommendations for future research included: programs' use of a consistent definition of leadership threaded across the curriculum, graduates self-assessment of leadership knowledge and skills development,

and programs' use of student learning outcomes to link pro bono clinic participation to leadership knowledge and skills development.

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Chapter 1: Introduction

Healthcare Reform and Physical Therapy

Over time, and owing to several factors, a gap has developed in the development of leadership in the professional education of physical therapists. First, demographics in the United States (US) have changed, particularly regarding age. Second, recent healthcare legislation has changed, prioritizing disease management as well as the health and wellness of the entire population and impacting the need for increased emphasis on leadership development in physical therapist education. Access to high quality healthcare, at a reasonable price, to the widest number of people, requires leadership to be at the forefront of physical therapist education (Berwick, Nolan, & Whittington, 2008; Deusinger, Crowner, Burlis, & Stith, 2014).

Demographics. Demographics in the US are evolving. For example, life expectancy in 1900 was 47.3 years, while, by 2060, it is estimated to be at 100 years (Friedman, Sabatino, Anderson, & Souhrada, 1991). Concurrently, the elderly population is rising from 12% to 20% (Haughton & Stang, 2012). The rapidly aging workforce is resulting in a higher percentage of retirees, which increased by 49% between 2004 and 2014 (Jette, 2012; Silverstein, 2008). All of these factors contribute to an increased burden on national healthcare.

The triple aim of healthcare reform is to expand coverage, reduce costs, and improve health care delivery for all Americans. Meeting this triple aim will be a challenge, given the aforementioned changes in demographics of the U.S. population

(Arroliga, Huber, Myers, Dieckert, & Wesson, 2014; “Focus on Health Reform,” 2013).

Through Medicare, national healthcare is currently provided to those over age 65.

Employed workers contribute to Medicare via federal tax deductions from their paycheck. As a result of an aging and retiring American workforce, payroll contributions into Medicare will decline while demand for Medicare funded healthcare payments will rise (McClellan & Skinner, 2006; Silverstein, 2008). Changes in U.S. demographics will impact the availability of national healthcare funds and will challenge healthcare practitioners to effectively and efficiently provide high quality of care.

Legislation. The Patient Protection and Affordable Care Act (PPACA) includes provisions to expand coverage to Americans previously considered ineligible, while reducing their out of pocket costs and improving the quality of healthcare they receive. PPACA reform incentivized a collaborative model of healthcare delivery (S. Res. 7852, 2015; Segal, 2010). As a result, the focus of healthcare treatment shifted from acute disease management to disease prevention and wellness of the entire population (Brennan & Sullivan-Marx, 2012; Deusinger et al., 2014; Haughton & Stang, 2012). These shifts in the landscape of America’s healthcare system are inspiring healthcare leadership to improve accessibility and quality while minimizing healthcare costs.

Changes in federal legislation have altered the curriculum standards for physical therapy program accreditation. First, physical therapists (PTs), acting as mobility experts, assist with the establishment of a coordinated federal effort for prevention, wellness, and public health (“Focus on Health Reform,” 2013; Haughton & Stang, 2012; Kigin, Rodgers, Wolf, 2010). Second, they work with interdisciplinary teams to reduce preventable hospital readmissions by focusing on falls reduction (“Focus on Health

Reform,” 2013; Haughton & Stang, 2012; Kigin et al., 2010). Third, physical therapists also function as part of a team of in-home and telehealth primary care providers for high-needs Medicare beneficiaries (“Focus on Health Reform,” 2013; S. Res. 7852, 2015). Finally, physical therapists educate individuals on issues of health, wellness, and disease prevention, advancing the health of the population as a whole.

Curriculum standards and design. New federal mandates prompt a need for changes in the preparation of healthcare professionals in order to improve the quality of healthcare delivery in a cost effective manner. In turn, physical therapists’ leadership roles and responsibilities will expand as they participate in an interdisciplinary work environment (Deusinger et al., 2014). The Commission on Accreditation in Physical Therapy Education (CAPTE) recently revised standards, some in relation to changes in healthcare legislation went into effect for candidacy and re-credentialing January 1, 2016 (CAPTE, 2015). Requirements include, but are not limited to the following: an expanded scope of interdisciplinary education, participation within the case management process across the healthcare continuum, competence in patient care through direct access, and assessment of healthcare policy and its impact on professional practice (CAPTE, 2015).

Classroom and clinical instruction of physical therapists currently includes a range of pedagogical approaches for implementation across a variety of patient diagnoses, healthcare settings, and patient management skills. Common examples of pedagogical approaches in physical therapist education include problem based learning, peer teaching, interactive laboratories, service learning, and simulations (Jensen & Mostrom, 2013). Pedagogy is inclusive of all interactions between faculty and students during classroom and clinical instruction (Cochran-Smith & Zeichner, 2005). Physical

therapist faculty design curriculum to meet the needs of faculty and graduates, and may be influenced by the overall university mission as well as CAPTE standards.

Physical therapist curriculum currently lags behind the revisions in CAPTE standards. Programs have yet to enact the updates needed to address new accreditation standards. Typically, however, leadership skills are not as present in the curriculum as are clinical skills, as reflected in the content analysis of the national exam for physical therapist licensure (*NPTE-PT Test Content Outline, Effective January 2013*). Currently, only three to four items on a 200-item exam are devoted to professional responsibilities, while the majority of items are related to clinical skills across the patient/client management model (*NPTE-PT Test Content Outline, Effective January 2013*).

Given the way the national examination is currently comprised, physical therapist education at the doctoral level prepares entry-level graduates for the clinical examination and evaluation of patients across the healthcare continuum but, does not prepare leaders. (Stiller, 2000). Physical therapy curriculum follows a framework as outlined by the Normative Model of Physical Therapist Professional Education (NMPTPE). The Normative Model of Physical Therapist Education (2004) defined student learning outcomes in the area of leadership as: (a) participate in the case management process; (b) provide consultation within boundaries of expertise to businesses, schools, government agencies, other organizations, or individuals; (c) advocate for the health and wellness needs of society; and (d) participate and show leadership in community organizations and volunteer service (NMPTPE, 2004). Physical therapy programs across the country utilize the 2004 NMPTPE framework to inform their individual curricula as well as updated CAPTE standards, but lack a common and unified definition of leadership (Desveaux,

2016; NMPTPE, 2004; CAPTE 2015). Despite current changes in healthcare legislation and accreditation standards, areas related to leadership are under-represented in the NMPTPE and licensure examination.

The education of effective practitioners requires that students acquire effective leadership and patient care strategies for use in an interdisciplinary healthcare environment (Stiller, 2000). With this focus on collaborative and inter-professional physical therapist education specific learning outcomes and objectives within entry level programs must be customized such that leadership skills are developed just as much as clinical skills in the curriculum. In addition, the level of knowledge and skill required in each of these leadership areas for entry level practice should be explicitly defined. While the NMPTPE framework includes leadership categories related to administration and management, it has not been updated since 2004. Given the significant reform in healthcare and enhanced expectations for collaborative practice, the leadership skill set delineated in NMPTPE should be updated to reflect current practice.

Leadership in physical therapy. In order to integrate leadership values and behaviors in the profession, the meaning of leadership in physical therapy education must be defined. A common and unified definition of leadership in physical therapist practice is lacking (Desveaux, 2016). McGowan and Stokes (2015) identified existing definitions of leadership in physical therapy from several international sources. McGowan and Stokes (2015) examined definitions from the Canadian Physiotherapy Association (CPT), the American Physical Therapy Association (APTA), and the World Confederation of Physical Therapy (WCPT) when seeking to establish a unified set of terms and definitions. CPT defined a leader as someone who “leads successful and sustainable

change, holds multiple lenses of perspectives, strengthens and builds relationships, inspires and engages others to grow, leads across complex systems, asks questions and reflects on what is needed most” (McGowan & Stokes, 2015, pp. 122-123). The APTA defined leadership as “people willing to make decisions and take risks, who understand a group’s needs and who know how to inspire people and move them to action” (McGowan & Stokes, 2015, p. 123). WCPT states that within the definition of a physical therapist “the scope of physical therapy practice is not limited to direct patient/client care but also includes advocating for patients/clients and supervising/delegating to others” (McGowan & Stokes, 2015, p. 123). The integration of physical therapists into an interdisciplinary environment warrants further investigation so that leadership can be more successfully incorporated into the ethos and curriculum of physical therapist preparation.

Recognizing the need for additional research into leadership knowledge and skills in entry level physical therapy practice, Lopopolo, Schafer, and Nosse (2004) sought to build such understanding with their study. In this Delphi study, 34 physical therapist managers identified 178 skills related to leadership, administration, management and professionalism (LAMP). Results suggested that 100% of the identified skills were important in the management of clinical practice. However, only moderate knowledge of 44% of these skills was important for new graduates. Additionally, this same sample of physical therapist managers felt that new graduates needed intermediate knowledge in 22% of LAMP skills. The highest ranked skills in the study were as follows: (a) communication, (b) professional involvement and ethical practice, (c) delegation and supervision, (d) stress management, (e) reimbursement, (f) time management, and (g) health care industry scanning. These findings are consistent with previously identified

manager roles within and outside of healthcare (Pavett & Lau, 1985; Roemer, 1996; Schafer, 2002). Identifying these LAMP skills should inform the development of physical therapist curricula in order to reflect the demands of clinical practice.

The patient/client management model is utilized within the clinical practice of physical therapists and includes examination, evaluation, diagnosis, prognosis, and planning of care for individuals seeking physical therapy (Schafer, Lopopolo, & Leudtke-Hoffmann, 2007). At the time, Lopopolo et al. (2004) did not highlight the integration of LAMP skills across the patient client management model. Perceiving this gap in the research, Schafer et al. (2007) sought to revise, reorder, and apply LAMP skills to clinical practice in physical therapy.

Given the revisions of LAMP by Schafer et al. (2007), leadership was identified as the means through which physical therapists apply their knowledge to clinical problem solving. This definition highlights the application of leadership skills during patient client management, as well as areas of administration and management. The definition also aligns with the current WCPT definition of leadership in physical therapists (McGowan & Stokes, 2015). Schafer et al. (2007) organized administrative and management practice areas into categories applicable to physical therapist practice, using the following terms to identify them: finance (F), information management (I), networking (N), human resource management (H), operations (O), and planning and forecasting (P), or the full acronym FINHOP. In this model, as illustrated in Figure 1.1, leadership and professionalism are part of a minimum skill set from which administration and management can be applied across the patient client management model.



Figure 1.1. Adapted from conceptualization of LAMP model integrated with patient/client management model. (Schafer et al., 2007, p. 262).

In 2007, Schafer et al. conducted a survey with 435 physical therapists, representative of the field of practicing clinicians and academicians across the United States. Participants in the study reviewed 121 FINHOP skills and scored the items on Likert scales for skill and knowledge (Schafer et al., 2007). The higher the score, the greater independence required upon graduation for entry level application of knowledge and/or skill. This survey's results indicated that more independence is needed when negotiating FINHOP categories of human resource management, information management, and operations skills than is necessary when developing skills for networking, planning/forecasting, and finance (Schafer et al., 2007).

Statement of the Problem

Changing demographics have prompted legislative reform in U.S. healthcare. In response to these changes and the corresponding reforms, accreditation standards related

to leadership in physical therapist education have also evolved. Currently, the leadership skills and knowledge recognized as critical to success in the field are insufficiently developed in entry level physical therapist education. In order to increase efficiency and to account for this need for greater focus on leadership, the Normative Model of Physical Therapist Professional Education (NMPTPE) needs to be updated to reflect current practice standards.

Physical therapists are highly educated individuals within a specialized field. Additionally, they are often required to practice collaboratively in a constantly changing and evolving environment. A physical therapist's role requires efficiency and proficiency as a supervisor, manager, teacher, and consultant across the changing landscape of healthcare (Stiller, 2000). Leaders in healthcare “envision and enact change” whereas managers “allow for the implementation of change” (McGowan & Stokes, 2015, p. 123). Healthcare practitioners cannot efficiently and effectively address the triple aim of healthcare without attention to leadership development and application, alongside the development of clinical skills.

Because physical therapist education must include leadership, new CAPTE standards surrounding leadership and the practice of physical therapy in interprofessional environments support revisions and modifications to the existing curriculum. Changes in U.S. demographics, healthcare legislation, and healthcare delivery models call for future physical therapists to be leaders across disciplines and healthcare environments. Currently, there are precious few empirical studies related to the incorporation of leadership, administration, management and professionalism into physical therapist curriculum. As a result, there is little understanding of leadership knowledge and skills

development in curriculum design, methods of delivery, and acquisition of leadership criteria.

Theoretical Framework

The best way to examine leadership in the physical therapy curriculum is through the FINHOP framework of Schafer, et al. (2007). This framework provides a synthesis of previous leadership frameworks in physical therapy, carefully allowing the user to consider both the level of knowledge and skill required within specified categories (Schafer et al., 2007). Through the FINHOP framework, LAMP is revised to focus on the administrative and management skills across the patient client management model. The FINHOP framework assumes a foundation of professionalism in physical therapist practice and presents leadership as the means for application across clinical practice. Schafer et al. (2007) also attempted to understand the level of knowledge and skill required for administrative and management tasks in physical therapy.

Originally, the LAMP framework merely separated four areas of business practice without integrating them effectively into clinical practice (Lopopolo et al., 2004). The NMPTPE identifies five broad areas of clinical management. However, those that are most critical for entry level practice are not well defined (NMPTPE, 2004; Leudtke-Hoffmann, 2002). Therefore, in 2007 Schafer et al. revised the business management framework of LAMP to FINHOP, considering knowledge acquisition and skill development across administrative and management skills.

The FINHOP framework delineates knowledge development and skill acquisition across leadership behaviors for entry level physical therapist practice. FINHOP is the best framework for analyzing the physical therapist curriculum when considering the

changes in standards, legislation, and delivery models and their dependence upon strong leadership skills. Since leadership skills can be taught, physical therapist education should prioritize a curricular thread, particularly in relation to leadership development in today's interdisciplinary healthcare environment. Additionally, the physical therapist curriculum is in need of revision in order to emphasize the application of leadership skills across the healthcare continuum within an interdisciplinary environment (Arroliga et al., 2014; Dobrzykkowski, 2014; Greenwald, 2010).

Figure 1.2 was created in an attempt to capture the use of Schafer's (2007) FINHOP model as the theoretical framework for this proposed study. Changes in legislation, healthcare delivery systems, and CAPTE standards suggest that the FINHOP framework (Schafer et al., 2007) can assist in analyzing physical therapy curriculum for leadership content and design. Gaps and exemplars may be identified during this analysis.

Statement of Purpose

This study examined course descriptions and associated student learning outcomes within accredited Doctor of Physical Therapy program curricula in order to ascertain the presence and degree of leadership skills therein. Program directors and faculty in four programs were individually interviewed to gain an understanding of considerations underlying curriculum design, methods of delivery, and knowledge versus skill acquisition of leadership criteria. The FINHOP framework of Schafer et al. (2007) was utilized in this study to analyze and identify leadership skills in the curricula.

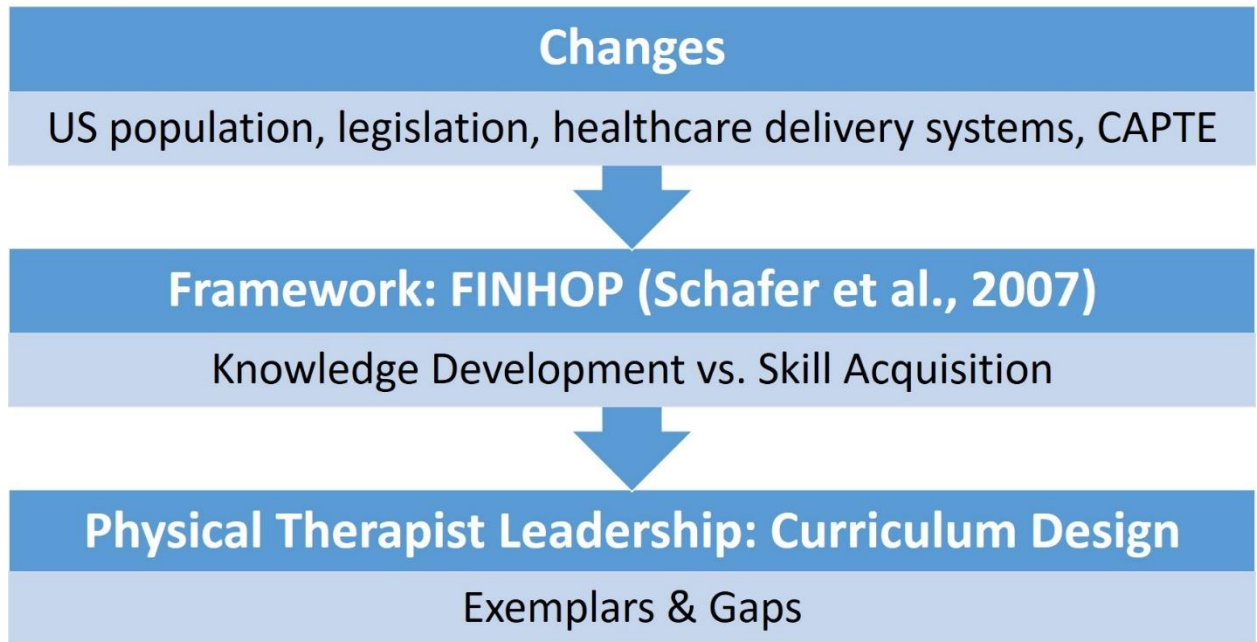


Figure 1.2. A conceptual overview of how changes in demographics and healthcare legislation impact physical therapy accreditation and implementation of leadership in the education of future healthcare professionals.

Successful leadership originates from a holistic perspective, developing a shared vision among healthcare providers, consumers, and payers for the overall health of the U.S. population (Chan & Heck, 2003; Gersh, 2006; Schmoll, 1998; Trofino, 1995). Leaders in physical therapy can facilitate the achievement of goals for all stakeholders and, in so doing, maximize the triple aim of healthcare. Effectively developing leadership knowledge and skills can assist in the efficient use of limited healthcare resources. Changes in health care delivery require change in leadership education and skill development. Given these recent changes, the examination of the presence of leadership knowledge and skills development within physical therapy curricula is warranted.

Research Questions

Leadership preparation should be more thoroughly addressed in the curriculum of physical therapist education in order to reflect recent changes in CAPTE standards. Changes in healthcare legislation, delivery models, and entry level preparation emphasize the development of leadership knowledge and skills. The FINHOP framework was used to answer the following research questions:

1. In what ways are leadership knowledge and skills embedded within PT curriculum?
2. How do program directors make decisions regarding leadership knowledge and skills in curriculum design?
3. How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses?

Potential Significance of the Study

An analysis of leadership skills within accredited physical therapy curricula helped determine where and how the content was embedded. Strengths, weaknesses, and potential curricular gaps were identified and addressed. Discussion with program directors identified considerations and decision making processes leading to curricular development and the identification of key components that influence resource utilization. Interviews with faculty examined the implementation and instructional methods used across programs. Programmatic and curricular expectations could be more thoughtfully and systematically developed within the NMPTPE, investigating the impact of legislative changes on the education of physical therapists.

Definitions of Terms

The following are definitions of terms utilized throughout this study:

Commission on Accreditation in Physical Therapy Education (CAPTE) - United States agency recognized to accredit education programs for the preparation of physical therapists (CAPTE, 2015).

Evidence based practice (EBP) - the use of current best evidence in making decisions about the care of individual patients. Both clinician expertise and clinically relevant research are important components of EBP. Identification and application of patients' preferences should be part of the clinical decision making (Jette, 2012).

Finance, information management, networking, human resource management, operations, and planning and forecasting (FINHOP) – administration and management categories, prioritized across and business and health care research literature, as areas for knowledge and skill acquisition for new graduates in physical therapy (Schafer et al., 2007).

Interdisciplinary/interprofessional teams - the process by which ideas, data and information, methods, tools, concepts, and/or theories from two or more disciplines or professions are synthesized, connected, or blended (Repko, 2012).

Leadership – “Leadership within the scope of physical therapy practice is not limited to direct patient/client care but also includes advocating for patients/clients and supervising/delegating to others” (McGowan & Stokes, 2015, p. 123).

Leadership, administration, management and professionalism (LAMP) - a document published by the American Physical Therapy Association to develop a better understanding of the business-related skills that physical therapists use, which served as a template for organizing a generated list of likely administrative and management content pertinent to physical therapy practice (Lopopolo et al., 2004).

Management – aims to maintain standardization, consistency and order and prioritizes the efficient and effective running of organizations (McGowan & Stokes, 2015).

Normative Model of Physical Therapist Professional Education (NMPTPE) – provides a framework from which Physical Therapy Programs design curriculum (NMPTPE, 2004).

Patient Protection and Affordable Care Act (PPACA) – comprehensive health reform, signed into law by President Barack Obama on March 23, 2010. The law focuses on provisions to enact the triple aim of healthcare (“Focus on Health Reform,” 2013; S. Res. 7852, 2015).

Patient/client management model – utilized by physical therapists within clinical practice for examination, evaluation, diagnosis, prognosis, and planning care of individuals seeking physical therapy (Schafer et al., 2007).

Pedagogy – Pedagogy is inclusive of both classroom instruction and all the interactions between faculty members and students during that time (Cochran-Smith & Zeichner, 2005). Multiple pedagogical approaches are common in physical therapist education and include but are not limited to: problem based learning, peer teaching, interactive laboratories, clinical education, service learning, and simulations (Jensen & Mostrom, 2013).

Triple aim of healthcare – Expanded coverage, controlled health care costs, and improved health care delivery systems (“Focus on Health Reform,” 2013).

Chapter Summary

As the demographics and the health of the United States evolve, so does the legislation surrounding the delivery and associated reimbursement of healthcare. Recent changes in healthcare legislation have changed the process and standards for accreditation and curriculum expectations of healthcare professionals. Therefore, the education of healthcare practitioners requires increased emphasis on leadership knowledge and skills to advance the triple aim of healthcare. Currently, the education of healthcare practitioners commonly occurs within distinctly separate environments, while, conversely, the treatment of patients requires coordinated interdisciplinary care.

Recent changes in legislation, healthcare delivery systems, and CAPTE standards support the need for changes in the physical therapy curriculum. The framework created by Schafer et al. (2007), regarding knowledge and skill acquisition, is appropriate for utilizing and analyzing current physical therapy curricula, with a specific focus on leadership skills. Information from physical therapy program directors and faculty inform this study's understanding of how program curricula meet patients' needs and newly updated accreditation standards. Chapter 2 will examine the empirical literature surrounding leadership development and its application to the education of doctors of physical therapy, and Chapter 3 will detail the methodology for this study.

Chapter 2: Review of the Literature

Introduction

Changes in healthcare legislation, delivery models, and entry level preparation necessitates the development of leadership knowledge and skills in entry level physical therapists. This chapter addresses three themes related to leadership within the realm of today's American healthcare system. First, the chapter synthesizes the literature related to leadership applications in healthcare. Second, the chapter examines the professional socialization of students in graduate studies, executing an overview of the values that guide the development of specific behaviors for physical therapists. Third, the chapter reviews the leadership qualities of entry level physical therapist graduates. The third section includes student perceptions surrounding the importance of leadership skill development while emphasizing the difference between the acquisition of knowledge and the development of skill. The review also explores the impact of service learning on student leadership development. Finally, the chapter discusses the substantive gaps identified within this body of literature.

Purpose. Changes in healthcare legislation require an emphasis on leadership preparation in the curriculum of physical therapist education. The FINHOP framework was used to answer the following research questions:

1. In what ways are leadership knowledge and skills embedded within PT curriculum?

2. How do program directors make decisions regarding leadership knowledge and skills in curriculum design?
3. How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses?

Leadership and Healthcare Applications

Leadership roles for healthcare practitioners have evolved over time. Previously, management and administrative duties consisted of planning, organizing, and staffing and directing profession-specific departments. Under the current landscape of healthcare, roles have expanded to include leading, decision making, and providing a vision for interdisciplinary teams and service models (Chan & Heck, 2003; Desveaux & Verrier, 2014; Gilmartin & D'Aunno, 2007). Effective leadership enables and empowers interdisciplinary professionals to work collaboratively, facilitating a cultural shift from management of resources to leadership among colleagues (Suter et al., 2007).

Entry-level leadership education varies across healthcare professions. Medical education emphasizes team-based leadership skills with nursing programs requiring a master's degree in management and executive leaders in healthcare typically pursue doctoral degrees (Gilmartin & D'Aunno, 2007). Given that leadership pathways exist in the education of healthcare professionals, leadership knowledge and skills are priorities for development in future practitioners. This variation inhibits the discovery of best practices regarding curriculum design that most effectively translates this theoretical information into application. Leadership theory, as well as frameworks for curriculum design and implementation, beg investigation in order to be better understood. Through

this improved understanding, program directors can capitalize on the development of implementation models in the education of physical therapists.

Leadership definitions vary as each program selects unique definitions and curriculum design. The definition of leadership, utilized during program development, contributes to curriculum design surrounding teaching philosophy and the resulting graduate student skill development. Brocklehurst, Ferguson, Taylor, and Tickle (2013) defined leadership, in relation to the field of dentistry, as “leadership is a process of a group of people that do the right thing, compared to managers who do things right” (Brocklehurst et al., 2013, p. 243). If leadership can be taught, then the process of evaluating personal qualities, setting direction, and delivering services can be applied in the education of future dentists (Brocklehurst et al., 2013). Leadership behaviors are influenced by tasks, individuals and groups involved, and the organizational culture in which one practices. This definition, and its application within the realm of dentistry, is similarly linked to other areas of healthcare leadership.

In 2007, healthcare managers and frontline staff across disciplines were recruited throughout Alberta, Canada to participate in individual and group interviews regarding leadership and the support of inter-professional practice (Suter et al., 2007). Emergent themes from the interviews unearthed formal and informal structures within environments where inter-professional practice was successful. Examples included: role modeling, culture of permissiveness surrounding interprofessional practice, and clear expectations regarding this culture (Suter et al., 2007). Suter et al. (2007) indicated that management and administration facilitate interdisciplinary collaboration and establish practice-relevant implications. Organizational hierarchies and existing leadership models

encourage collaborative practices, supporting innovation (Desveaux & Verrier, 2014; Suter et al., 2007). Leadership themes in healthcare consistently included effective communication, role modeling, and expectations surrounding a collaborative culture of the organization.

The evolution of the physical therapy profession includes an increased emphasis on direct access to patient care, from a physician-driven model of prescriptive care. Interdisciplinary collaboration within the healthcare environment is a priority and would do well to address cost, access, and quality of healthcare (Chan & Heck, 2003; Desveaux, 2016; Desveaux & Verrier, 2014). Healthcare environments are often fast paced and high stress and understandably so, given the nature of the work to be done. Healthcare practitioners need to work together to utilize limited resources to provide optimal quality, access, and outcomes for patients (Desveaux, 2016). Well-developed leadership skills contribute to employee retention and job satisfaction in healthcare settings.

Job satisfaction and commitment to an organization positively impact efficiency and effectiveness of hospital function, as it relates to patient care (Lopopolo, 2002; Wong, Cummings, & Ducharme, 2013). Retention of healthcare staff is crucial to the efficient management of limited resources while optimizing continuity of patient care and associated patient outcomes. The role a clinician plays within a changing healthcare environment requires increased efficiency across an interdisciplinary setting (Lopopolo, 2002). Leadership roles and behaviors appear to be related to organizational outcomes, contributing to efficiency and effectiveness of hospital operations, as well as improved patient outcomes (Lopopolo, 2002; Wong et al., 2013). The data from Lopopolo (2002) and Wong et al. (2013) support an interdisciplinary approach to the education of future

healthcare practitioners so that they may function efficiently and effectively across teams and with varying healthcare delivery settings in order to facilitate favorable patient goals and outcomes.

Identification of leadership attributes across healthcare fields are prevalent; however, attributes and behaviors most important for a physical therapist are less clearly defined. In a 2002 study by Schafer, three groups of physical therapy managers responded to a survey using a Likert scale, investigating management activities and behaviors ranging from work roles to work skills. Five categories were ranked as most important: communication, financial control, entrepreneur, resource allocator, and leader. However, the practice setting in which the subject spent the most time was associated with the order in which these attributes were ranked overall (Schafer, 2002). Several researchers suggested a list of attributes that are important for physical therapists to demonstrate and model in a variety of practice settings (Schafer, 2002; Desveaux & Verrier, 2014; Gilmartin & D'Aunno, 2007). Leadership attributes are less defined within physical therapy curriculum.

Leadership expectations of new physical therapist graduates have evolved over time. Physical therapy graduates have evolved from a bachelor's degree where patient care was prescribed by a physician, to a doctoral degree where physical therapists treat patients via direct access. Current leaders in healthcare education and clinical practice define what physical therapists' characteristics and behaviors look like, and should be reflected in the curriculum of entry-level professionals (Threlkeld & Paschal, 2007). Professional socialization of students, as it relates to the profession's values and behaviors, is an important part of professional development.

Professional Socialization

The education of healthcare professionals includes the development of characteristics that define the values, behavior, and culture of the profession. This professional ethos is defined by Stiller (2000) as “the distinguishing characteristics, sentiments, and beliefs of that profession that guide the behavior of the practitioners” (p. 7). Often, these characteristics and expectations are defined within the profession’s code of ethics or state licensure laws. Student internalization of these values promotes the development of associated professional behaviors.

Time, advancement of education, and changes in healthcare legislation impact the requisite characteristics of healthcare professionals. Leaders in healthcare education and clinical practice define how these characteristics and behaviors should be demonstrated in the academic and work environments (Desveaux & Verrier, 2014). Educators must determine how to develop and facilitate these characteristics and behaviors within curricula design. Stiller initially examined professional socialization in physical therapy education in 2000.

Enduring traits exist within the field of physical therapy. Triangulated data were compiled from a representative sample of fellows of the American Physical Therapy Association (APTA), a focus group of experienced physical therapy clinicians (28-52 years of experience), and historical documents and lectures provided at annual APTA conferences (Stiller, 2000). The findings included the identification of enduring traits, such as: hard work, dedication, warmth and openness, which remain important in the development of physical therapists over time. In addition, changes within and outside the profession were identified as impacting the evolution of the ethos of the profession of

physical therapy. Legislative changes in health care delivery, increased autonomy as a profession, as well as the increased need for delegation to support staff, have contributed to the need for knowledge and skills related to leadership (Stiller, 2000; Threlkeld & Paschal, 2007). The resulting demand on physical therapists includes the need to become better supervisors, teachers, and communicators to advance the quality of healthcare. These new demands supported changes in standards within curriculum development, accreditation, and professional socialization.

The education of healthcare professionals incorporated the development of certain characteristics that define the behavior and culture of the profession, as a whole (Chan & Heck, 2003; Lopopolo, 2002; Teschendorf & Nemshick, 2001). Professional socialization occurred throughout the education of physical therapists (Corb, Pinkston, Harden, O'Sullivan, & Fecteau, 1987). Faculty and clinical instructors serve as important role models, showcasing professional behaviors (Corb et al., 1987; Jacobsen 1980; Teschendorf & Nemshick, 2001). Students are socialized in this way so that they to acquire and consistently demonstrate a set of values and behaviors consistent with professional practice.

The concept of professional socialization, within physical therapist education, has been studied since the 1970s (Jacobsen, 1974). Professional socialization has been defined as “the acquisition of the body of knowledge and technical skills along with the acculturation process of internalizing the social values, the behavior norms, and the symbols of an occupational group” (Greenwood, 1966, p. 18). More recently, Swensen, Pugh, McMullan, and Kabcenell (2013) include professional socialization as one of five identified high impact leadership behaviors, describing it as the use of transparency

through front line engagement to build leadership authenticity. Effective leaders exhibited interest in the work, asked questions, engaged in problem solving, facilitating motivation across interdisciplinary teams through modeling leadership (Swensen et al., 2013).

Jacobsen used the concept of professional socialization to measure the level of student identification to a role model, through a Q sort survey. Jacobsen's survey consisted of descriptive statements that the rater placed along a continuum. This rating scale, used by students, was a method of measurement of professional socialization, comparing the roles of self, faculty, and clinical instructor. Results indicated that students found more similarity to clinical instructors than to academic faculty (Jacobsen, 1974).

Early mentorship and role modeling by clinical faculty influences the development of behaviors in students that are consistent with that of the profession. Understanding the development of professional behaviors and leadership in new graduates was the focus of Jacobsen's (1974) study. The results of this study suggested that, given students' intent to become clinicians themselves, clinical instructors were an important influence in the education and professional socialization of physical therapists (Jacobsen, 1974). Characteristics identified as highest ranking on the Q sort included: motivates others; teaching ability; ingenuity, initiative, and resourcefulness in meeting needs that arise, planned or spontaneous; and flexibility and adaptability in a variety of situations (Jacobsen, 1980). These attributes aligned closely with the current goals of maximizing efficiency and efficacy of patient care within a changing healthcare

environment. They also support the notion of leadership development in physical therapists.

Traits and attributes previously identified as important to PTs require thoughtful incorporation into entry level curriculum. Corb, Pinkston, Harden, O'Sullivan, and Fecteau (1987) investigated physical therapy student perceptions of themselves as they relate to future professional roles, through the use of a semantic differential test. This test provided bipolar adjective pairs, whereby the students ranked themselves along a seven-point scale to indicate both quality and intensity of their self-assessment to the adjective in question (Corb et al., 1987). Their perceptions were compared to those of physical therapy faculty members using the same test. Significant differences were noted between students and faculty in regard to the roles of staff physical therapists, physical therapy department heads, and physical therapists as clinical researchers. The differences noted between students and faculty perceptions indicated that students had less confidence in a leadership role. Given the interdisciplinary nature of healthcare today, professionals need to have a consistent identity in order to inspire collaboration within the workplace and to maximize patient care. Thus, leadership development was warranted, as it is important to improve students' perceptions across all roles. The successful incorporation of leadership skills and attributes into a professional's identity, contributes to overall attitude and quality of work. Physical therapist graduates need to be prepared for complex interdisciplinary interactions across multiple patient care settings (Desveaux & Verrier, 2014).

Physical therapy student views of professional identity development are important and must be analyzed and understood. Lindquist et al. (2006a) purposively sampled 18

students, a representative sample of entry level physical therapist students, across two programs. Students were interviewed individually and the interview guide was consistent across all six semesters. In total, 75 interviews of 21 students were analyzed for themes (Lindquist et al., 2006a).

Four main pathways for learning were identified across programs (Lindquist et al., 2006a). The learning pathways identified included the following phases: reflecting on practice, communicating with others, performance of skills, and searching the evidence. The results demonstrated that student perceptions of learning are characterized as occurring through communication and the ability to reflect on their practice. Improved communication and reflective practice leads to improved patient outcomes across healthcare settings (Desveaux & Verrier, 2014; Schafer, 2002). Leadership skills related to communication and reflection consistently ranked as highly important for those in leadership roles, and deserve attention to development and application in the education of future healthcare practitioners.

Within the classroom, the development of knowledge and skills are limited in application for professional education. Case studies, role playing, and hands-on practice on similarly able students limits clinical reasoning and application in the rehabilitation setting. The ability to take the knowledge and skills out of the classroom and apply them in a clinical setting that additionally addresses community needs is the basis of service learning (Reynolds, 2005; Stickler, Grapczynski, & Ritch, 2013). Essential to the development of effective leadership practices within today's healthcare system, service learning experiences provide learners with the opportunity to combine didactic outcomes and clinical skill application in community based settings (Reynolds, 2005). These

opportunities provide preparation and application of leadership skills in a clinical setting, while, simultaneously, addressing the health care needs of society. Examples of service learning includes the following: group wellness exercise classes, integrated clinical education experiences for students in clinical environments, guided observations with clinical instructors, as well as pro bono clinics. Within the development and implementation of pro bono clinics, physical therapy students have opportunities for professional and leadership development, as well as skill development.

Professional development related to reflection and self-awareness are key leadership values across healthcare environments. A qualitative study conducted by Stickler, Grapczynski, and Ritch (2013) identified student perceptions of the professional impact via participation in pro bono clinics. A sample of convenience was interviewed via focus groups. Themes generated from the focus groups included but are not limited to the following: an emphasis on core value development, clinical skill development, personal growth, and increased community/professional connections (Stickler et al., 2013).

Student professional development, as it relates to social responsibility, directly links to leadership theory application. The need for students to advocate for patient care, in a resource limited healthcare environment, was expressed very clearly during pro bono work. Service learning experiences for students lend themselves directly to leadership knowledge and skill application, as well as professional growth opportunities for students. The development of leadership knowledge and skills in physical therapist graduates is further explored in this final section.

Curriculum Design in Physical Therapist Education

Currently, successful completion of a physical therapy program results in a doctoral degree for the graduate. The clinical doctorate is recognized across a number of health professions as the credential required for autonomous practice (Threlkeld & Paschal, 2007). Autonomous practice and direct patient access to physical therapy results in reduced healthcare costs, which is a key component of the triple aim of healthcare (Berwick et al., 2008; Deusinger et al., 2014; Shepard & Jensen, 1990). In the late 1800s, the physical therapy profession evolved from one of providing therapeutic massage to that of direct access.

Physical therapy started in 1881 as a means for individuals to be able to perform therapeutic massage and prescribe exercises, primarily to gymnasts (Threlkeld & Paschal, 2007). The education, at that time, had a heavy emphasis on anatomy and physiology, which were maintained as foundational courses in developing programs. The curriculum evolved and expanded into a training program for rehabilitation aides throughout the First World War (Threlkeld & Paschal, 2007).

As the demand for physical therapists grew, and the education rigor and consistency was supported by the APTA, and maintained by CAPTE, this group required that student learning outcomes be derived from the institution mission and philosophy (CAPTE, 2015). Faculty values, pedagogy, and professional socialization influenced program philosophies (Shepard, 1977). Ongoing program evaluation was required, given expected changes in healthcare delivery over time. Clinical education experiences were required within curriculum design and provided students with an opportunity to apply acquired knowledge, skills, and professional behavior in supervised clinical settings (Threlkeld & Paschal, 2007). Physical therapy graduates need programs that include

such leadership development within the curriculum so that they can be active participants in interdisciplinary healthcare settings, advocate for patient needs, and consistently create reimbursable documentation.

The literature supports the development of leadership knowledge and skills development for entry level physical therapist practice. The Normative Model of Physical Therapist Education (2004) defined student learning outcomes in the area of leadership as: (a) participate in the case management process; (b) provide consultation within boundaries of expertise to businesses, schools, government agencies, other organizations, or individuals; (c) advocate for the health and wellness needs of society, and (d) participate and show leadership in community organizations and volunteer service. The student learning outcomes listed here were defined in 2004 and do not reflect the current needs of society in today's healthcare environment (NMPTPE, 2004). Physical therapist graduates currently practice as autonomous practitioners, where efficiency and effective use of limited resources are of primary importance, in order to promote the health and wellness of the population (Threlkeld & Paschal, 2007). Leadership knowledge and skills development in physical therapist graduates warrants ongoing investigation.

Leadership Skills for Physical Therapist Graduates

As researchers continued to examine the professional socialization of physical therapy students, the identification of learning strategies, student impressions of physical therapist roles, and acquisition of the attributes, values, and behaviors of the physical therapist professional were important and helpful findings (Corb et al., 1987; Jacobsen, 1974; Jacobsen, 1980; Jensen, Gwyer, Shepard, & Hack, 2000; Lindquist et al., 2006a;

Lindquist et al., 2006b; Teschendorf & Nemshick, 2001). However, specific areas outside of clinical skill knowledge, decision making, and application were not well defined within these studies.

The perceived importance in clinical management and level of knowledge and skill required of new graduates were identified through a Delphi study, in which 34 physical therapist managers participated (Lopopolo et al., 2004). Of the 178 identified LAMP skills, the physical therapist managers felt that 100% of them were important in the management of clinical practice, while they asserted that 44% of them were moderately important for new graduates. Additionally, this same panel of physical therapist managers felt that new graduates needed to have at least an intermediate level of proficiency in 22% of these LAMP skills. The highest ranked factors across importance, knowledge, and skill were most commonly identified as the following: communication, professional involvement and ethical practice, delegation and supervision, stress management, reimbursement sources, time management, and health care industry scanning (Lopopolo et al., 2004). These findings were consistent with previously identified important roles of managers within and outside of healthcare (Pavett and Lau, 1985; Roemer, 1996; Schafer 2002).

The identification of LAMP skills necessary for entry level physical therapy practice was an important development, as they were identified in relation to practice management, but not specifically integrated within clinical practice. Schafer et al. (2007) revised the LAMP acronym to specifically address the administrative and management skills (A&M) necessary for successful physical therapist practice. The revision resulted in the new acronym FINHOP to identify the categories of finance, information

management, networking, human resource management, operations, and planning and forecasting identified as important areas of administration and management skills for entry level physical therapist knowledge and skill (Schafer et al., 2007).

A survey of 435 physical therapists, representative of the field of practicing clinicians and academicians across the United States, reviewed 121 FINHOP skills in the revised A&M survey instrument. The results of this survey indicated that more independence in new graduates is required in FINHOP categories of human resource management, information management, and operations skills than is needed for networking, planning and forecasting, and finance skills (Schafer et al., 2007). Within these categories, skills of self-management, compliance, ethics and culture, and coding required more independence in both skill and knowledge upon graduation and entry into the workforce.

Most importantly; listening skills, verbal and nonverbal communication, personnel licensure and certification requirements, professional ethics, documentation requirements and time management have been identified as relying heavily upon student independence (Schafer et al., 2007). Median scores for each FINHOP category revealed that human resource, information, and operation skills had higher median scores than that of networking, planning and forecasting, and finance skills. Within these categories, skill groups fell into hierarchies as well, with new graduates either needing increased independence or increased assistance. Listening skills, verbal and nonverbal communication, personnel licensure and certification requirements, professional ethics, documentation requirements, and time management were identified as those skills that should not require any assistance upon graduation.

Recent legislative changes in healthcare, combined with updated accreditation standards, merit further understanding of where and how development of leadership is fostered in physical therapy curriculum. Schafer et al. (2007) revealed a specific set of leadership skills necessary for entry level practice in physical therapy. Direct exposure to settings and scenarios in which students are expected to apply clinical skills, as well as leadership skills, have been shown to be beneficial in developing of professional identities for graduates, suggesting that the evidence of leadership development in physical therapy curriculum is lacking.

Substantive Gaps

The review of empirical literature revealed substantive gaps in physical therapy leadership development. Stiller (2000) identified that the ethos of the profession continually evolves across time, while enduring core values are maintained. The manner in which these characteristics and associated behaviors are conveyed within curriculum design is important to understand. Competence in leadership must be instilled within physical therapy graduates, specifically related to the application of LAMP/FINHOP skills.

Leadership application across the patient/client management model is of significant import and begs further research. Chan and Heck (2003) identified the need for competence and confidence of leadership skills. The effective application of leadership is required of physical therapy graduates across healthcare settings. As a result, Schafer (2002) identified a consistent set of management skills and attributes, across healthcare settings, which are necessary for success in the practice of physical therapy. Much of this literature comes from a business setting; but, it has application and

implications for the healthcare environment (Suter, 2007). Future research should address how leadership knowledge and skills are being included in the entry level curriculum of physical therapists.

Physical therapy students, expert clinicians, clinical managers, and academic faculty provide insight into the behaviors and attributes of key role models within the profession. The identification of the evolving nature of physical therapists' roles in healthcare has important applications within professional socialization and curriculum design (Desveaux & Verrier, 2014; Threlkeld & Paschal, 2007). The profession of physical therapy, turning from a physician driven model to one of increasing clinical specialization and inter-professional collaboration, warrants ongoing investigation and research into the development of specific student behaviors. The ability of graduates to consistently demonstrate leadership within the healthcare environment contributes to efficiency and effective resource utilization across healthcare settings.

Chapter Summary

It is important for physical therapists to have a well identified role within an interdisciplinary environment. They must exercise leadership, administration, management, and professionalism within various healthcare environments. Schafer et al. (2007) identified specific examples of skills necessary for graduating physical therapists, which would ensure a sharp focus on both knowledge and skill in administrative and management content areas. The inclusion of these specifically identified skills is important along with their location and implementation within the curriculum of physical therapy programs.

The revision and implementation of updated CAPTE standards, in addition to recent healthcare legislative changes, provides opportunity for an increased emphasis on leadership skills. The ability to collaborate in inter-professional settings allows physical therapists to impact the triple aim of healthcare. Programmatic and curricular changes can be more thoughtfully and systematically implemented across curricula, to specifically address changes in healthcare legislation and delivery models. Furthermore, increased leadership education of physical therapists contributes to the health and wellness of the population, as a whole.

The presence of leadership knowledge and skill development, within the realm of physical therapist education, must be investigated as it would inform NMPTPE updates and revisions, and curriculum development within accredited physical therapy programs. Additionally, it would enable creation of specific course descriptions and learning objectives and ensure that future professionals are effectively and consistently prepared for the changing landscape into which they will enter. The next chapter will outline the methodology for this study.

Chapter 3: Research Design Methodology

Introduction

Healthcare legislation reform impacts the education standards of healthcare professionals. The professional education of physical therapists includes the development and clinical application of leadership. Program directors and faculty in physical therapy programs must understand how healthcare legislative reform affects the need for leadership development in physical therapist education. For aspiring physical therapists, leadership roles, patient advocacy, and participation within an interdisciplinary environment contributes to improved healthcare delivery and use of limited resources (Deusinger et al., 2014).

New standards, related to leadership in physical therapist graduates, include the following: (a) an expanded scope of interdisciplinary education (b) participation within the case management process across the healthcare continuum, (c) competence in patient care through direct access, and (d) assessment of healthcare policy, including its impact on professional practice (CAPTE, 2015). Physical therapy programs will be required to reflect these curriculum updates at the time of individual program re-credentialing beyond January 1, 2016.

Research Questions

Leadership preparation is needed in the curriculum of physical therapist education, in response to recent changes in CAPTE standards. Changes in healthcare legislation justify

an emphasis on leadership preparation in the curriculum of physical therapist education. The FINHOP framework was used to answer the following proposed research questions:

1. In what ways are leadership knowledge and skills embedded within PT curriculum?
2. How do program directors make decisions regarding leadership knowledge and skills in curriculum design?
3. How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses?

Research Context

Currently, there are 228 accredited programs in the United States that provide physical therapist education. The clinic environment provides an opportunity for students to apply leadership skills. All physical therapist students participate in at least 32 weeks of full time clinical education. This experiential learning allows students to apply their knowledge and skills within various healthcare settings. Licensed physical therapists, with at least 1 year of clinical experience, supervise physical therapist students as clinical instructors.

Physical therapy programs can create additional opportunities for student application of leadership. For example, leadership in the clinic environment includes patient advocacy, patient education regarding health and wellness, collaboration within an interdisciplinary environment, and providing physical therapy to patients via direct access. One structured opportunity for leadership application is through student participation in integrated clinical experiences. These integrated clinical experiences are linked to didactic courses in which students can apply the theory they have learned

through didactic and laboratory instruction. Leadership opportunities within integrated clinical education can occur via service learning in pro bono physical therapy clinics.

Pro bono clinics continue to emerge within physical therapy program curricula. Pro bono clinics are helpful because they offer students experiential and service learning opportunities during entry level education (Reynolds, 2005). In 2004, 50 physical therapy programs reported including service learning as a part of their curriculum, with four additional programs reporting a plan to add it to the curriculum (Village, Clouten, & Millar, 2004). Current course description reviews indicate that almost 90% of current accredited PT programs offer some form of integrated clinical education, service learning, or pro bono clinics in their curriculum. There are a number of credentialed physical therapy programs that do not augment curriculum with additional clinical education opportunities. In order to discern any difference between the two, leadership knowledge and skill development, within the context of the FINHOP framework, was examined within a purposive sample of programs with and without pro bono clinics in this study.

Methodology

The research questions in this study were appropriate for a multiple case study design. The researcher endeavored through this study to improve understanding about resource utilization and decision making regarding curriculum design, as well as course delivery and implementation surrounding leadership knowledge and skills in current accredited physical therapist programs. A multiple case study design provided the researcher the opportunity for immediate replication within the study (Galloway & Sheridan, 1994). Data collected from multiple case studies were utilized to support, or

refute, assertions and assumptions when analyzing results across multiple cases (Creswell, 2014). Triangulation of the data collected within the case studies across multiple measures assisted with internal validity and credibility of the findings (Campbell & Ahrens, 1998).

Research Participants

Experiential and service learning within pro bono clinics provides one opportunity for physical therapy students to apply leadership skills (Reynolds, 2005). Many physical therapy curricula are designed to focus on full time clinical education experiences in order to fulfill leadership application and development within the clinical environment. Exploring what motivates the decision making of program directors and faculty at purposively selected institutions with and without pro bono clinics, provided an opportunity for understanding overall curriculum design, program resource allocation/utilization, and faculty pedagogy surrounding leadership knowledge and skill development in physical therapist students.

Four programs were purposively selected for this qualitative study. This selected method of nonprobability sampling for research participants allowed use of the researcher's expert judgment (Singleton & Straits, 2010). Program sampling included the following criteria: (a) institutions with current CAPTE credentialing for physical therapy education; (b) Carnegie Classification of M1 or M2 (Indiana University, 2015); (c) two institutions that were current members of the Physical Therapy Pro Bono National Honor Society (PTPBNHS, 2015) with explicit use of pro bono clinical experiences within the curriculum; and (d) two institutions that did not have explicit use of pro bono clinical

experiences defined within the curriculum. To maintain research integrity and anonymity, the researcher's institution was excluded from the study.

These selection criteria ensured that all research participants currently participated in curriculum development at CAPTE accredited institutions. CAPTE accreditation ensured that program development, design, and outcomes meet entry-level student learning objectives across the institution's curriculum. Carnegie classifications of M1 and M2 ensured similar institution size. The inclusion of two institutions with pro bono clinics, and two institutions without them, allows for an exploration of whether differences existed between these participant institutions. Specifically, decision making and faculty pedagogy related to the inclusion of service learning through pro bono clinics as a component of student education was compared to institutions without service learning.

There were four programs which fulfilled criteria 1, 2, and 3, while 26 programs fulfilled criteria 1, 2, and 4. The first two institutions within each category that agreed to participate in the study were included, with a third being designated as a backup institution, should one of the other institutions not be able to participate. The process of research participant purposive recruitment can be viewed in Figure 3.1.

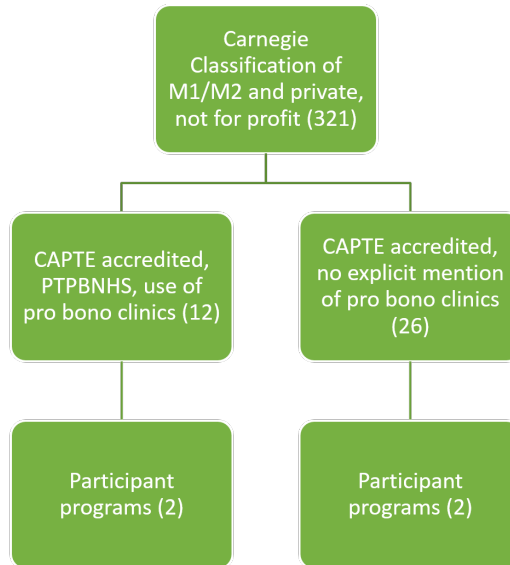


Figure 3.1. The left column shows purposive recruitment of two participant institutions from the PTPBNHS, while the right column shows purposive recruitment of two participant institutions without explicit mention of pro bono clinical experiences.

Faculty recruitment occurred through the program directors by email (Appendix A). Program directors were contacted first because these individuals are required to “demonstrate qualifications and experience for providing effective leadership” within physical therapist programs (CAPTE, 2015, p. 12). Effective leadership includes, but is not limited to: communication, program evaluation, strategic planning, fiscal planning and allocation of resources, as well as faculty evaluation (CAPTE, 2015). The program directors were asked for their consent to participate within the study. It was anticipated that program directors would be scheduled for in person interviews, Skype interviews if travel was not permissible, or phone interviews at mutually agreed upon terms. Participating program directors preferred scheduled phone interviews, across all participants. The researcher interviewed the program directors regarding decision making surrounding inclusion of leadership skills within their curriculum.

Program directors identified courses in which the majority of the leadership curriculum resided, and provided the researcher with the faculty contact information for the identified courses. Program directors notified faculty regarding upcoming study participation by email, as provided by the researcher (Appendix B). Faculty associated with the courses were then contacted by email by the researcher for participation in the study (Appendix C). Faculty that consented to participate in the study participated in an email interview with the researcher. Additionally, electronic copies of identified course syllabi with student learning outcomes were requested at that time.

Interviewing faculty participants by email allowed them to respond at a convenient time and eliminated travel, which should have positively impacted participation and response rates (Opdenaker, 2006). Additionally, emailed interviews eliminated transcription time and allowed for the interviewee to take time to develop thoughtful responses to questions (Bampton & Cowton, 2002; Opdenaker, 2006). Program faculty were asked questions regarding decision making and pedagogy within their courses surrounding leadership. Per CAPTE criteria, course faculty must “demonstrate contemporary expertise in assigned teaching areas, and effectiveness in teaching and student evaluation” (CAPTE, 2015, p. 10). The researcher was confident that the identified faculty members that teach the identified courses have the expertise to do so. Program directors were not informed whether identified faculty members consented to participate within the proposed study.

Instruments used in Data Collection

The following instruments were used to collect data:

1. Template for collection of participant institution demographics and LAMP/FINHOP leadership nomenclature terminology (Appendix D).
2. Interview protocols for program directors and faculty (Appendix F & G).
3. Template for collection of participant demographics (Appendix E).
4. Table aligning interview questions with FINHOP framework and research questions (Appendix I).
5. Course syllabi and/or student learning outcomes from participant institutions.
6. A priori codes (Appendix J).

Procedures for Data Collection and Analysis

Procedures. The procedures for data collection for this study were initially scheduled to occur over a period of approximately 6-8 weeks. However, program director and faculty recruitment proved to be more time consuming than initially anticipated, requiring the researcher to slightly modify the procedure timeline to 4-6 months. The procedures were as follows:

1. Obtained IRB approval from SJFC.
2. Within the first week after IRB approval, phone calls were made and messages left, as an initial method of contact to potential program directors at identified institutions, to inform them of the study.
3. Researcher then sought recruitment of 4 institutions for participation in the study that meet inclusion criteria previously identified.
4. Within the first 3 months, obtained consent from the program directors for participation in the study (Appendix I).

5. At the time of consent, requested from program director faculty contact information for faculty recruitment.
6. At the time of consent, provided program directors email to send to faculty informing them of voluntary recruitment into study.
7. Updated participant institution demographics on a rolling basis.
8. Scheduled program director interviews to occur within two weeks of date of signed informed consent.
9. Recruited faculty for participation in study. One primary faculty member was identified at each institution. Researcher sought to obtain consent from faculty within two weeks of identification.
10. Conducted and completed all phone interviews of program directors by the end of the third month.
11. Completed transcriptions of the program director interviews were acquired within 2 months of completion of interview.
12. Conducted faculty email interviews by the end of the sixth month.
13. Once all data was collected, initiated qualitative analysis across all participant institutions for the multiple case study design analysis, looking for themes within and across programs.

Analysis. Four programs were purposively recruited through program directors, whereby two programs had explicit use of pro bono clinics within their curriculum. Over 3 months, four program directors were recruited and interviewed via phone. Simultaneously, program faculty were identified, recruited over an additional 3-month period and interviewed by email. Course syllabi were requested for analysis of both

overall course descriptions and student learning outcomes related to FINHOP. Programs were assigned pseudonyms to maintain anonymity, and can be found under institution demographics (Appendix E). Through the use of qualitative interviews of program directors and faculty, the researcher sought to understand resource utilization, resource allocation, and pedagogy surrounding leadership knowledge and skill development for entry level physical therapist practice.

Data were coded using both predetermined and emerging codes. Initially, typological analysis was performed on interview transcripts, requiring the researcher to establish predetermined codes (Hatch, 2002). A priori codes were established through the use of Schafer's (2007) FINHOP framework, and transcribed data were reviewed for keywords, to allow the data to be analyzed against this framework (Creswell, 2014; Hatch 2002). A priori codes utilized in data analysis are found in Appendix J.

Emerging codes were developed after multiple reviews of the data through interpretive analysis, allowing the researcher to review impressions from the data and systematically record interpretations of what emerged from the data (Hatch, 2002). Once all codes were established and analyzed, themes within and across cases emerged. Triangulation of data across program directors, faculty, and curriculum was possible through this methodology, providing themes as the researcher sought to answer the research questions within all four programs as individual cases, as well as across programs through the multiple case study design method. Findings are reported in the next chapter.

Confidentiality. Confidentiality was maintained during the interviews as identifiers were not used during the interview and analysis process. Confidentiality was

maintained by coding the responders' names and the names of the institutions.

Additionally, programs and course names were given pseudonyms during the data analysis process. Program directors were not informed as to which faculty identified for recruitment consented to participate in the study. Accordingly, no identifying information was shared during the interviews or during the write up and analysis.

Interview data, tapes, and all supporting documentation are kept in a locked, secure area in the researcher's possession, and shall remain for a minimum of 3 years following the conclusion of the dissertation process. Once the data are no longer needed by the researcher, all records will be destroyed.

Credibility. In a multiple case study design, reliability is enhanced by specific documentation of procedures so other researchers could replicate the design in the future (Campbell & Ahrens, 1998). Through the process of qualitative analysis, themes across cases were identified in multiple case studies (S. Townsend, personal communication, November 13, 2015). Gaps and/or exemplars regarding leadership skill acquisition and knowledge development were identified for ongoing and future program development, ensuring future graduates are better prepared to address the healthcare needs of society.

Triangulation of the collected data lends to the internal validity of this research design and the overall credibility of the findings. This study triangulated data across three sources: (a) qualitative interviews with program directors; (b) qualitative interviews with faculty who design and implement identified courses inclusive of leadership content; and (c) analysis of course descriptions, course syllabi, and/or student learning outcomes. Researcher bias is discussed within the next section.

The researcher. The researcher has been a physical therapist for almost 15 years. Her education includes achievement of a doctorate in physical therapy in 2006, completion of a neurologic residency pilot program in 2007, and board certification in neurologic physical therapy in 2008. Clinical practice, as well as supervision of clinical staff, was a large part of full time work for the researcher since 2002. In 2011, the researcher accepted a full-time faculty position as Clinical Assistant Professor at a small, private university with an accredited physical therapy program, where she taught and practiced clinically for 5 years. The researcher then relocated to another small, private University with a developing physical therapy program with the title of Assistant Professor. The researcher has contemporary experience and teaching expertise in neuromuscular management, interprofessional education, health care systems, practice management, as well as clinical education. The researcher is not affiliated with the research participants in any professional or personal capacity and the researcher's institutions were not included within this study.

Chapter Summary

Based on current trends in legislation, education, and with respect to the continuing diversification of the American population, leadership preparation must be more prominently featured within the curriculum of physical therapist education. This study was designed to obtain qualitative data to further understand resource utilization and decision making regarding curriculum design, as well as course delivery and implementation surrounding leadership knowledge and skills in current accredited physical therapist programs. A multiple case study design was used for this qualitative study. Exploring the decision-making processes of program directors and faculty at

purposively selected institutions, with and without pro bono clinics, provided an opportunity for understanding overall curriculum design, program resource allocation/utilization, and faculty pedagogy surrounding leadership knowledge and skill development in physical therapist students.

Data were coded using both predetermined and emerging codes. Once all codes were established and analyzed, themes across cases emerged. Triangulation of the collected data contributed to the internal validity of this research design and the overall credibility of these findings. Research findings are presented within the next chapter.

Chapter 4: Results

Introduction

This qualitative study was developed to illuminate current leadership knowledge and skill development within the curriculum of accredited physical therapy programs. Four programs were purposively selected for this qualitative study according to the following inclusion criteria: (a) CAPTE credentialed to provide physical therapist education; (b) Carnegie Classification of M1 or M2 (Indiana University, 2015); (c) (i) two current member institutions within the Physical Therapy Pro Bono National Honor Society (PTPBNHS), with explicit use of pro bono clinics within the curriculum; and (ii) two institutions without explicit use of pro bono clinics within the curriculum. The corresponding participant institution demographics can be viewed in Table 4.1.

The aforementioned criteria ensured that research participants developed curriculum at their respective CAPTE accredited institution. Any identifying information regarding participants' institutions were excluded from this study in order to preserve research integrity and anonymity. The FINHOP framework, the theoretical framework used in the development of the research questions in this study (Schafer et al., 2007), is an acronym for areas of administration and practice management in physical therapy and includes the following: finance (F), information management (I), networking (N), human resource management (H), operations (O), and planning and forecasting (P) (Schafer et al., 2007).

Table 4.1

Participant Institution Demographics

Participant Institution Pseudonym	Physical Therapy Pro Bono National Honor Society Member	Institution Overall Size (# of total students)	Institution Student Demographics	Annual Physical Therapist Graduates	Frequency of LAMP/FINHOP concepts and terms within online course descriptions
Oak University (PB1)	Yes	6631	M/F: 41%/59%	46	6 (1 course)
Metropolitan University (PB2)	Yes	5422	M/F: 42%/58%	40	12 (1 course)
Boulevard University (SL1)	No	9208	M/F: 56%/44%	80	10 (curricular thread)
Eastside University (SL2)	No	2224	M/F: 11%/89%	40	4 (1 course)

The FINHOP framework synthesized previous leadership frameworks in physical therapy, inspiring the researcher to consider leadership knowledge and skills development across the analyzed curriculum (Schafer et al., 2007). Furthermore, the FINHOP framework delineates knowledge development and skill acquisition across leadership behaviors for entry level physical therapist practice. Additionally, within this framework, leadership and professionalism are defined as prerequisite skills from which administration and management concepts are applied across the patient client management model. Accordingly, FINHOP is the best framework for analyzing the physical therapist curriculum when considering the changes in standards, legislation, and delivery models and their dependence upon strong leadership skills.

The researcher employed a qualitative approach with a multiple case study design in order to triangulate data within and across the four purposively sampled physical

therapy programs. First, the researcher interviewed program directors regarding decision making for leadership knowledge and skills development within program curricula. Next, the researcher conducted interviews with program faculty to gather information on decision making related to implementation of leadership knowledge and skills development within related courses. Finally, the researcher reviewed and analyzed course syllabi and/or student learning outcomes for triangulation of leadership knowledge and skills development across data sources. The data analysis and findings are initially presented as individual cases, and then as a cross-case analysis, in order to answer the research questions through the lens of the FINHOP framework.

Research Questions

In response to recent changes in CAPTE standards, leadership preparation is increasingly vital during physical therapist education. Additionally, changes in healthcare legislation require an emphasis on leadership preparation for physical therapists. The FINHOP framework was used to answer the following research questions:

1. In what ways are leadership knowledge and skills embedded within PT curriculum?
2. How do program directors make decisions regarding leadership knowledge and skills in curriculum design?
3. How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses?

The nature of the research questions in this study necessitated a qualitative approach through a multiple case study design. In posing these questions, the researcher

sought to understand leadership knowledge and skills development in physical therapist graduates. Additionally, the purposive recruitment of participant institutions guided the researcher toward a rich analysis of leadership knowledge and skills development in physical therapy programs with pro bono clinics and without pro bono clinics.

Participants

Participant demographic data were collected during each interview. For each participant, demographic data collection included: (a) role at institution; (b) number of years in physical therapist education; (c) number of years at current institution; (d) entry level physical therapist degree; and (e) terminal degree. Participant demographics can be viewed in Table 4.2.

Data Analysis and Findings

The methodology used in this research was a multiple case study design, with the analysis, findings, and summary of results first presented by individual case, then, presented across all four cases. Pseudonyms were used for the university names and course titles in order to protect the anonymity of all participants. Initially, the researcher performed typological analysis of all interview transcripts, course syllabi, and student learning outcomes through a priori coding.

Predetermined codes were created from the FINHOP acronym and allowed for the researcher's ready analysis of data against the FINHOP framework. A priori codes included: finance (F), information management (I), networking (N), human resource management (H), operations (O), and planning and forecasting (P). A priori coding provided the researcher with a framework to develop themes and related subthemes as a

result of qualitative analysis of the four cases. The four themes and associated subthemes can be viewed in Table 4.3.

Table 4.2

Participant Demographics

Institution pseudonym	Role at institution	Physical therapist educator (years)	Time at current institution (years)	Entry level physical therapy degree	Terminal academic degree
Oak University	Program Director	21	18	B.S.	Ph.D.
	Faculty Member	18	18	n/a	M.Ed.
Metropolitan University	Program Director	22	17	M.S.	Ph.D.
	Faculty Member	14	14	B.S.	Ph.D.
Boulevard University	Program Director	33	7	Certificate	Ph.D.
	Faculty Member	20	20	B.S.	Ph.D.
	Faculty Member	9	9	MSPT	DPT
Eastside University	Program Director	15	15	B.S.	Ph.D.
	Faculty Member	2	2	B.S.	DPT

Table 4.3.

Identified Themes and Subthemes

Theme	Subtheme
Inconsistent definition of leadership	None
Leading leaders	Professional socialization Networking Pedagogy of integrated leadership
Business savvy	Resource management
Never enough time	None

The first research question was developed to discern how leadership knowledge and skills were embedded within physical therapist curriculum. Within the realm of physical therapy, leadership is a particularly fluid and dynamic term. The diverse and evolving definitions of leadership represented one salient theme that was identified across participant programs as a result of this study. Leadership was defined differently not only in each physical therapist program, but also between the program director and faculty responses at each individual institution.

An inconsistent definition of leadership was identified due to the lack of a standard response for what constitutes leadership within physical therapist practice. Although all programs provided a definition of leadership, program directors and faculty identified a variety of leadership definitions. This inconsistency served as a predictor of potential conflict about what constitutes leadership knowledge and skills in physical therapist practice and how it is valued and expressed within various curricula. In line with that finding, variability in implementation of leadership development existed across participant programs within their curriculum. Specifically, programs with faculty members actively promoting leadership development within the curriculum appeared to more successfully implement leadership knowledge and skills development than did programs with weak, or nonexistent faculty advocacy.

The next two research questions were developed to investigate how leadership knowledge and skills development opportunities were considered as program directors and faculty members designed and implemented their curriculum. Interview participants identified any and all resources and limitations that they encountered and described how those resources and limitations shaped curriculum design and implementation in their

programs. The theme of *leading leaders* was identified from faculty and program directors as a phenomenon that occurred within and outside the classroom and included the modeling of leadership qualities among faculty members, between faculty and students, and in peer interactions among students. The theme of leading leaders in participant data included subthemes of *professional socialization*, *networking*, and *pedagogy of integrated leadership*. The subthemes highlighted program specific examples of opportunities for leadership modeling, growth, and development in physical therapist education.

Program directors were asked to discuss leadership development within the curriculum and to identify the importance for entry level graduates, if any, of the specific categories of FINHOP, identified as: finance (F), information management (I), networking (N), human resources (H), operations (O), and planning (P). In some cases, program directors identified one or two categories as most important for entry level physical therapist practice. In other cases, multiple categories were identified and reported in an order from most important to least important for entry level physical therapist practice. During data analysis of interview transcriptions, the researcher assigned a 1 to the category identified by the program director as most important, a 2 to the category ranked second in importance, and so on. Some FINHOP areas were not identified by program directors as area of importance for entry level practice, and were therefore not ranked by the researcher.

These findings are reported in Table 4.4, and provide a comparison to the results of the 2007 study by Schafer et al. Schafer et al. (2007) explicitly asked clinicians to rank all five areas of FINHOP, while in this study program directors were asked to

identify which, if any, were of most importance for entry level education. These results, as viewed in Table 4.4, indicate two main findings as a result of data analysis and comparison. First, while program directors identified some areas of FINHOP as crucial for physical therapist education and entry level practice, other categories were considered less important. Second and most notably, the categories within the FINHOP framework emphasized as important for entry level physical therapist practice by program directors in this study were different than the FINHOP categories identified by clinicians in the 2007 study by Schafer et al.

Table 4.4

FINHOP Categories: Importance in Entry Level Practice

Clinicians (Schafer et. al., 2007)	Program Directors (Clark, 2016)
Highest ranked emphasis: Information Human Resources Operations	Indicated highest emphasis: Information Human Resources
Lowest ranked emphasis: Planning Finance Networking	Indicated lowest emphasis: Finance Networking Planning Operations

Information and human resources were identified as important by three of four program directors as FINHOP categories necessary for entry level physical therapist practice. On the other hand, the area of operations was not identified by any of the program directors as an area of priority for entry level physical therapist practice. Additionally, through data analysis, this researcher identified themes in curriculum design and implementation related to the FINHOP categories of finance and networking. These results differ from the study by Schafer et al. (2007) in which participants

consistently ranked human resources, information management, and operations higher for both knowledge and skills necessary for entry level graduates (Schafer et al., 2007).

Business savvy, an additional emergent theme within this study, manifested itself through physical therapy students who enter their chosen programs with expectations of success. Toward that end, they develop clinical knowledge and skills in order to obtain licensure to practice and implement safe and effective patient care. This study identified the theme of business savvy within entry level physical therapist education, classifying it as an area of leadership knowledge and skills application within the clinical environment. The development of a business plan, as a course requirement, represented the most commonly employed opportunity for students to demonstrate business savvy while applying their acquired knowledge in this area.

The development of a business plan did not provide a broad or inclusive model for all of the healthcare settings in which doctors of physical therapy may practice. Rather, across participant institutions business plan creation focused on establishing a new clinic in the private practice setting. Creation of a business plan was previously required in CAPTE criteria. However, even though the development of a business plan was no longer an explicit CAPTE requirement, faculty members maintained this student outcome as a key assignment across participant institutions (CAPTE, 2014 & 2015).

Resource management was identified as a subtheme within the aforementioned theme of business savvy. This subtheme provided an emphasis in participant programs to address resources as a limitation, including the link between time management and reimbursement for physical therapist practice. Changes in healthcare legislation warranted changes in practice in order to efficiently manage resources and effectively

address the triple aim of healthcare. This subtheme underscored the impact of recent changes in healthcare legislation on curriculum design.

Finally, all interviewed participants discussed the limitation of time across the 3 years of exposure to professional curriculum. This recurrent concern over insufficient time inspired the inclusion of a fourth and final theme: *never enough time*. First, program directors and faculty discussed the myriad expectations borne by themselves and their students, acknowledging that considerable time is required to maintain CAPTE standards in the delivery and participation of classroom lectures, laboratory practices, attainment of graduate licensure, and overall safety in future clinical practice. Justifying these competing responsibilities, the participating directors and faculty members stated that time is equally limited for all students and faculty over the course of the work and school day. Secondly, physical therapist curriculum standards emphasize clinical knowledge and skills development, often impinging upon time that could otherwise be spent investigating and implementing leadership knowledge and skills development. Although changes in healthcare legislation, insurance reimbursement, and CAPTE standards indicated the growing importance of a strong and clear idea of leadership for physical therapists, actual time spent in curriculum on leadership remained limited. The next sections report the findings from each program case individually, further supported by a cross-case analysis.

Case 1: Oak University Physical Therapy Program. At the time of this study, Oak University had an institution size of over 6,600 students. Within that body, the physical therapy program targeted an annual graduating class of 46 doctors of physical therapy annually. At Oak University, graduates completed 161 credits of course work

and 48 weeks of clinical education over a span of 3 years. Oak University was affiliated with a local medical center giving students and faculty members a unique level of access to patients for clinical skills application, as well as opportunities for research collaboration across institutions. Additionally, the Executive Director of a local medical center served as an adjunct faculty member at Oak University, teaching leadership content to the physical therapist students.

The physical therapy program mission statement focused on a patient-centered approach to physical therapy. The mission statement included this description:

Oak University PT students participate in foundational science courses as well as evidence based research. Graduates of Oak PT are expected to learn the value of respect and communication through classroom and clinical experiences. ("College Navigator - National Center for Education Statistics," 2016)

Oak University's physical therapy program maintained a pro bono clinic on campus, which was open one afternoon per week during the academic year. Accordingly, students and faculty volunteered to provide physical therapy services to underserved individuals from within the surrounding community.

Inconsistent definition of leadership. In analyzing and examining the data for instances of leadership knowledge and skills within the curriculum, the first theme was an inconsistent definition of leadership. When asked to define leadership for entry level physical therapists the program director of physical therapy at Oak University defined a leader as:

An individual who has the ability to manage people and resources for both healthcare provision as well as organizational management. Someone who has a

vision and cannot only deal with day to day tasks, but can, for lack of a better word, lead or bring people along toward growth and evolution within an organization or healthcare delivery. (Interview, 5/24/16)

This definition provided by the program director is a broad definition of what a leader is and, by extension, of leadership itself, as necessary to the actions of an ideal patient care provider as well as a collaborative healthcare professional. This definition gave greater consideration to the multiple roles and responsibilities a physical therapist may encounter in healthcare.

The content for leadership knowledge and skills development at Oak University was embedded in one four-credit course titled PT Business 101. The faculty teaching this course provided the following definition of leadership: “Leadership is the ability to inspire individual and organizational excellence, create a shared vision and successfully manage change” (Interview data, 8/17/16). These definitions similarly identified the utilization of vision as a key component of leadership knowledge and skills application for entry level physical therapist practice.

However, during the interview, the faculty member interviewed provided a broad definition of leadership, focusing on business applications within that definition as well as related course assignments. She reported that leadership content was emphasized “during lectures, through student participation in class discussions, as well as during panel discussions with outside experts” (Interview, 8/17/16). She also stated that “We utilize the Competencies of Healthcare Executives as defined by the American College of Healthcare Executives as the basis for discussion, understanding and skills development” (Interview, 8/17/16). Her emphasis through the use of this assessment tool combined

with her definition of leadership tended to endow students with a greater focus on organizational excellence and management of change as broad examples of leadership. Through this lens, these students placed less emphasis on specific day to day clinical application for graduates of physical therapy. Although the program director identified other important leadership skills necessary for entry level practice, course curriculum and student learning outcomes did not reflect knowledge or skill development in these areas.

Leading leaders. The data analysis of Oak University revealed an emphasis on providing students with examples of leadership through faculty behavior. The emphasis on professional socialization was consistent with the second theme of leading leaders. The program director stated: “Leadership is something that we do informally, as a faculty in many different courses. It’s not necessarily a requirement of the course, but it’s intrinsic in who we are in developing students” (Interview, 5/24/16). This quote, from the program director, described a faculty culture in which faculty model leadership in order to engender the growth of that attribute in students.

Additionally, faculty interview analysis supported the theme that leadership development occurs within the classroom, stating: “. . . leadership is delivered via lecture, interactive problem-solving, guest speakers, and course expectations of professional behaviors” (Interview, 8/17/16). Interactive problem solving with local experts in healthcare administration facilitated leadership development within the classroom at Oak University. Resource allocation for guest speakers in PT Business 101 was one example in which the program director and faculty member at Oak University prioritized graduate leadership development.

Additionally, student learning outcomes in PT Business 101 supported leadership knowledge and skills development within the four-credit course. Undergirding its dedication to this ideal, the course description stated: “Students will acquire the skills and knowledge to more effectively engage in professional practice as cooperative, collaborative, and contributing employees or as effective and financially successful private practitioners” (Interview, 8/17/16). Although explicit examples for student success were not defined, faculty assessment of student development of leadership knowledge and skills occurred “during interactive problem solving in the classroom, accounting for the student’s participation grade in the course” (Interview, 8/17/16). These classroom behaviors, provided by the faculty in the PT Business 101 course, positively impacted leadership knowledge and skills development in the classroom.

Leadership knowledge acquisition in PT Business 101 was measured as a final course grade, calculated from 75% exams, 5% group project, and 20% participation (Interview, 8/17/16). However, measurement of leadership skills application was lacking, and as such, they were not measured (Interview, 8/17/16). Additionally, even as the mission statement claims a patient-centric curriculum, leadership knowledge and skills development were not investigated as a part of the students’ pro bono clinic experience. Since the students volunteer to participate, so leadership development in the pro bono clinics was not measured. Researching this theme of leading leaders at Oak University led to the development of the following two relevant subthemes: professional socialization and networking. As key areas of leadership development for graduates at Oak University, these concepts are highlighted in the coming sections.

Professional socialization. This subtheme illustrates an example of how faculty exerts leadership qualities in the hopes that their students assume and likewise perpetuate this culture of leadership at Oak University. Volunteering, faculty provided physical therapy to clients at the pro bono clinic one evening a week, on a rotating basis. Licensed physical therapists from the community often participated in the pro bono clinic as adjunct faculty in cases of limited faculty participation. Regarding this form of community involvement, the program director indicated that faculty participation in the clinic was one example in which “faculty model leadership for students (Interview data, 5/24/16). However, inconsistent core faculty participation in the pro bono clinic suggested that both time and value of service were working as limitations to the program’s effectiveness, negatively contributing to the outcome of efforts toward professional socialization, leadership discovery, and skills development at Oak University. Additionally, since participation by students was not directly linked to leadership knowledge or skills development through explicit student learning outcomes in any other course, professional socialization in the pro bono clinic was recognized to be the sole measurable source of student acquired leadership knowledge and skills within the program.

Extolling this aspect of the department, the program director described the pro bono clinic as “an embedded leadership process that has become a golden part of our program” (Interview, 5/24/16), belying the pro bono clinic’s role as integral to graduate development of leadership knowledge and skills. However, the development of leadership skills in Oak University PT graduates was not explicitly measured through participation in the pro bono clinic. Although a large percentage of students do

participate in pro bono clinic care, with “over 70% of 2016 graduates volunteering in the clinic at least once over the 3 years” (Interview, 5/24/16), the absence of a requirement to participate in the pro bono clinic limits faculty ability to directly observe leadership knowledge and skills development as a result of pro bono clinic participation.

The program director indicated that leadership knowledge and skills development resulted from leadership, as demonstrated by the faculty. He stated:

As a faculty, we feel responsible for educating the students both at the current practice level as well as looking forward to practice in the future. Part of that is preparing them with skill sets and the ability to continue with lifelong learning. We try to model this in our behaviors and push them to their limits when working in groups and doing leadership. We want to impart on them that the leader doesn’t always mean the chair of an organization, that they can be a small-scale leader of a group either formally or informally. (Interview, 5/24/16)

Although the program director indicated that leadership knowledge and skills development of graduates was in part due to faculty demonstration of leadership, the impact of faculty modeling leadership on students’ development of entry level leadership behaviors was not explicitly measured.

One faculty member described leadership development during PT Business 101 as being fostered through “guided in-class discussions, lectures, and outside guest speakers who facilitated leadership through professional socialization” (Interview, 8/17/16). Student learning outcomes within the leadership course required students to “describe a variety of management strategies and discuss the pros and cons of each” as well as “differentiate between leadership and management” (Interview, 8/17/16). These topics

were presented via lecture, and assessed through student participation in class discussions and examination questions (Interview, 8/17/16). While the knowledge of leadership was an intended and measured student learning outcome, application of leadership skill was not required or measured. Additionally, data analysis of student learning outcomes revealed that student expectations were identified as a low level of expertise given the use of Bloom's taxonomy in course objectives, with key terms of "understand" and "identify," common in student learning outcomes in the PT Business 101 course (Bloom, 1965). This data analysis supported Oak University Physical Therapy Program's intent at modeling leadership behavior to students. However, and quite importantly, this approach lacked measurement of skill acquisition. Explicit student learning outcomes did not exist related to leadership skills acquisition and application in PT Business 101 or by participation in the pro bono clinic.

Networking. A priori coding contributed to the theme of leading leaders, the chosen method for leadership development within Oak University's physical therapy program. Similarly, the subtheme of networking was identified through utilization of the FINHOP model when analyzing the data. One example of networking at Oak University occurred when PT faculty would model behaviors during interactions with students. The program director revealed that faculty members seek to model behavior for other faculty members, and through networking demonstrate to the graduate students how to facilitate the ideal of leading leaders. About this purpose, he stated:

I think that as a faculty we feel responsible for educating the students both at the current practice level as well as looking forward to practice in the future. Part of that is preparing them with skill sets and the ability to continue with lifelong

learning. As faculty, I think we try to model this in our behavior. (Interview data, 5/24/16)

Part of the leadership definition provided by the program director went on to laud the importance of “leading or bringing people along toward growth and evolution within an organization or healthcare delivery” (Interview data, 5/24/16). This leadership definition, as highlighted by the program director, spoke to the value and need for networking skills as a graduate physical therapist, and set networking up as a highly-prioritized function within the curriculum at Oak University.

Networking was a consistent finding across all sources of data at Oak University PT Program. Lopopolo et al. (2007) provided examples of networking requirements for entry level physical therapist practice from their study analysis. Networking requirements included: consultation, professional involvement, managing services across the continuum, interdisciplinary management, coordination and collaboration, and negotiation. Based on these examples from Lopopolo et al. (2007), student learning outcomes from the Business 101 course syllabus were linked to the subtheme of networking, and included:

- (a) describe the relationship of the PT and the PTA and other support personnel with respect to legal, professional, and ethical considerations;
 - (b) considering scope of practice principles, analyze hypothetical patient care situations to determine appropriate delegation of tasks to support personnel; and
 - (c) recognize the importance of clear and professional communication and demonstrate communication strategies in dealing with interpersonal and management issues.
- (Interview, 8/17/16)

Students' successful completion of this course and associated student learning outcomes would suggest that graduates experienced classroom activities and discussions related to networking at Oak University and development of leadership knowledge in that area. However, no direct link to clinical application and skills with clearly defined objectives for student demonstration was established within these provided course objectives.

Additionally, within the profession of physical therapy, professional membership and conference participation are recognized as opportunities to facilitate relationship building among participants. At the local and national levels, professional memberships and conferences are recognized by clinicians, academicians, employers, and associated service providers as the most effective form of networking. Faculty at Oak University model this behavior and according to the program director, faculty: "demonstrate leadership as physical therapists by participating in national and local conferences" (Interview, 5/24/16). The high level of faculty attendance at these conferences demonstrated to students a genuine willingness to share evidence-based research ideas among academicians and clinicians across the country.

Business savvy. The curriculum within the physical therapy program at Oak University is inclusive of one four-credit course that provided prospective graduates with an explicit opportunity for leadership development. The course description of PT Business 101 focused on student learning outcomes, as they relate to "administration and management of physical therapy as a business enterprise within the U.S. healthcare system" (Interview, 8/17/16). This course, taught for the last 18 years by an adjunct faculty member who is both a licensed speech therapist and an executive director at a

local health facility, highlighted the importance of business savvy in physical therapist education (Interview, 8/17/16).

This third theme was identified during data analysis and identified the need for entry level physical therapists to develop business savvy. A priori coding of FINHOP key terms and phrases revealed a high frequency across data sources within the area of finance, specifically as it related to the theme of business savvy. Student learning outcomes were identified in the following areas of: strategic planning (P), department operations (O), fiscal responsibility (F), personnel (HR), health care systems – cost, quality, access to healthcare (F, O), and quality outcomes (O) (Interview, 8/17/16). These student learning outcomes accounted for 25% of all student learning outcomes within the PT Business 101 course (Interview, 8/17/16).

Resulting from this study, student learning outcomes in PT Business 101, with an emphasis on finance and business savvy, are identified and included as follows:

(a) explain how the problems of cost, access and quality in the U.S. health care system are interrelated; (b) articulate the rationale for strategic planning and for developing a business plan in the provision of PT services; (c) discuss the fiscal responsibilities of healthcare managers; explain the budget process, including factors to consider in determining unit cost, staffing, and productivity; and discuss the need for efficiency in the delivery of health services; (d) in clinical examples of patient care situations, apply Medicare guidelines to select the appropriate billing procedures. (Interview, 8/17/16)

These student learning outcomes overlapped with the FINHOP framework, and served to support and justify the importance of developing business savvy for physical therapist graduates at Oak University (Interview, 8/17/16).

In reviewing course syllabi and student learning outcomes for PT Business 101, measurement of acquired knowledge was done primarily through course exams and student creation of a business plan, accounting for 80% of a student's grade in the course (Interview, 8/17/16). Previous CAPTE standards mandated the incorporation of a business plan in entry level education, but this explicit requirement was removed as of January 2016 (CAPTE, 2014 & 2015). Accordingly, given this change and other recent CAPTE updates, assignments for PT Business 101 should be reconsidered in order to more accurately reflect updated expectations for leadership knowledge and skills development.

Alluding to the importance of soft skills within his field, the program director articulated that entry level physical therapists require more than just the knowledge and skills to successfully treat patients within the clinic. Entry level physical therapists also require the business skillset to facilitate reimbursement of care. Elaborating, he advised: "I think there is the understanding of health care, the dollars and time. When you're working with a patient, therapists have to have an understanding of that" (Interview data, 5/24/16). Emphasizing the importance of business savvy for graduates of physical therapy, graduates seeking employment in the business of healthcare are prepared by their program director's vision for success. Within this setting, graduate knowledge was facilitated primarily through classroom lectures and expert panel discussions related to exerting business savvy as a physical therapist (Interview, 8/17/16). Data triangulated

across all sources, identified business savvy as an embedded theme within the idea of reimbursement for physical therapists, to be successful within the healthcare environment.

Never enough time. The fourth theme identified in this qualitative study presents a clear challenge to most members of society. The idea of juggling the scarcity of time and the myriad of obligations and priorities are common to contemporary life. However, in relation to the demands of physical therapist education, the need for effective leadership knowledge and skill development is all the more difficult when insufficient time adds itself to the equation that faculty must solve, as they construct and implement the curriculum. Time is a limitation not only within the curriculum, but across the work and school day for both faculty and students. CAPTE requirements provide the framework for curriculum design inclusive of lectures, laboratory instruction, and clinical education. Additionally, a full-time schedule for students and faculty is required in order to meet all requirements for credentialing. Additions are often made to curriculum requirements without a corresponding removal of information (CAPTE, 2015 & 2015). Therefore, adding content to the curriculum pertaining to leadership would necessitate a reduction in time spent in another course, lab, or clinical experience.

Limitations of time and other considerations must be overcome by faculty and students as they strive to maintain the pro bono clinic as a model of leadership development. The program director highlighted this point at Oak University: “Faculty are given workload time to treat clients. The clinic operates one night a week, and expansion to additional dates/times is limited because of lack of faculty time” (Interview, 5/24/16). Therefore, at times “licensed physical therapists from the community

participated as adjunct faculty in the pro bono clinic in order to provide supervision of volunteering students” (Interview, 5/24/16). To incentivize their participation, adjunct faculty “were provided liability insurance as a ‘carrot’ to continue the volunteer work, and provide continuity for patient care” (Interview, 5/24/16).

According to the program director, “workload modifications were being considered for the full-time faculty at the university to facilitate increased faculty participation and consistency of instruction across the program, although requirement as part of a course is not part of the short-term plan” (Interview, 5/24/16). To further protect the pro bono clinic and ensure its success, the program director provided adjunct faculty liability insurance and allocated department resources to faculty and adjuncts through workload assignments. In summary, although the pro bono clinic was identified by the program director as the ideal environment for faculty to model leadership to students, and the mission statement focused graduate preparation on a patient centered approach, student and faculty participation in the pro bono clinic was not required, or measured, due to a lack of time across the work and school day.

Case 2: Metropolitan University Physical Therapy Program. With an institution size of over 5,400 students, Metropolitan University’s physical therapy program targeted an annual graduating class of 40 doctors of physical therapy annually. Graduates of Metropolitan University physical therapy program will have completed 111 hours of course work and 32 weeks of full time clinical education. As a religiously affiliated university, service and compassion to others were emphasized in coursework across the institution as well as in the physical therapy program. Faculty at Metropolitan University possessed contemporary expertise in all content areas as demonstrated through

specialist certifications and educational degrees in a wide variety of areas. Such diverse expertise provides students with ample opportunity for research collaboration.

Metropolitan University's physical therapy program mission statement, as follows, highlighted service to the community:

Service opportunities are integral to development of Metropolitan University graduates, with opportunities locally and globally to engage in healthcare service. Metropolitan University maintains a pro bono clinic on campus where students and faculty volunteer during the academic calendar year to provide physical therapy to underserved individuals in the surrounding community. ("College Navigator - National Center for Education Statistics," 2016)

The Metropolitan University pro bono clinic represents a double benefit to the community by, first, providing access to healthcare and services, and secondly, by giving interprofessional students an opportunity to provide services to clients. Within this unique setting, nurse practitioners, physician assistants, physicians, and physical therapy students collaborate to provide comprehensive patient care. To this end, physical therapy students and faculty volunteered to provide physical therapy services two afternoons a week during the academic year.

Inconsistent definition of leadership. In analyzing responses to the first research question, the inconsistent definition of leadership developed into one of the earliest detected emergent themes. A definition of leadership was requested from the program director and also from the program's leadership course instructor. Carrying 22 years of experience within the field of physical therapist education, and with 17 years at Metropolitan University, the program director defined leadership as: "Progressing in the

physical therapy field, using evidence based practice, sound clinical judgment, and clear interaction with clinicians and patients” (Interview, 6/28/16). Similarly encumbered with experience, the instructor for Management 101 had, at the time of the study, been in PT education at Metropolitan University for 14 years. In her syllabus, she provided the following definition of leadership: “primarily a style of leading, both an art and a science, where leaders seek an understanding of diversity and its importance to achieving quality and fairness in the workplace” (Interview, 6/29/16).

Much like Oak University, these seemingly disparate definitions highlighted a broad interpretation of leadership, with various components of clinical decision making, communication, and leadership style included in the definition. These leadership definitions impacted instruction, pedagogy, and ultimately program resource allocation for leadership knowledge and skills development across the curriculum. The program director stated that “Metropolitan University PT program threads leadership and professionalism throughout the curriculum” (Interview, 6/26/16). The program director expounded upon his initial thoughts of leadership, saying: “leadership is instilled in most of the courses, with the student being the educator for the patient, and also with the thought of moving up in the clinic environment” (Interview, 6/26/16).

Additionally, the program director highlighted an emphasis on instilling professionalism as a part of leadership in students, by asserting that: “professionalism is within the student handbook, in the clinic, during affiliations, within and outside the classroom setting. We require higher standards than most other students in the university” (Interview, 6/26/16). Despite the clarity of the aforementioned language regarding leadership and professionalism, the definitions of leadership, as provided, did

not carry through and permeate the curriculum. Additionally, explicit student learning outcomes were not identified in the curriculum. As a result, the program failed to ensure that students received ample opportunities for leadership knowledge and skills development. The program director's claim that higher standards were required was not evident within the curriculum or student learning outcomes.

Leading leaders. Leading leaders represents the second salient theme identified within this study's research data. At Metropolitan University, the physical therapy program director reiterated the importance of the pro bono clinic, and stated: "...the pro bono clinic is the main resource for leadership development in our curriculum" (Interview, 6/26/16). The theme of leading leaders evinces itself quite clearly and literally, as faculty and students lead by example through professional socialization in the classroom and through their participation in the pro bono clinic. Similar to Oak University, students and faculty volunteered at Metropolitan University to provide patient care in the pro bono clinic. However, at Metropolitan University the model incorporated faculty and peer mentoring in the pro bono clinic and provided university student participants with rich opportunities for the development of leadership knowledge and skills development.

The program director described the model of leadership development at work within the university's pro bono clinic, and spoke of leading leaders in the following way:

Students schedule patients, check them in, do the evaluation, treat them and do all the planning for home exercise plans and follow up. Faculty are onsite, but it instills leadership, communication, organization and professionalism onsite.

There is a lot to be said for professional socialization of faculty in the clinic to give the student a sense of those behaviors as well as clinical skills. Students mentor and provide leadership to each other, through a peer mentoring model.

(Interview, 6/26/16)

This statement highlighted how the pro bono clinic at Metropolitan University inspired faculty and students the opportunity to be engaged in leading leaders as a means of instilling leadership knowledge and skills development in graduates. At the pro bono clinic, interactions between students and faculty fostered real life opportunities for observation and application of leadership knowledge and skills. Additionally, this interaction of faculty and students in the pro bono clinic brings to fruition the program's mission to integrally incorporate service learning into the curriculum.

Networking. The subtheme of networking was revealed as particularly relevant to the success of students and teachers within this specific case, as evidenced through the analysis of the data at Metropolitan University. Interactions with licensed clinicians and patients were prioritized through the interprofessional model at the pro bono clinic at Metropolitan University. Regarding the virtues of the university's program, the program director posited:

Nurse Practitioners are onsite, Physicians Assistants refer, and Physicians are onsite so the students interact with all of those medical entities. Faculty volunteer to participate in the clinic, graduate assistants man the clinic, and other non-graduate assistant students volunteer to participate. Upper class students mentor the younger students. (Interview, 6/26/16).

In this example of leading leaders at Metropolitan University, the program director highlighted how networking created specific opportunities for student leadership knowledge and skill development in the pro bono clinic. Additionally, he stated that “we consider it (the pro bono clinic) a three-prong activity: service through observing, treating with supervision, and clinical learning” (Interview, 6/26/16). This hands-on approach to service learning delivered leadership knowledge and skills development through the practice of networking.

Additionally, networking was further revealed to be a priority through the allocation of funds in the physical therapy department for faculty member and student attendance at professional conferences. Networking at professional conclaves and conferences served as an opportunity for leadership knowledge and skills development within the profession by providing forums for the sharing of educational and research interests. At Metropolitan University, the physical therapy program provided students financial support to attend local and national student conclaves and conferences.

Acknowledging the critical role that funding plays, the program director explained: “We financially support students for conclaves and conferences and we try to highlight the importance of that (conference attendance) to the students” (Interview, 6/26/16). In this statement, the program director exemplified the university’s strategic prioritization of financial resources in order to ensure that the program’s students and faculty have the opportunity for leadership knowledge and skills development through professional networking.

A related student learning outcome at Metropolitan University was identified within the management course. The student learning outcome in question highlighted the application of leadership skills in the clinical setting by stating that students will:

Demonstrate and understanding of liability and ethical issues as they relate to the practice. This student learning outcome facilitates participation in organizations, participation in professional organizations, challenging the status quo, advocating for the health and wellness of the population, participating and demonstrating leadership, influencing legislative standards, incorporating pro bono clinical opportunities, and require adherence to legal practice standards. (Interview, 6/26/16)

This student learning outcome is explicit, and highlighted the faculty's ability to instill in their students the direct application of leadership knowledge and skills development to students through the curriculum. Through clear student learning outcomes, the instructor of the Management 101 course could establish the importance of networking through participation in professional organizations, as well as advocacy for the population and the profession as an entry level physical therapist.

Business savvy. The third theme identified through data analysis was business savvy. Leadership knowledge and skills development was provided as a part of the curriculum in physical therapy at Metropolitan University. In one three credit course, titled Management 101, the course description on the syllabus stated that Management 101 would “provide future graduates an introduction to management processes, and is inclusive of content related to leadership knowledge and skills development” (Interview, 6/26/16). This course description highlighted the importance of leadership knowledge

and skills development for physical therapist graduates from Metropolitan University. Management 101 was taught by a faculty member who was a physical therapist, and who had been teaching within this capacity at Metropolitan University for the past 14 years.

Student learning outcomes in Management 101 highlighted the importance of understanding business savvy as it pertained to physical therapy and health care. By utilizing the FINHOP framework for data analysis, the researcher identified that over 50% of student learning outcomes were directly related to the development of leadership knowledge and skills, particularly as they related expected student learning outcomes to the area of finance (Interview, 6/26/16). Examples of student learning outcomes related to business savvy included:

- (a) demonstrate an understanding of marketing principles as they relate to PT; (b) define the concept of productivity; (c) demonstrate an understanding of financial management including: financial reporting, accounting principles and accounting conventions, an income statement and balance sheet, the use of financial ratios, understand revenue and expense management, define cost-volume profit analysis and calculate breakeven point, and understand the budgeting process. (Interview, 6/26/16)

These student learning outcomes portrayed the theme of business savvy as a priority for leadership knowledge and skills development in entry level physical therapist curriculum at Metropolitan University. Students were exposed to key concepts related to marketing and finance within Management 101, through participation in class and completion of assigned tasks, such as creating a business plan in order to demonstrate their

understanding of this course content for potential future implementation in clinical positions.

Resource management. One subtheme of business savvy, an intended outcome of the Management 101 course, was the need for effective resource management, which a successful student must possess in order to develop business savvy as prospective physical therapists at Metropolitan University. The program director went on to explain that the curriculum focused the students on management, allocation, and utilization of resources throughout courses in the program. The program director stated:

There is a need to understand resources and how to use them. When we go through all the courses, we let the students know that they may or may not have resources available to them, that there may be a need to adapt over time, and to appreciate the differences in settings. (Interview data, 6/28/16)

This subtheme of resource management underscores the link between leadership knowledge and skills in relationship to the triple aim of healthcare. Through incorporation of specific student learning outcomes in the Management 101 course, program directors and faculty highlighted the importance of resource allocation and utilization as it related to patient care. Effective resource management enables physical therapists to achieve the always important triple aim in healthcare, which involves the following three essentials: expanded coverage, controlled health care costs, and improved health care delivery systems (“Focus on Health Reform,” 2013).

Never enough time. A fourth theme identified during the qualitative analysis of data was the notion of never enough time. Time, as an identified limitation within this study, brings to focus the logistics related to clock hours across the work and school day.

The minimum competency of knowledge and skills set by CAPTE is ensured through accreditation of programs. An important requirement, the accreditation process aims to ensure that entry level graduates are provided with ample education and clinical opportunities so that they are adequately prepared for licensure.

Due to the ever-present lack of time, the addition of leadership knowledge and skills development represents a formidable challenge for many programs. The program director of Metropolitan University addressed this challenge in his statement:

I think there are limitations. Time limitations, almost all PT programs are clinic/skills heavy so there is not a lot of time for leadership. We need to actively work to embed leadership into our program. It is in courses; we could be more explicit. It is hard to make the pro bono clinic mandatory, we don't have time.

(Interview, 6/26/16).

This description, provided by the program director at Metropolitan University, indicates how time impacted decision making, and highlighted the need for leadership as a thread across programs. This study's next participating program, Boulevard University physical therapy program, demonstrated the concept of incorporating leadership across the curriculum, as a means of reducing the impact of time as a limitation.

Case 3: Boulevard University Physical Therapy Program. With an institution size of over 9,200 students, the program at Boulevard University has a targeted graduating class of 80 doctors of physical therapy annually. Boulevard University physical therapy program was comprised of 20 core faculty and 44 adjunct faculty, providing students with 110 credit hours of courses. Full time faculty and adjunct faculty members either maintained certifications in clinical specialties or participated locally in

clinical practice. This particular graduate program included 38 weeks of full time clinical education and a minimum of ten hours of service learning.

Given insight into their methods and best practices, Boulevard University's physical therapy program sets forth the following mission statement:

We provide a cutting-edge, evidence-based education taught by nationally recognized faculty. Faculty teach the most current clinical techniques available, in an environment that facilitates students' use of their gifts and talents to contribute to a more just world. ("College Navigator - National Center for Education Statistics," 2016)

Boulevard University sought to incorporate students' gifts and talents into their environment by requiring that all graduates complete ten hours of service learning in addition to any program requirements. Boulevard University physical therapy did not maintain a pro bono clinic.

Inconsistent definition of leadership. In analyzing responses to the first research question, the researcher noted an inconsistent definition of leadership and identified it as the first emergent theme. The program director and one faculty member, who coordinated the leadership thread and consented to participate in this study, were asked to provide their definitions of leadership. To contextualize how these participants came to understand leadership, the researcher noted that the program director had attained 33 years within the field of physical therapist education, with the last 7 years being served at Boulevard University. Shaped by these years of experience, the program director offered his definition:

From my own standpoint, I think the definition of leadership is an individual who isn't necessarily in the forefront, leading the charge up the hill, but is able to take a stance and is able to show others that stance that they have towards certain issues or certain factors that may come up within the clinic. One aspect of leadership is from within, you know you are able to take a stance on something, and you are able to lead others, direct others, and guide others in terms of what you feel may be the most appropriate stance to take. We believe one of the characteristics of our program, which is hopefully different from other programs, is that we train you not just to be a physical therapist, but also to be a leader in the profession. (Interview, 4/19/16)

This program director names faculty leadership and dedication as central factors to developing graduate leadership knowledge and skills, and this program seeks to provide quality physical therapy education. Faculty members coordinating the leadership thread had been in physical therapist education at the University for 20 and 9 years, respectively. To balance the study, one faculty member added a definition of leadership to the quote already obtained from the director. While the director assumed the perspective of a specific department, the instructor offered a definition of leadership that was overarching university wide, stating: "Boulevard University learners become leaders in global health" (Interview, 9/30/16). Both definitions alluded to efficient decision making as a skill that is critical to positive resource allocation, and by extension, the development of leadership qualities as physical therapist graduates of Boulevard University.

The existence of an explicit leadership thread within the physical therapy curriculum at Boulevard University represents one example of cutting edge education, as was stated in the physical therapy program mission statement. All interviewed programs provided leadership development as a part of one course in the curriculum. Boulevard University broke the paradigm by developing a leadership thread across the curriculum instead of requiring one course.

This leadership thread targets future graduates, supplementing their leadership knowledge and skills development. The program director described this process as: “a conscious choice to include a leadership thread. We adopted the Kouzes and Posner text and did a fairly substantial training program for our faculty, with a commitment to funding the leadership profile inventory (LPI) for all faculty and students” (Interview, 4/19/16). The definitions provided by Boulevard University identify the program’s convictions regarding what physical therapy should look like both locally and globally, providing a strong foundation for leadership expectations of graduates.

The leadership thread did not have explicit student learning outcomes identified. Rather, students were required to participate in meetings, trainings, self-reflections, and assignments across the curriculum. One faculty member helping to coordinate the leadership thread explained the process with the following statement: “students utilize the LPI, reflections, and case studies to build a personal mission statement and leadership philosophy, with Kouzes and Posner’s five practices of exemplary leadership as a framework for personal development” (Interview, 9/30/16). Students were required to complete these tasks, stressing the importance of leadership development for future graduates of physical therapy at Boulevard University.

Giving additional description, the program director stated: “there are certain points throughout the curriculum where the thread of leadership is emphasized, whether it’s a discussion or scenarios embedded in the professional inquiry courses. But our true assessment is the LPI.” (Interview, 4/19/16). Currently analyzing the LPI data collected from graduates, faculty members plan to share their findings and related student learning outcomes. These student learning outcomes are explicit in leadership knowledge and skill development at Boulevard University and will be released after the APTA Combined Sections Meeting in February 2017 (Interview, 9/30/16). These two faculty members at Boulevard University advocate for collaboration on future research opportunities across institutions, recognizing the need to investigate best methods for delivering leadership knowledge and skill development to entry level physical therapist graduates.

Leading leaders. A second theme of leading leaders was identified during data analysis at Boulevard University. Two members of the Boulevard University physical therapy faculty were responsible for faculty and student leadership development. The faculty reported that they have “workload assigned to them each semester to facilitate training workshops for faculty and students” (Interview, 9/30/16). This workload allocation was a conscious decision from the program director to allocate department resources to graduate leadership development. All physical therapy faculty at Boulevard University attend required workshops led by the two coordinators of the program’s leadership thread in order to successfully implement leadership knowledge and skills development across the curriculum. In this way, faculty model and lead each other and their students.

Additionally, the program director cited instances of student advisement as opportunities for leadership development encountered by students each semester, explaining that: “Faculty meet with students each semester for advisement, and facilitate conversations about leadership growth and development during these meetings” (Interview, 4/19/16). Admittedly, these meetings between students and faculty advisors take time, which is always at a premium. However, they facilitate vitally helpful conversations, allowing faculty to “embrace the process, and provide a key piece to what makes the program unique” (Interview, 4/19/16). Accordingly, student advisement is one example at Boulevard University in which faculty members are leading leaders.

Pedagogy of integrated leadership. Leadership knowledge and skills development at Boulevard University was reinforced continuously to students through the leadership thread endorsed and embraced by the program. This leadership thread became a framework for pedagogy of integrated leadership embraced by faculty. Pedagogy of integrated leadership was a subtheme of leading leaders and was the manner in which the implementation of leadership knowledge and skills were developed at Boulevard University. Leadership, as a theme and a skill, was woven into assignments across the curriculum in order to assist students in self-reflection on leadership development.

The leadership thread across the curriculum at Boulevard University required students to complete a series of assignments during the 3 years of graduate study. The participating faculty coordinator of the leadership thread described these assignments as:

Opportunities to incorporate self-reflection, an interview of a ‘leader in the clinic,’ and service learning requirements across the curriculum to promote discussions between students and faculty advisors on student developed mission

statements, personal reflections about leadership development, as well as an opportunity to understand a leader in the clinic – their style, the effect of the leadership style, good or bad, and the link between the clinical environment and leadership. (Interview, 9/30/16)

In order to successfully incorporate assignments across courses, such as this program's leadership thread, total faculty support was required across the curriculum. The students were provided time to investigate leadership within themselves during advisement, clinical education, service learning, and development of their thesis defense. Through this pedagogy of integrated leadership, the faculty prioritized the leadership thread and allocated resources beyond typical lectures and labs in the classroom in order to develop what Boulevard University faculty referred to as leadership soft skills.

Leadership soft skills were described by one of the faculty coordinators of the leadership thread with the following: "Leadership is who you are, where you are going, and your own personal image. Our personalities are who we are. If we don't get comfortable with leadership, we will never do it" (Interview, 9/30/16). The incorporation of a leadership thread at Boulevard University physical therapy program provided a framework from which the faculty could prioritize and incorporate leadership knowledge and skills development across all student learning opportunities. This pedagogy of integrated leadership became a hallmark for implementation of leadership knowledge and skills development at Boulevard University.

Professional socialization. Additionally, the subtheme of professional socialization was prominent across the culture with Boulevard University's physical therapy program. Much like leadership, service was modeled by faculty, and was

incorporated into the curriculum at Boulevard University. The program director described it as “paramount to every course we teach” and went on to provide examples of student service across the curriculum as:

(a) health fairs within the community where students do blood pressure screenings; (b) a community health fair on campus where students provide diabetic foot screening; (c) volunteer participation in an amputee ski program; and (d) partnership with local service organizations and the University where students implement planned service learning projects, in collaboration with a service learning department on campus. (Interview, 4/19/16).

The program director indicated that, while a faculty practice clinic existed on campus, students were not yet involved. (Interview, 4/19/16). However, in each example of service listed previously, faculty provided students with supervision and mentorship during these service learning opportunities. These service opportunities provided faculty the environment in which they modeled leadership and provided professional socialization to future graduates. On the success of his program, the program director offered the following words: “I’ve never been affiliated with a program that’s done a better job putting leadership at the forefront.” (Interview, 4/19/16). Frequent opportunities for faculty and student professional interactions at Boulevard University provided faculty opportunities to professionally socialize students.

Business savvy. Boulevard University required graduates to take a two-credit course in Business Management as part of the curriculum ("College Navigator - National Center for Education Statistics," 2016). Regarding this curriculum, the program director stated:

We do have a business management course where students are required to collect data related to the financial aspects of running a business. It's more of a clinical based business management class where we get them to think a little bit about billing and financial aspects of things, and a class where they plan a practice, and think about how they would go about putting that together, and work in teams. They have to think about public relations, human resources, who they would hire – so that touches on FINHOP, and hopefully some of the leadership aspects are brought into this. (Interview, 4/19/16)

The business management course highlighted the theme across participant programs of business savvy in physical therapist education. Boulevard University once again focused on a student learning outcome of developing a business plan. The course description stated: “Business Management introduces principles of strategic planning, market analysis, personnel, fiscal, and total quality management through development of a business plan” (Interview, 9/30/16). The faculty responsible for Business Management was not interviewed. Alternatively, the faculty coordinating the leadership thread was identified, and asked to participate, to which she consented. The leadership knowledge and skills development was not highlighted in this course. Rather, it was threaded across the curriculum.

Never enough time. The final theme of never enough time was less prominent at Boulevard University physical therapy program than at Oak and Metropolitan University, where each identified a single course in which leadership knowledge and skills were development. However, such a course at Boulevard University was not identified, instead a leadership thread was woven throughout the curriculum. The leadership thread

is a priority of the physical therapy department to facilitate leadership knowledge and skills development across the curriculum. Regarding this decision, the program director stated: “Maybe 5 years ago, we decided to implement a leadership thread. Our faculty made a conscious choice to include a leadership thread and we adopted the Kouzes and Posner text” (Interview, 4/19/16).

The leadership thread was an explicit decision which required an investment of resources for faculty training and student self-evaluation. On the subject of this decision, the program director stated: “There’s been a big commitment in our department to develop leadership. The cost of the LPI is expensive, about \$42 per student, so that’s been a big financial commitment” (Interview, 4/19/16). Additionally, this decision to implement leadership as a thread across the curriculum has allowed the program a unique versatility in developing leadership knowledge and skills, without the issue of added lecture or lab time. Boulevard University’s physical therapy program director warned: “when you start to talk about bringing faculty in for meetings and trainings, and spending time with students in advisement, it is an investment in money and time, but we have a commitment to leadership” (Interview, 4/19/16). These quotes highlighted Boulevard University physical therapy department’s motivations for prioritizing and committing resources to developing leadership within its graduates.

Faculty members mentored students through advisement each semester on their development of a personal mission statement. Explaining how the students are prepared, the program director stated that: “through the use of the LPI the students have a good sense of where they are at, to develop action plans and incorporate those action plans within their professional behaviors document, as part of the capstone project” (Interview,

4/19/16). The incorporation of self-reflection through the evidence based LPI is one example of leadership development at Boulevard University. Additionally, students completed assignments across courses, requiring personal reflection on leadership development and culminating in a capstone project thesis defense in which one section described the personal growth and development of the graduate in the area of leadership.

The use of the LPI, as a part of the leadership thread, created a framework for faculty members as they mentored students in leadership and encouraged the development of leadership knowledge and skills across 3 years. According to the program faculty participant, the leadership thread allowed students to: “create meaningful reflections across time, developing their personal mission statement around leadership with a purposeful intent, and resulted in growth and development of leadership” (Interview, 9/30/16). The program director stated: “despite how busy our faculty are, I’ve been impressed with how they have embraced this (leadership development) and believe that this is a key piece to what makes our program unique” (Interview, 4/19/16). Through triangulation of the data at Boulevard University physical therapy program, leadership development was proven to be highly prioritized across the curriculum and was reflected in the program’s allocation and utilization of resources for the development of leadership knowledge and skills.

Case 4: Eastside University Physical Therapy Program. Eastside University has an institution size of over 2,200 students, and at the time of this study, its physical therapy program targeted an annual graduating class of 40 doctors of physical therapy. Eastside University prioritized teaching through problem based learning in order to

emphasize evidence based learning in students and to inspire a drive for life-long learning in graduates. The physical therapy program at Eastside University strived to:

Educate doctors of physical therapy who advance the quality of human life through excellence in clinical practice. The Program educates autonomous practitioners who meet the challenges of a dynamic health care environment and support scholarly activity that bridges science and clinical practice. ("College Navigator - National Center for Education Statistics," 2016)

Eastside University requires physical therapy graduate students to complete a minimum of 20 hours of service learning in addition to 107 credits of course work, and 36 weeks of full time clinical education. The program director has been in physical therapist education exclusively at Eastside University for the past 15 years, while the faculty member interviewed had been in physical therapist education for 2 years.

Inconsistent definition of leadership. In analyzing how leadership knowledge and skills were embedded in the curriculum, the first theme identified was the inconsistent definition of leadership. The definition of leadership was requested from both the program director and the faculty member teaching the leadership course. The program director provided his own personal definition of leadership as “the ability to influence others in a positive way and move towards an optimal outcome” (Interview, 4/21/16). He additionally commented that “I’m not aware of a curriculum wide definition for leadership. The concept is addressed in our Practice Management Courses, so that’s a thread throughout the whole curriculum. But we have not established a definition as a practice or as a curriculum” (Interview, 4/21/16). This statement by the program director is a clear example of an inconsistent definition of leadership within

physical therapist curriculum. Mirroring other participant programs, his comments suggested a lack of definition of leadership within the practice and profession of physical therapy, making establishment of explicit, related student learning outcomes within accredited programs a challenge.

Additionally, the faculty member teaching the Principles of Management Course, the course most closely associated with student leadership development, defined leadership through a direct quote, as found in Ledlow and Coppola (2014), and stated:

Leadership is the dynamic and active creation and maintenance of an organizational culture and strategic systems that focus the collective energy of both leading people and managing resources towards meeting the needs of the external environment utilizing the most efficient, effective, and efficacious methods possible by moral means. (Interview, 6/28/16; Ledlow & Coppola, 2014, p. 15)

Student learning outcomes defined in the Principles of Management Course most closely associated with leadership knowledge and skills development included: (a) compare and contrast leadership and management and (b) recognize the characteristics of an effective mentor/mentee relationship (Interview, 6/28/16). Additionally, the faculty member advised: “there is no skill performance measure, and no specific knowledge measure. Students develop a personal professional development plan incorporating their vision of themselves, which may include leadership” (Interview, 6/28/16). Instruction related to leadership knowledge and skills within the program at Eastside University was provided through discussions, expert panels, and faculty lectures (Interview, 6/28/16). Leadership knowledge was measured in the Principles of Management Course through

student self-reflection and the creation of an individualized professional development plan. However, measurement of leadership skills application was absent.

Leading leaders. Principles of Management Course faculty worked to develop and prioritize professionalism for their students, as an aspect of leadership in physical therapist practice, which was expressed consistently with the second theme of leading leaders. For example, one faculty member interviewed stated that: “APTA membership and involvement is promoted through explicit and implicit means” (Interview, 6/28/16). Additionally, the program director discussed the theme of leading leaders within the curriculum when he stated:

Early on, emphasis is on professionalism, the professional association, professional communication. We also have a physician assistant program, an occupational therapy program, a nursing program, psychology program and we have tried to expand our interprofessional education activities over the course of the last 4 to 5 years, to provide opportunities to interact and gain knowledge and skills from people outside physical therapy. (Interview, 4/21/16)

The interaction of students and faculty within the professional association as well as across professional programs at the University provided an opportunity for leading leaders in the physical therapist curriculum.

Pedagogy of integrated leadership. The subtheme of pedagogy of integrated leadership was apparent as an emerging subtheme within the study’s data compiled on Eastside University Physical Therapy Program. For example, the program utilized problem based learning during leadership knowledge and skills instruction and by facilitating discussions within interdisciplinary teams of students at Eastside University

(Interview, 4/21/16). Problem based learning utilizes a small student to faculty ratio to promote student inquiry and development of professional knowledge and skills (Saarinem-Rahiika & Binkley, 1998). Explaining their approach, the program director stated:

Problem based learning is very labor intensive and time intensive, so the University has committed resources in order to make that happen in an effective way, and so that really provides a lot of opportunities for professional communication to allow students to build skills in communication, leadership, administration, evidence based practice, that are part of daily practice. We can reinforce what they have learned throughout the curriculum, so I'd consider that a resource. (Interview, 4/21/16)

This delivery method required investment in department budgeting for faculty to establish and maintain problem based learning groups, as well as to compensate faculty time for participation as the primary resources. The pedagogy of integrated leadership of students across disciplines and throughout the curriculum in the Principles of Management Courses supported the development of student leadership knowledge and skills at Eastside University. Offering insight, the program director stated that: "students work together across disciplines to better understand health care related issues and clinical cases across health care settings" (Interview, 4/21/16). This example of interprofessional education through problem based learning demonstrated one how one program implemented leadership development within its curriculum.

Business savvy. As was consistent at the three previous physical therapist programs, the theme of business savvy existed across the data at Eastside University.

The Eastside University physical therapy program included curriculum targeted at developing business savvy in future graduates. The program director indicated that one of these courses was specifically designed to provide future graduates with content related to leadership knowledge and skill development, as analyzed through the lens of FINHOP. This identified course has over 50% of student learning outcomes related to business skillset development. Relevant examples of these targeted outcomes included:

(a) describe business practice structures recognized by Medicare; (b) describe the elements of a strategic plan; (c) define SWOT analysis as part of the strategic planning for a business and utilize it for the development of a personal professional development plan; (d) define the following terms: assets, liabilities, ledger, balance sheet, income statement, cash flow statement; (e) create a budget for items needed to open a new PT practice; (f) create a business marketing plan for a new PT practice; and (g) discuss how good communication can affect malpractice. (Interview, 6/28/16)

As previously discussed, Eastside University measures student leadership development through self-reflections. As such, knowledge and skills development were not explicitly measured. Additionally, as was evident in all three previous programs, student development of a business plan was the key measurement of student ability to apply business savvy, even though this method does not necessarily represent the most comprehensive assessment of student application of business savvy.

Never enough time. Although this theme did not permeate the data at Eastside University physical therapy program, the program director addressed time as a limitation in the curriculum. His impression of time as a limitation was focused on students, with

their expectations of completing all courses, course requirements, and 20 hours of service learning. Speaking on this difficulty, the program director elaborated: “It’s a little bit of a challenge for the students – it’s a busy time, being a student, and so trying to take that into consideration in terms of resources, the time requirements for students is one that is limited” (Interview, 4/21/16). This statement acknowledges that students are busy fulfilling curriculum criteria. Therefore, the addition of other courses, assignments, and clinic requirements, for the purpose of augmenting leadership knowledge and skills development, have not been considered. Although it was implicitly understood as a limitation, the faculty, when asked, did not directly discuss time as a specific limitation in the Principles of Management Course.

Cross-case analysis. The four programs purposively sampled for this study, fulfilled CAPTE criteria for accreditation and were representative of a robust variety across physical therapist education programs. The researcher interviewed program directors and faculty responsible for leadership curriculum design and implementation and analyzed course descriptions and student learning outcomes in order to triangulate the data across participant programs. The data was initially analyzed as individual cases. Then, it was investigated across all four participant programs, in order to more fully understand leadership knowledge and skills development within the realm of physical therapist education.

Analysis of data revealed four main themes across all four programs and included: (a) inconsistent definition of leadership; (b) leading leaders, with three subthemes identified as professional socialization, networking, and pedagogy of integrated leadership; (c) business savvy, with one subtheme identified as resource management;

and (d) never enough time. Two factors emerged as commonly shared across all four cases. First, a definition of leadership was not clearly defined for implementation in the professional curriculum of physical therapy. Second, leading leaders through professional socialization, networking, and a pedagogy of integrated leadership seemed to be the primary means through which faculty members instilled leadership knowledge and skills development in graduates.

In the forthcoming cross-case analysis, findings related to the three research questions are summarized. Each question is presented individually, with data analysis across cases in order to compare and contrast programs and provide an overall summary to answer the study's research questions.

In what ways are leadership knowledge and skills embedded within physical therapy curriculum? (RQ1). Considering all four programs, leadership knowledge and skills development were embedded in the curriculum in a variety of ways. First, the program's definition of leadership impacted the breadth and depth to which leadership was either embedded or threaded into the curriculum. Second, faculty members modeled leadership through professional socialization, networking, and pedagogy of leadership instruction in order to provide leadership development opportunities for students across the curriculum. Finally, all programs consistently measured student acquisition of knowledge through student learning outcomes. However, they missed the opportunity to measure student skill acquisition and application. The ways in which leadership knowledge and skills were embedded within curriculum are compared and contrasted in the following section.

First, the variety of leadership development opportunities across programs was impacted by each program’s unique definition of leadership. Program directors and faculty provided a range of definitions of leadership, exerting, for better or worse, a bearing on how leadership knowledge and skills were prioritized within their individual curricula. Inconsistent definitions of leadership were noted within and across all four participant programs and can be viewed in Table 4.5.

In regard to the inconsistent definition of leadership, the program director at Eastside University explained: “I’m not aware of a curriculum-wide definition for leadership...we have not established a definition as a practice” (Interview, 4/21/16). Although all four programs provided definitions of entry level leadership in physical therapy, all definitions were different and participants did not reference a consistent, or commonly held, source of information. Leadership definitions influenced program director utilization of resources as well as faculty member decision making regarding pedagogy of leadership instruction. Variations in resource allocation among participant programs will be compared and contrasted in the next sections. Despite the lack of a common definition, one program prioritized a curricular thread of leadership. This thread, employed by Boulevard University, provided a unique opportunity to facilitate leadership development across the curriculum.

Table 4.5

Definitions of Leadership

Participant Institution	Program Director Definition of Leadership	Faculty Member Definition of Leadership
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Oak University	An individual who has the ability to manage people and resources for both healthcare provision as well as organizational management. Someone who has a vision and cannot only deal with day to day tasks, but can, for lack of a better work, lead or bring people along toward growth and evolution within an organization or healthcare delivery (Interview, 5/24/16).	Leadership is the ability to inspire individual and organizational excellence, create a shared vision and successfully manage change (Interview, 8/17/16).
Metropolitan University	Progressing in the physical therapy field, using evidence based practice, sound clinical judgment, and clear interaction with clinicians and patients (Interview, 6/29/16).	Primarily a style of leading, both an art and a science, where leaders seek an understanding of diversity and its importance to achieving quality and fairness in the workplace (Interview, 6/26/16).
Boulevard University	From my own standpoint, I think the definition of leadership is an individual who isn't necessarily in the forefront, leading the charge up the hill, but is able to take a stance and is able to show others that stance that they have towards certain issues or certain factors that may come up within the clinic. One aspect of leadership is from within, you know you are able to take a stance on something, and you are able to lead others, direct others, and guide others in terms of what you feel may be the most appropriate stance to take. We believe one of the characteristics of our program, which is hopefully different from other programs, is that we train you not just to be a physical therapist, but also to be a leader in the profession (Interview, 4/9/16).	Boulevard University learners become leaders in global health (Interview, 9/30/16).
Eastside University	The ability to influence others in a positive way and move towards an optimal outcome (Interview, 4/21/16).	Leadership is they dynamic and active creation and maintenance of an organizational culture and strategic systems that focus the collective energy of both leading people and managing resources towards meeting the needs of the external environment utilizing the most efficient, effective, and efficacious methods possible by moral means (Interview, 6/28/16; Ledlow & Coppola, 2014, p. 15).

Boulevard University's decision to consider leadership as a common thread throughout the curriculum minimized the challenge of finding additional time during the work and school day to integrate leadership knowledge and skills. Additionally, this leadership thread allowed leadership knowledge and skills to link time spent across the

curriculum, in the classroom, and during full time clinical experiences. The approach of incorporating self-reflection over time, in addition to assignments across courses and clinical education, resulted in an innovative use of time for faculty to deliver leadership concepts. Furthermore, the decision to incorporate a leadership thread enhanced opportunities for student development, growth, and self-reflection, as demonstrated through each student's thesis, which was as identified outcome of leadership development.

Most often, leadership knowledge and skills development was included as part of a three-credit course. Oak, Metropolitan, and Eastside Universities identified credit bearing courses in which leadership knowledge and skills development occurred. The courses included leadership content related to administration and management knowledge and skills development, with a focus on business savvy. However, leadership threaded across the curriculum at Boulevard University required an initial investment in resources and time for faculty training and student self-assessments. The mission-driven "cutting edge" curriculum provided structure for leadership development opportunities and became a part of the culture of Boulevard University ("College Navigator – National Center for Education Statistics," 2016).

A second factor that impacted how leadership knowledge and skills were embedded in curriculum was faculty members' use of professional socialization, networking, and pedagogy of leadership instruction in the design of their curricula. For example, program directors and faculty members across participant programs provided leadership development opportunities for students by modeling leadership behavior

inside and outside the classroom. At all four participant universities, leading leaders emerged as one opportunity for leadership development for students.

In another example, Oak University faculty members demonstrated leadership behaviors informally and not as a part of a specific course. Their efforts, however, remained firmly ensconced within the program culture ensuring the consistent professional socialization of the students. Similarly, faculty members and upper level students at Metropolitan University demonstrated leadership in the pro bono clinic for novice students, in order to professionally socialize them and prepare them for assuming a role of leadership within the profession. Additionally, students had the opportunity to develop leadership knowledge and skills through classroom lectures, guided discussions with expert panels, and volunteer opportunities in pro bono clinics. The impact of the definition of leadership contributed to the variety of leadership development opportunities across participant institutions.

Finally, leadership knowledge and skills were embedded in curriculum across all programs, but were measured in different ways. At Oak, Metropolitan, and Eastside University, student learning outcomes measured student acquisition of knowledge in the courses in which the leadership content was embedded. Uniquely, Boulevard University measured leadership knowledge acquisition through student self-reflections across the curriculum. However, none of the participating programs measured student learning outcomes specifically related to the application of leadership skills. This missed opportunity and an inconsistent definition of leadership within and across programs seemed to impact the ability to measure the acquisition and application of leadership skills in graduates.

Although some leadership development opportunities were included in each program's curriculum, one faculty member at Boulevard University stated: "Leadership is who you are, where you are going, and your own personal image. If we don't get comfortable with leadership, we will never do it" (Interview, 9/30/16). This faculty member quote belies an emphasis on leadership, influencing the priority and the development of the leadership thread at Boulevard University. This program provided unique leadership development opportunities across the curriculum, prioritizing graduate leadership knowledge and skills development.

While the first research question addressed how leadership knowledge and skills were embedded in curricula, the second research question addressed the need to understand how program directors make decisions regarding leadership knowledge and skills in curriculum design. The data analysis answering the second research question follows.

How do program directors make decisions regarding leadership knowledge and skills in curriculum design? (RQ2). Programs consistently reported professional socialization as a means of infusing leadership into the curriculum. All programs modeled leadership in the classroom and clinic as key strategies for professional socialization. For example, at Oak University, "Faculty model leadership for students. Leadership is something that we do informally, as a faculty in many different courses. It's not necessarily a requirement of the course, but it's intrinsic in who we are in developing students" (Interview, 5/24/16). Similarly, at Metropolitan University, leadership is modeled by students and faculty in the pro bono clinic, where "faculty in the clinic give the student a sense of those (leadership) behaviors, as well as clinical skills"

(Interview, 6/26/16). These examples of professional socialization demonstrated the individual physical therapy programs' efforts to influence and facilitate leadership knowledge and skills development in their graduates.

As a result of interviewing four program directors, the decisions around leadership knowledge and skills development appeared to be influenced by varying levels of leadership involvement across the curriculum, as well as the ways faculty members led leadership curriculum design. For example, resource allocation at the Boulevard University physical therapy program prioritized funding for the use of the LPI. Resource allocation was evident in the program director's decision to allocate funds for faculty and student leadership training, as well as for measurement of leadership development with the LPI. The leadership thread at Boulevard University evidenced their strategic allocation of resources for faculty member and student leadership development opportunities.

The program culture at Boulevard University not only prioritized leadership development, but also facilitated decision making through program resource allocation. On this subject, the program director at Boulevard University stated:

There's been a big commitment in our department to develop leadership. The cost of the LPI is expensive, about \$42 per student, so that's been a big financial commitment...when you start to talk about bringing faculty in for meetings and trainings, and spending time with students in advisement, it is an investment in money and time, but we have a commitment to leadership. (Interview, 4/19/16)

Unlike Oak, Metropolitan, and Eastside Universities, Boulevard University did not use the approach of dedicating specific course for leadership. Rather, faculty members at

Boulevard University embraced a leadership thread, and subsequently, facilitated leadership development across the curriculum. The decision to incorporate a leadership thread inspired the program director to invest in the program with additional time and resources allocated to leadership development opportunities and measurable student outcomes. Within this environment, students developed a leadership philosophy through self-reflection across the curriculum, and for application in future practice. Alternatively, because program directors at Oak, Metropolitan, and Eastside University could not see past the perceived time limitations of the curriculum, resources allocated for leadership development occurred solely through the assignment of faculty members to teach the courses where student leadership knowledge and skills development opportunities were embedded.

Pro bono clinics were utilized as part of the curriculum at two of the programs selected for this study. At Oak and Metropolitan Universities, pro bono clinics were identified as a leadership development opportunity for students. At Metropolitan University, the program director referred to the pro bono clinic as a “main opportunity for leadership development” (Interview, 6/26/16). However, pro bono clinic participation was voluntary for students and faculty members. Regarding the difficulties of such voluntary participation, the program director at Metropolitan University stated: “It is hard to make the pro bono clinic mandatory, we don’t have time” (Interview, 6/26/16). Therefore, leadership development was only provided to those that volunteered at the pro bono clinic. With this admitted difficulty, the study revealed a weakness inherent in this program: that perceived time constraints resulted in program decision making that ruled out the requirement for faculty member and student participation in the pro bono clinic.

Program director decision making was influential in curriculum design related to leadership development opportunities as well. Decision making strategies for resource allocation were evident in one program's use of problem-based learning for curriculum implementation. The program director at Eastside University described problem based learning as: "very labor intensive and time intensive, so the university has committed resources in order to make that happen in an effective way" (Interview, 4/21/16). The problem-based learning courses at Eastside University required that students work "across disciplines to better understand health care related issues" (Interview, 4/21/16). New CAPTE standards mandate that programs must "provide evidence that graduates have the opportunity for interprofessional practice" (CAPTE, 2015, p. 24). The decision by the program director at Eastside University to allocate resources for problem-based learning demonstrated his commitment to leadership knowledge and skills development through the interprofessional education of students.

In addition to understanding the factors that influenced program directors' decision making about leadership knowledge and skills development in curriculum design, the third research required investigation into faculty members' decision making. Faculty members were asked questions regarding pedagogy and implementation of leadership knowledge and skills development in their respective courses. This analysis is provided in the next section.

How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses? (RQ3). As far as they were given latitude to do so, faculty made decisions regarding their pedagogy and implementation of leadership development at each participant program. The types of pedagogy selected by

faculty were instrumental in the delivery and implementation of leadership knowledge and skills development of graduates within associated courses. Faculty members' decisions impacted classroom structure, allocation of time within the course, and the use of external experts as adjunct faculty to contribute to the overall leadership knowledge and skills development of graduates.

Faculty pedagogy provided the faculty member an opportunity to link leadership development to student learning outcomes. For example, faculty members at Eastside University engaged in problem-based learning, while faculty at Oak University recruited expert panels in courses, and student self-reflections at Oak University as methods of leadership knowledge and skills instruction. These examples of faculty members' decisions for implementation of leadership knowledge and skills opportunities were linked to faculty definitions of leadership. However, although student learning outcomes consistently measured knowledge acquired in the area of leadership, student learning outcomes lacked consistent measurement of leadership skill acquisition and application across programs.

For example, key course assignments in all four participant physical therapist programs required students to complete a business plan (Interview, 6/28/16; Interview, 6/29/16; Interview, 8/17/16; Interview, 9/30/16). These business plans were focused on physical therapist business savvy as related to the development of a new clinic, most often outpatient private practice. However, there was no opportunity to execute the developed plans or to apply the skills developed as a result of successful completion of the assignment. Therefore, although leadership knowledge was required by students to

design and complete the business plans, the link to application of leadership skills was absent and students never got to see how their models fared under implementation.

The perception of time limitations impacted faculty decision making regarding leadership knowledge and skills development. At Boulevard University, there was a program-wide decision to incorporate a thread of leadership into the curriculum of physical therapist education, not only to prioritize leadership development in graduates, but also to address time constraints in physical therapist education. A leadership thread across the curriculum did not require specified classroom time for students and faculty, or the associated credit allocation for program completion, thus, alleviating the time constraint without sacrificing program rigor. Additionally, this leadership thread provided an opportunity for faculty to contribute to the development of leadership knowledge and skills in graduates across the curriculum.

A faculty participant at Boulevard University stated that the leadership thread allowed students to “create meaningful reflections across time, developing their personal mission statement around leadership with a purposeful intent, and resulted in growth and development of leadership” (Interview, 9/30/16). Boulevard University’s dedication to developing leadership in graduates was reflected in the following ways: its program mission statement, program director resource allocation, and faculty decision making for pedagogy and implementation across the program. At Boulevard University, leadership knowledge and skills development of graduates was highly prioritized and exemplified through decision making and resource allocation.

Across participant programs, one opportunity to develop leadership knowledge and skills in graduates was through participation in an on campus pro bono clinic. Oak

and Metropolitan Universities identified opportunities for mentoring and leadership modeling for students' leadership knowledge and skills development through the use of pro bono clinics. In contrast, Boulevard and Eastside Universities required students to complete service learning as a leadership development opportunity. Benefits and limitations of the pro bono clinic are presented in the next section.

Pro bono clinics: a comparison across participant programs. Pro bono clinics were offered as a voluntary experience for students and faculty members at Oak and Metropolitan Universities. Conversely, Boulevard and Eastside Universities required graduate students to complete 10-20 hours of service prior to graduation. The program directors with pro bono clinics discussed the importance of the clinics for developing leadership knowledge and skills development for students, primarily through faculty and student peer mentoring. However, program criteria did not require student or faculty participation in these clinics, nor were student learning outcomes linked to clinic participation.

The program director at Metropolitan University defending their program, stated that: “the pro bono clinic is the main resource for leadership development in our curriculum...(but) it is hard to make the pro bono clinic mandatory, we don't have time” (Interview, 6/26/16). Volunteer participation obviously and tangibly limited widespread experiences for students, and may have inadvertently decreased the perceived importance of the use of the pro bono clinic with regard to the aforementioned development of leadership knowledge and skills in graduates. Student learning opportunities, resource allocation, and measurable student learning outcomes linked to the development of these specific skills were difficult to incorporate at participant universities with pro bono

clinics, due to the shared perception among program directors, faculty members, and students, of a lack of time.

On the contrary, time dedicated to clinical knowledge and skills development in graduates was emphasized across all participant programs. The lack of emphasis on leadership was evident given the three to four credit allocation of one course for teaching leadership knowledge and skills development at Oak, Metropolitan, and Eastside University. However, further data analysis revealed that leadership knowledge and skills development in the curriculum was limited. Similarly, although pro bono clinics were identified at Oak and Metropolitan Universities as an important aspect to the program and an environment in which faculty members could model and mentor to students, faculty members and students were not required to participate in the pro bono clinic due to a commonly perceived lack of time.

Alternatively, Boulevard and Eastside Universities had service learning requirements for students, totaling either 10 or 20 hours, depending on the program, and facilitated physical therapy service learning opportunities for students. Boulevard University had a department for graduate development and execution of service learning experiences. These service learning opportunities facilitated leadership development through faculty mentoring and allowed variability in design to extend participation outside of the work and school day. This external course requirement minimized the time constraints within the curriculum while promoting leadership knowledge and skills development in future graduates.

Given the increased demand in healthcare settings for providers to implement efficient and effective care, physical therapy curriculum must provide students with

structured opportunities to engage in interprofessional education. CAPTE criteria were recently updated to include a requirement that programs “provide evidence that graduates have the opportunity for interprofessional practice” (CAPTE, 2015, p. 24). Some limited, emergent opportunities, identified through the cross-case analysis, identified participant programs that have developed opportunities for students to engage in interprofessional educational experiences.

Eastside University physical therapy program invested time and resources into problem based learning with interprofessional students (Interview, 4/21/16). Additionally, Metropolitan University’s physical therapy pro bono clinic provided interprofessional collaboration opportunities for future graduates, exposing students to collaborative environments and facilitating leadership knowledge and skills development (Interview, 6/26/16). Leadership knowledge and skills development was a priority for program directors and faculty members’ decision making during curriculum design. The decision making by program directors and faculty members was most effective for leadership knowledge and skills development for graduates in programs with a leadership thread, interprofessional opportunities, and a service learning requirement. Leadership content embedded in courses and the use of pro bono clinics did not explicitly measure the application of leadership skills as part of student learning outcomes.

Summary of Results

This chapter presented the analysis and findings, which resulted from the researcher’s qualitative analysis of four case studies. To answer the three primary research questions, four themes were identified. The four main themes identified across all four programs were: (a) inconsistent definition of leadership; (b) Leading leaders, with

three subthemes identified as: professional socialization, networking, and pedagogy of integrated leadership; (c) business savvy, with one subtheme identified as resource management; and (d) never enough time. Research findings were triangulated by analyzing individual programs, and looking across all participant institutions.

The four participating programs each presented differing and inconsistent definitions of leadership for entry level physical therapist practice. Due in part to the lack of consensus on a shared definition, the implementation of leadership knowledge and skills development varied across curriculum in participant programs. However, despite inconsistencies in definitions, professional socialization was clearly evident in all programs as a method of leadership knowledge and skills development in graduates. Through professional socialization, faculty and upper level students mentored and demonstrated positive and effective behaviors to novice students as a means of leadership development. Additionally, socialization was present in each program's curriculum and course design, pedagogy of integrated leadership, and was facilitated through each program's resource allocation.

However, the lack of required participation in pro bono clinics within participating programs eliminated the ability to link leadership knowledge and skills development to participation in a clinical setting. While measurement of leadership knowledge development was evident across all four participant programs, measurement of the application of knowledge as leadership skills was limited. Two key truths became clear in the cross-case analysis. First, program mission statements and leadership definitions impacted program director and faculty members' decision making for resource allocation and pedagogy across participant programs. Second, faculty members'

commitment to leadership development played a key role in overall implementation of leadership knowledge and skills development of program graduates. A discussion of the findings in light of previous research as well as relevant clinical and future research recommendations will be provided in the final chapter.

Chapter 5: Discussion

Introduction

Licensed physical therapists often practice in fast paced, interdisciplinary settings, regulated by federal healthcare legislation and state practice acts. Physical therapy graduate programs are required to meet the standards of accreditation to ensure that the entry level preparation of graduates' results in their successful licensure. The overall consistency and quality of care for those who seek physical therapy is reinforced through this process. Leadership knowledge and skills development is one area of curricular focus in physical therapist education, and the focus of this study.

Research Questions

Leadership preparation is necessary during physical therapist education, in response to recent changes in CAPTE standards. Changes in healthcare legislation justify an emphasis on leadership preparation for physical therapists. The FINHOP framework (Schafer et al., 2007) was used to answer the following research questions:

1. In what ways are leadership knowledge and skills embedded within PT curriculum?
2. How do program directors make decisions regarding leadership knowledge and skills in curriculum design?
3. How do faculty make decisions regarding pedagogy and implementation of leadership knowledge and skills in their courses?

Implications of Findings

There were four main findings of this research study. First, an inconsistent definition of leadership was apparent within and across all four programs. An inconsistent definition of leadership contributed to the variance in how leadership knowledge and skills were included as a part of physical therapist curriculum. Second, all four programs were in compliance with CAPTE standards for accreditation. However, when the program's culture supported leadership knowledge and skills development beyond minimal accreditation compliance, leadership development opportunities were more prominent across the curriculum. Program director and faculty member support for a culture of leadership resulted in consistent modeling of leadership behaviors within and outside the classroom and the clinic, and served as a key example of leadership knowledge and skills development for students.

Third, the existence of a leadership thread, rather than a one course approach, resulted in a broader incorporation of leadership knowledge and skills development opportunities. Program directors and faculty members influenced the presence or absence of a leadership thread, and contributed to curriculum and course design accordingly. Finally, the fourth finding of this study was that time was perceived as a limitation. Program directors and faculty members at each of the four programs identified time as a potential barrier for integrating leadership knowledge and skills into the curriculum. The perception of time as a limitation impacted resource allocation and affected faculty and student engagement in leadership knowledge and skills development opportunities. Each finding is discussed in the next sections.

An inconsistent definition of leadership impacted leadership development opportunities. Each program director and faculty member was asked to provide a definition of leadership as it applied to entry level physical therapist practice. During data analysis, it became clear that a common and consistent definition of leadership was lacking within and across all four programs. Upon further analysis, the inconsistent definitions impacted program directors' and faculty members' decisions related to the integration and implementation of leadership knowledge and skills development opportunities. An inconsistent definition of leadership may demonstrate a lack of value of leadership development in physical therapist education.

Inconsistent definitions of leadership contributed to varying interpretations between program directors and faculty members within the same program, and across programs. In turn, these interpretations led to differences in both implementation and emphasis of leadership knowledge and skills development within and across programs in this study. Therefore, inconsistent definitions could imply a lack of value and vision for leadership development and implementation across the profession, manifested in entry-level education. One example which demonstrated how leadership definitions impacted curriculum design was evident through the analysis of course syllabi and related student learning outcomes.

Program directors and faculty members at Oak, Metropolitan, and Eastside Universities identified one course in which leadership knowledge and skills development was embedded. Program director and faculty member definitions of leadership in these programs influenced the identification of entry level leadership skills such as the management of people, the management of change, and specifically “focusing collective

energy to both lead people and manage change (Interview, 5/25/16; Interview, 6/28/16; Interview, 8/17/16). The student learning outcomes in each of these courses consistently measured the acquisition of knowledge in the area of leadership. However, student learning outcomes lacked consistent measurement of leadership skills application across programs.

Similarly, student learning outcomes at Oak, Metropolitan, and Eastside Universities identified that students would define, discuss, compare, and analyze areas of leadership knowledge and skill in physical therapy. However, application and implementation of leadership as highlighted by the NMPTPE were not obvious within the courses at participant institutions in the assessment of leadership skill in graduates (NMPTPE, 2004). Similarly, course assignments evaluated leadership knowledge acquisition through examinations, self-reflection, and most consistently the development of a business plan, demonstrating a focus on management. Therefore, the opportunity for faculty to evaluate and assess a student's ability to implement and demonstrate the application of leadership skills was not present.

Currently, program directors and faculty members at accredited physical therapist programs do not appear to be seeking the kind of consistency in curriculum design that would translate into greater effectiveness in healthcare practice. Leadership knowledge and skills development in graduates could facilitate efficiency and effectiveness across healthcare settings, and promote the health and well-being of the greater population. Additionally, as highlighted in a recent manuscript by Desveaux (2016), leadership knowledge and skills development in physical therapists is warranted due to the limitations in healthcare resources. These limitations in healthcare resources exist despite

the increased need for healthcare services, and warrants efficiency in the provision of healthcare (Desveaux, 2016).

Despite the lack of a consistent definition of leadership in physical therapist practice, the four programs in this study made efforts to meet CAPTE curricular requirements in the area of leadership for accreditation. However, some programs embraced leadership knowledge and skills development more broadly, and created a leadership culture beyond curricular compliance. Creating a leadership culture leads to the next key finding. Program design that goes beyond curricular compliance and establishes a leadership culture, makes a difference or leadership knowledge and skills development opportunities in physical therapist curriculum.

A leadership culture goes beyond curricular compliance. All four programs were consistent in modeling leadership behaviors as a form of professional socialization. Professional socialization is but one aspect of promoting a culture of leadership. The participant programs all provided students an opportunity for leadership development through faculty modeling leadership behaviors. Program directors and faculty members at all four participant institutions fostered leadership discussed the expectation that faculty members facilitated students' leadership knowledge and skills development through professional socialization both inside and outside the classroom. At Oak and Metropolitan University, faculty additionally provided professional socialization to students by modeling leadership behavior in the pro bono clinics. The opportunity for students and faculty to volunteer in the clinic and treat side by side was one example where professional socialization became a tool in which faculty members could provide a leadership development opportunity for students.

At Metropolitan University, faculty member and peer mentoring was a more structured form of professional socialization in the pro bono clinic. Interactions between students and faculty members in the pro bono clinic provided students real life opportunities for observation and application of leadership knowledge and skills. Faculty mentored upper level students, and upper level students mentored more novice students. The culture of leadership development was apparent at Metropolitan University with this form of professional socialization and mentoring, Faculty and peer mentoring in the pro bono clinic was an opportunity for students to develop leadership knowledge and skills for future clinical application.

Although all four programs exposed students to leadership behaviors through professional socialization, students were not then held accountable to demonstrate and/or apply leadership behaviors in a meaningful way. This lack of measurement of leadership application was apparent across all programs. Measurement would be the only way to ensure and truly determine if professional socialization impacted students' growth and development of leadership as was assumed by program directors and faculty members. It may be that faculty were still immersed and connected to previous CAPTE criteria which were more apt to require program's measure graduates' leadership knowledge, not the application of leadership skills. Additionally, the national licensure examination includes only three to four of 200 items related to professional responsibilities, inclusive of leadership (*NPTE_PT Test Content Outline*, Effective January 2013).

Therefore, it seems that once again the profession as a whole prioritizes the mastery of clinical skills through entry level education, and provides less opportunity for emphasis on leadership knowledge and skills development of graduates. The priority for

leadership development of healthcare practitioners in order to affect the triple aim of healthcare will be challenging to pursue, if the accreditation and licensure processes do not reinforce the importance of leadership skills within entry level practitioners. A lack of measurement exists across physical therapy programs which would truly ascertain a graduate's ability to apply leadership skills within healthcare settings. The paucity of leadership skill measurement across physical therapist curriculum suggests that the previously established norm in physical therapist education, whereby leadership development occurred through professional socialization, continues to prevail as an accepted standard of leadership development. As programs seek to implement new accreditation standards, a new approach to leadership knowledge and skills development will be required. Although commonly reported in the literature as a part of healthcare education, professional socialization is an outdated method of leadership development, particularly when applied outside of the authentic environments that better ensure demonstration of knowledge and skills.

The literature supports professional socialization as a form of leadership development, particularly as clinicians across disciplines and settings seek to meet the triple aim of healthcare (Chan & Heck, 2003; Corb et al., 1987; Desveaux & Verrier, 2014; Stiller, 2000; Swensen et al., 2013). Professional socialization has been previously defined in the literature as “the acquisition of the body of knowledge and technical skills along with the acculturation process of internalizing the social values, the behavior norms, and the symbols of an occupational group” (Greenwood, 1966, p. 18). More recently, professional ethos was defined by Stiller (2000) as “the distinguishing characteristics, sentiments, and beliefs of that profession that guide the behavior of the

practice” (p. 7). However, Swensen et al. (2013) provided an updated view on professional socialization, and discussed in their white paper entitled *High Impact Leadership*, that the most effective leaders are engaged at the front line.

Regular meetings, asking questions, demonstrating interest and active engagement in problem solving facilitate a leader’s ability to be transparent and authentic (Swensen et al., 2013). Front line engagement is an example of modeling leadership in a healthcare environment. In this way, the literature supports the subtheme of professional socialization as a means to provide physical therapist graduates opportunities for leadership knowledge and skills development but highlights the importance of a culture of leadership in physical therapist education. More importantly, Swensen et al. suggested that professional socialization must be transparent and authentic, suggesting real life situations in which the practice of leadership comes alive. Physical therapist graduates must be required to be engaged in the practice of leadership, in the presence of those capable of modeling appropriate behaviors within authentic situations and environments. That methodology of leadership development is lacking in current physical therapist curriculum design and classroom pedagogy.

The varied definitions of leadership influenced faculty implementation of leadership development in the classroom, resulting in a pedagogy of integrated leadership. By integrating leadership, a faculty member had an opportunity to link leadership development to student learning outcomes. Examples of faculty using a pedagogy of integrated leadership included: faculty members at Eastside University emphasized problem based learning, faculty at Oak University recruited expert panels in courses, and student self-reflections were incorporated at Oak University. Eastside

University's use of problem based learning was a key example of how the pedagogy of integrated leadership was incorporated within the Principles of Management course.

In the Principles of Management course at Eastside University, professional socialization was embedded into the course through a problem based learning approach. Interprofessional teams of students were mentored by faculty and worked together in small groups within the Principles of Management Course. The goal of the problem based learning groups was for faculty members to facilitate the students' abilities to solve clinical cases across health care settings. Through faculty member mentorship and interprofessional socialization, students were charged to further each other's understanding of health care related issues. The use of problem based learning, engaged students at Eastside University with faculty members and interprofessional students as part of a leadership culture, to develop knowledge and skills for future clinical application. These pedagogical approaches facilitated faculty members' ability to provide authentic opportunities for leadership knowledge and skills development of graduates (Jensen & Mostrum, 2013). Unfortunately, these pedagogical approaches used by faculty members did not result in the measurement of students' ability to apply leadership skills, therefore contributing to a narrow range of student learning outcomes related primarily to the measurement of knowledge acquisition.

A leadership culture requires a concerted effort of program administrators and faculty members to ensure that resources are allocated to facilitate the sustainability of the culture. The most prominent example of a culture of leadership beyond curricular compliance was found at Boulevard University. At Boulevard University, leadership was prominently threaded across the entire curriculum. This thread of leadership provided

students a variety of leadership knowledge and skills development opportunities across the entire program. Self-reflection through the use of the LPI, structured questions regarding leadership development during faculty-student advisement sessions, and development of a personal leadership mission statement were examples of how the thread of leadership was a part of the culture at Boulevard University.

At Boulevard University, the decision to invest time and financial resources for leadership knowledge and skills development of students contributed to maintaining a leadership culture. Additionally, student service requirements at Boulevard University allowed students to work side by side with faculty members to provide community outreach with an emphasis on the health and wellness of underserved populations and engage in leadership development outside of the classroom. Boulevard University demonstrated how a culture of leadership can effectively be implemented for students and faculty members across the physical therapy program, and provide authentic experiences for students to practice leadership knowledge and skills as they developed as professionals.

The most prominent demonstration of a culture of leadership was evidenced by a purposeful program vision to thread leadership development across curriculum, instead of inserting leadership in a single course. This threading of leadership across the curriculum suggested a new paradigm for leadership knowledge and skills development in physical therapist education, as discussed in the next section.

A new paradigm: Leadership knowledge and skills development threaded across the curriculum. In this study, leadership knowledge and skills development opportunities were most often concentrated within one business management course, as

was the case at Oak and Metropolitan University, or embedded as a part of one course within a series of professional issues courses as was the case at Eastside University. The course with leadership content was allocated three to four credit hours. Therefore, the overall percentage of leadership content in physical therapist curriculum was low, given the overall content designated for clinical knowledge and skills development.

Boulevard University took a different approach to leadership knowledge and skills development opportunities into physical therapist curriculum by developing a leadership thread or strand. By incorporating a strand of leadership knowledge and skills development across the curriculum, Boulevard University demonstrated a unique approach to integrating leadership content beyond including content in courses and credit hours in the curriculum. Boulevard broke the paradigm by assigning two faculty members at Boulevard University each semester to coordinate the leadership thread. Their responsibilities included training faculty members and students in the use of the LPI. Faculty members also conducted ongoing workshops and developed leadership-related assignments for students across the curriculum. The workshops and assignments focused students on self-reflection of leadership knowledge and skills development, and culminated in a personal mission statement and leadership philosophy as part of their thesis for graduation. In this way, the culture of prioritizing leadership development across the university was also evident in the physical therapy program.

A curriculum design, inclusive of threading leadership knowledge and skills development across the graduate curriculum, seems to be the best approach and was highlighted by Boulevard University in this study. Threaded leadership development is beneficial not only for student and faculty buy in, but offers the most opportunity for

authentic experiences in which students can participate in leadership opportunities to further their own professional growth. The profession as a whole, as well as individual programs, would need to embrace this paradigm shift in education in order to build momentum across all accredited programs. Boulevard University provides us excellent structure and ideas from which program directors and faculty members could develop leadership threads at their respective institutions.

Boulevard University demonstrated a paradigm shift from pinpointing leadership knowledge and skills development in one course to threading it across the curriculum. The decision to embrace a culture of leadership as a priority for physical therapist education instead of merely addressing curricular compliance, enabled the Boulevard University physical therapy program to prioritize the leadership development of their graduates. Additionally, maintaining a leadership thread across the curriculum influenced the program director's and faculty members' decision making related to resource allocation for leadership development opportunities for both faculty members and students. The Boulevard University physical therapy program embraced the broader university-wide mission of creating global leaders. In doing so, Boulevard University demonstrated a commitment to leadership knowledge and skills development as part of the conceptual framework of their program.

A smaller percentage of physical therapist curriculum dedicated to leadership knowledge and skills development across programs inadvertently suggested that leadership content was less important when compared to clinical knowledge and skills development (*NPTE-PT Test Content Outline, Effective January 2013*). CAPTE accreditation standards are heavily weighted towards clinical knowledge and skills

development (CAPTE, 2015). The impression that leadership is less important could not be further from the truth. The US is comprised of an aging population that will continue to seek and utilize healthcare in a variety of settings (Aaroliga et al., 2014; Deusinger et al., 2014). Clinicians practice in collaborative but often autonomous environments that require clinical decision making inclusive of effective and efficient resource utilization. This is highly suggestive of the importance of leadership as a part of healthcare practitioner education, particularly that of a physical therapist (Chan & Heck, 2003).

In an attempt to understand how program directors made decisions regarding leadership knowledge and skills development in curriculum, references to the FINHOP framework were included in the interview questions. In 2007, Schafer et al. conducted a survey to understand the anticipated need for entry level knowledge and/or skills as it related to the categories of finance, information management, networking, human resources, operations, and planning (FINHOP) (Schafer et al., 2007). The survey results indicated that practicing clinicians perceived that more independence was needed for human resource management, information management, and operations skills than networking, planning/forecasting, and finance for entry level practice (Schafer et al., 2007). In contrast, the results of this qualitative study were slightly different. When asked if leadership was threaded across the curriculum, and how important the FINHOP areas were in curriculum design, the four program directors did not consistently identify the same priority area for entry level practice. Human resources were consistently identified as second in importance while operations was not identified as a priority area for knowledge or skills for entry level practice across interviewed program directors.

The change in the perception of the priority of FINHOP skills by the program directors in this study may be due in part to the changes in healthcare reform. Payment reform has incentivized hospitals and accountable care organizations for outpatient practice services, reducing the number of therapists entering independent private practice. The shift in practice settings may have impacted program directors' perception of the area of operations as an entry level skill resulting in assigning it a lower priority in entry level curriculum. Additionally, the current emphasis in healthcare for effective and efficient care across interprofessional teams may have led program directors to identify human resources as an area of priority for knowledge and skills development for entry level graduates. Such a shift in the priority of entry level leadership knowledge and skills for physical therapists, as viewed through the FINHOP framework, reinforces the key finding in this study that a leadership thread in physical therapist curriculum is a worthwhile paradigm shift.

Even though embracing a culture of leadership, and threading leadership across the curriculum, Boulevard University and the other three programs identified time as a limitation across the curriculum for leadership knowledge and skills development of program graduates. The final key finding, therefore, was that the perception of time as a limitation impacted program design.

The perception of time as a limitation impacted resource allocation for leadership knowledge and skills development. The time devoted to direct leadership development within physical therapist curriculum is overshadowed by the need for clinical knowledge and skills development. On average, programs across the country require graduates to complete 118 credits of coursework in order to receive a doctoral

degree in physical therapy, including, on average, 35 weeks of full time clinical education (*Aggregate Program Data. 2015-2015 Physical Therapist Education Programs Fact Sheets.*, 2016). McGowan and Stokes' (2015) systematic and comprehensive review of leadership in physical therapy recommended that leadership should be incorporated in curriculum in order to develop leadership knowledge and skills in graduates.

Consistent with the need for clinical expertise of licensed graduates, program directors answered interview questions about program resources and limitations that existed and impacted leadership knowledge and skills development in curriculum design. Although Oak, Metropolitan, and Eastside University had a small percentage of credit hours allocated to leadership knowledge and skills development, it was not unusual to discover that a professional program would maintain a focus on clinical knowledge and skills development. The intended outcome of graduates from physical therapist programs is successful licensure to practice physical therapy. However, because of the emphasis on clinical criteria, accommodations to incorporate the addition of updated standards related to leadership and interprofessional education remained a challenge in some of the participant accredited programs.

The perception of time as a limitation, in relation to leadership knowledge and skills development of entry level physical therapists, may imply a lack of emphasis on the need for leadership within the profession. If leadership knowledge and skills development had more emphasis within the NMPTPE as well as CAPTE standards, the FSBPT licensure examination would warrant additional questions related to leadership. Prioritizing leadership within the profession would require accredited physical therapist programs to make time for this area of entry level practitioner development. Given the

recent changes in U.S. demographics, healthcare reform, and the need for efficient and effective collaboration among interprofessional teams of healthcare practitioners, educators should find the time to prioritize leadership knowledge and skills development of graduates.

The challenge of updated standards translated to challenges in resource allocation pertaining to leadership knowledge and skills development opportunities for graduates in pro bono clinics. One particular challenge of resource allocation was the level of participation in pro bono clinics at both Oak and Metropolitan Universities, despite the identification of pro bono clinics as an ideal learning environment for leadership development. In Oak and Metropolitan programs, for example, there was no required participation in the pro bono clinics. In 2007, Suter et al. discovered that role modeling and clear expectations around an environment of interprofessional practice were beneficial in the healthcare workplace to provide both formal and informal structures for interprofessional practice (Suter et al., 2007). Given that healthcare practitioners must provide efficient and effective care in interdisciplinary environments, pro bono clinic experiences would be most beneficial with an interprofessional structure.

In 2000, Stiller provided a description of the role of a physical therapist that included efficiency and proficiency as a supervisor, manager, teacher, and consultant (Stiller, 2000). Additionally, researchers suggested that successful leadership originated from a holistic perspective and development of a shared vision among all stakeholders in healthcare (Chan & Heck, 2003; Gersh, 2006; Schmoll, 1998; Trofino, 1995). Given this literature, a curricular structure supportive of authentic experiences to sufficiently

develop expertise in leadership knowledge and skills is warranted in physical therapist education.

Limitations

The first of this study's two identified limitations, the newness of the CAPTE standards, may have impacted implementation of program and curriculum modifications to date. The standards went into effect on January 1, 2016 and program directors and faculty members may not have had sufficient time to include changes into curriculum at the time of study. The newness of these changes may have contributed to the continued focus on creating business plans in course assignments across all participant programs.

Second, programs from across the country were recruited to participate in this research. The timing of the research coincided with the end of the academic year, and resulted not only in an extended recruitment period, but also additional considerations for participant phone interviews at the time of data gathering. In person interviews may have rendered a more robust understanding of the program and given the researcher the opportunity to experience the culture of a program first hand.

Recommendations for Curriculum Design

There are four recommendations for improved curriculum design as a result of this study. First, a shared definition of leadership in physical therapy, that is embraced by the profession and supported by the APTA, should be consistent across CAPTE accredited programs. A consistent definition of leadership would promote faculty members' development of leadership curriculum, as well as facilitate student and faculty buy-in for improved and authentic leadership development opportunities. Although all four programs provided definitions of entry level leadership in physical therapy, all

definitions were different. McGowan and Stokes (2015) defined leadership within the scope of physical therapy practice as: “not limited to direct patient/client care but also includes advocating for patients/clients and supervising/delegating to others” (McGowan & Stokes, 2015, p. 123). At a minimum, programs should be utilizing this definition of leadership to assist in fine-tuning curriculum design and facilitating focused development of leadership knowledge and skills.

Additionally, a consistent definition of leadership in physical therapy could facilitate professional socialization and networking across interprofessional environments, similar to current healthcare setting expectations. Applying a consistent definition of leadership could more effectively facilitate the development of leadership knowledge and skills across all healthcare professionals as well as promote the inclusion of additional leadership expectations within the NPTE-PT licensure examination as well as the NMPTPE. However, physical therapists will only develop leadership knowledge and skills once educators are comfortable providing the curriculum, environment, and opportunities that inspire students to develop, embrace, and apply leadership as an entry level graduate. A common and unified definition of leadership in physical therapist practice should be established and then utilized during curriculum development.

Second, a thread that integrates leadership across the curriculum is highly recommended. A leadership thread would prioritize the development of leadership knowledge and skills in graduates across the entire curriculum, rather than embedding leadership content in one course. Similarly, a leadership thread would provide a more explicit link between curriculum design and student learning outcomes. Student learning outcomes enable effective measurement of knowledge and skill acquisition and

application, as well as reinforce to students the importance of leadership knowledge and skills development, developing student accountability and value of leadership through explicit measurement.

Third, participant programs have consistently included student learning outcomes related to acquisition of leadership knowledge. However, programs should also consider the development of student learning outcomes related to the application of leadership skills. The sustainability of physical therapy as a practice requires knowledge and skills related to reimbursement of the care provided across all healthcare settings, as well as functionality within an interprofessional environment. Student learning outcomes related to leadership knowledge acquisition and also to skills application may benefit from standardization across programs, once an established definition of leadership is embraced by the profession. The majority of identified student learning outcomes in this study focused on the acquisition of leadership knowledge, particularly in the area of business savvy as it related to healthcare. Student learning outcomes should be established to ensure a broader, more current and more comprehensive development of leadership knowledge and leadership skill application.

Additionally, the emphasis on business plan creation, as a previous CAPTE requirement and an outcome of student learning, is out of date and has been eliminated from the recently updated CAPTE standards. The development of a business plan no longer reflects current physical therapist graduate requirements, yet it remained an ongoing requirement across participant programs in this study. This focus on a previous CAPTE requirement may have discouraged the development of new opportunities and student learning outcomes in participant programs. Development of a business plan

should be eliminated as a course requirement, and other more relevant interprofessional opportunities for application of leadership skills should be considered.

Finally, programs that utilize pro bono clinics or service learning as a supplement to classroom and laboratory instruction for the development of leadership knowledge and skills should create a transparent link between these experiences and measurable student outcomes. Physical therapist student development of clinical skills was emphasized across the curriculum, in large part because of the emphasis of clinical skills in the NMPTPE as well as the national licensure examination (NMPTPE, 2004; *NPTE-PT Test Content Outline, Effective January 2013*). However, leadership knowledge and skills are necessary within healthcare environments for patient advocacy, effective and efficient use of limited resources, promoting the health of the population, and collaborating on an interprofessional team. Pro bono clinics and service learning opportunities allow students the opportunity to refine clinical skills while applying leadership knowledge.

Pro bono clinics existed at Oak and Metropolitan Universities and were identified as ideal environments for leadership knowledge and skills development by program directors. However, student learning outcomes related to leadership knowledge and skills development in the pro bono clinic were non-existent in the two programs with pro bono clinics in this study. Faculty cannot ensure that the “golden part of the program” influences student development of leadership knowledge and skills, if it is not required of the students or explicitly measured (Interview, 5/24/16). Additionally, the impact of pro bono clinics on leadership knowledge and skills development was difficult to measure in participant institutions. Lack of student learning outcomes within pro bono clinics may

contribute to the lack of value placed on student and faculty time investment, leading to inconsistent participation in pro bono clinics.

Overall, the link between pro bono clinical experiences and leadership knowledge and skill development in students was weak—particularly so given the voluntary status of student and faculty participation within the pro bono clinics at the universities that were interviewed. In lieu of program mandated participation, students and faculty were encouraged to volunteer at the pro bono clinic to practice providing patient care. Program directors and faculty members consistently identified a lack of time as the primary limitation in leadership knowledge and skills development. This perceived limitation of time prevented programs from requiring participation in the clinic, eliminating the opportunity for measurement of student learning in the clinic as it related to leadership knowledge and skills development. Therefore, programs with pro bono clinics should create student learning outcomes to evaluate the leadership knowledge and skills development of graduates.

Recommendations for Future Research

Based upon the findings of this study, there are three recommendations for future research. First, after some time has passed and programs are required to demonstrate compliance with the new standards for re-credentialing, researchers may find value in investigating the integration of leadership knowledge and skills development of graduates. Of particular interest, researchers may potentially wish to investigate the integration of leadership knowledge and skills development through supervised clinical experiences in an interprofessional setting.

Second, currently limited data on the subject warrants future research to examine students' ability to effectively participate in self-assessment of leadership knowledge and skills development. Specifically, program directors and faculty members may wish to identify a tool that is effective for student pre-and post-assessment across the curriculum. Student perception of leadership knowledge and skills development, as well as that of graduate employers may highlight additional areas of recommended curriculum revision and or pedagogical approaches.

Third, program director and faculty decision making for program resource allocation and curriculum design should prioritize both clinical and leadership-based knowledge and skills development in graduates. The combination of clinical and leadership development opportunities could facilitate increasingly successful preparation for graduates to practice in interprofessional healthcare settings. Current changes in healthcare legislation and the increasing demands of an interprofessional environment warrant an emphasis on leadership knowledge and skills development for physical therapists (Desveaux, 2016; McGowan & Stokes, 2015). The interprofessional education of healthcare professionals through thoughtful curriculum design and provision of collaborative learning opportunities could lead to efficiency and effectiveness of practice in healthcare settings, more adequately delivering on the triple aim of healthcare.

Conclusion

Physical therapists most often work as part of an interdisciplinary team in order to provide patients and clients with a customized plan of care for minimizing impairments and restoring function. Changes in the demographics of the US have prompted healthcare reform, which has required healthcare providers to be more efficient and

effective in their implementation of care in order to implement the triple aim of healthcare. This study sought to examine course descriptions and student learning outcomes, as well as to analyze program director and faculty member interviews to gain insight into the presence and degree of leadership knowledge and skills development in a purposive sample of accredited programs.

The research questions set out to discern how leadership knowledge and skills were embedded within physical therapist curricula, as well as how program directors and faculty members, respectively, decision making affected curriculum and course design. The FINHOP framework, developed by Schafer et al. (2007) provided an effective structure for the researcher to develop a research protocol and interview questions in order to answer the research questions. A multiple case study design was employed, with a qualitative approach, allowing the researcher to develop themes across participant program director and faculty member interviews.

Four themes and relevant subthemes were identified through data analysis and were as follows: (a) inconsistent definition of leadership; (b) leading leaders, with three subthemes of professional socialization, networking, and pedagogy of integrated leadership; (c) business savvy, with one subtheme of resource management; and (d) never enough time. The themes that emerged highlighted the fact that a definition of leadership was not promoted, embraced, or used across physical therapist practice or during curriculum design. The absence of a common and consistent definition of leadership in physical therapist practice was evident by the lack of agreement on a definition of leadership in physical therapy programs.

Additionally, although a variety of pedagogical approaches existed to provide students with opportunities for leadership knowledge and skills development, time across the curriculum and associated resource allocation impacted program director and faculty members' decision making related to curriculum and course design. Programs that embedded leadership knowledge and skills development of graduates within one course missed opportunities to develop application of leadership skills in a more comprehensive manner. Classroom discussions about leadership and the development of business plans by students has limited application for graduates to apply leadership knowledge and skills across interdisciplinary healthcare environments. Effective and efficient management of limited healthcare resources requires entry level graduates to have leadership knowledge as well as leadership skills. As one example, program directors could collaborate across interprofessional programs within their institutions in order to develop leadership in graduates across all healthcare professionals simultaneously. The explicit development of an interprofessional course, inclusive of leadership development could facilitate both the value of leadership within the profession as well as graduates' ability to effectively and efficiently utilize healthcare resources in order to address the triple aim of healthcare.

Although programs highlighted the benefit of pro bono clinics and service learning for student leadership knowledge and skills development, measurable outcomes were not identified at any of the four institutions. Program directors and faculty members frequently cited a lack of time across the curriculum. The lack of time limited curriculum dedicated to leadership knowledge and skills development as well as the extra-curricular requirements of pro bono clinic participation. The perception by program directors and faculty members that there was a lack of time resulted in limitations for resource

allocation for leadership knowledge and skills development as well as the lack of measurement of the application of leadership skills within the pro bono clinic.

The challenges for leaders in physical therapy stem from a lack of a common definition of leadership within the profession. Without a common understanding of leadership in physical therapy practice, program directors and faculty members utilize a wide variety of interpretations. The profession of physical therapy should seek agreement on a shared and uniform definition of leadership, from which program and curriculum standards could be developed. The lack of a focused leadership vision for the practice of physical therapy results in disjointed leadership knowledge and skills development in curriculum. Typically, leadership development remains embedded within one course, instead of threaded across the curriculum, with a limited allocation of resources as compared to clinical development. However, physical therapists practice as doctors of their profession, in fast paced interdisciplinary healthcare settings which requires leadership knowledge and skills for efficient and effective use of limited resources.

The FINHOP framework developed by Schafer et al. (2007) describes professionalism as the “contextual background for all physical therapist practice” and leadership as “the means through which the content of practice is professionally applied” (p. 262). Through the use of the FINHOP framework, Schafer et al. (2007) attempted to define entry level knowledge versus skill requirements for physical therapists in the areas of finance, information management, human resources, operations, and planning. However, without a common definition of leadership for physical therapist practice, the framework is difficult to reference in order to facilitate leadership knowledge and skills

of graduates through curriculum design. Additionally, healthcare legislation and physical therapist practice requirements have evolved since the development of this framework, so a new model to understand the current leadership knowledge and skills necessary for entry level practice is warranted.

The vision for physical therapists of the future includes one that reflects current healthcare legislative demands, with an emphasis on population health, through effective and efficient interdisciplinary provision of healthcare to clients across a variety of settings. The evolution of the physical therapist degree from a bachelor's degree where a physician prescription was required, to a doctorate degree where patients can get care through direct access requires a thoughtful and careful process to define the expectations for leadership knowledge and skills development of entry level graduates. Leadership development of physical therapists within an authentic interdisciplinary setting will help ensure the longevity of the profession. Future research should seek to facilitate agreement within the field of physical therapy on the role of leadership knowledge and skills development in curriculum.

In healthcare, all practitioners compete for a fixed number of reimbursement dollars. As the U.S. population continues to age, increasing demands are placed on the need for healthcare services. However, reimbursement and funding sources are scarce in comparison to the projected need. It is imperative that physical therapists develop effective leadership knowledge and skills in order to collaborate with other healthcare professionals. In doing so, the population can be empowered to take charge of their health and wellness while positively impacting the health of the nation of the future. Physical therapist practice depends on a paradigm shift within the education of entry

level practitioners in order to prioritize interprofessional and authentic experiences for students, under the guided mentorship of an experienced clinician, and advance the ability of the profession to facilitate effective management of clinical problems in patients and the health of our nation.

References

- Aaroliga, A. C., Huber, C., Myers, J. D., Dieckert, J. P., & Wesson, D. (2014). Leadership in health care for the 21st century: challenges and opportunities. *Alliance for Academic Internal Medicine*, 127(3), 246-249. doi: 10.1016/j.amjmed.2013.11.004
- Aggregate Program Data. 2015-2015 Physical Therapist Education Programs Fact Sheets.* (2016) (1st ed., p. 9). Retrieved from http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
- Bampton, R. & Cowton, C. (2002). The e-interview. *Forum: Qualitative Social Research*, 3(2), 1-12.
- Berwick, D. M., Nolan, T. W., & Whittington J. (2008). The triple aim: care, health, and cost. *Health Affairs*, 27(3), 759-769. doi: 10.1377/hlthaff.27.3.759
- Bloom, B. S. (1956). Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain. New York: David McKay Co Inc.
- Brennan, A. M. W. & Sullivan-Marx, E. (2012). The paradigm shift. *Nursing Clinics of North America*, 47, 455-462. doi: 10.1016/j.cnur.2012.09.001
- Brocklehurst, P., Ferguson, J., Taylor, N., & Tickle, M. (2013). What is clinical leadership and why might it be important in dentistry? *British Dental Journal*, 214(5), 243-246. doi: 10.1038/sj.bdj.2013.219
- Campbell, R. & Ahrens, C. E. (1998). Innovative community services for rape victims: An application of multiple case study methodology. *American Journal of Community Psychology*, 26, 537-571.
- Chan, A. & Heck, C. S. (2003). Emergence of new professional leadership roles within a health professional group following organizational redesign. *Healthcare Management Forum*, 15(4), 47-54. doi: 10.1016/S0840-4704(10)60041-5
- Cochran-Smith, M. & Zeichner, K. (2005). *Studying teacher education* (1st ed.). Mahwah, N.J.: Lawrence Erlbaum Associates.
- College Navigator - National Center for Education Statistics.* (2016). *Nces.ed.gov*. Retrieved from <http://nces.ed.gov/collegenavigator/>

- Corb, D. F., Pinkston, D., Harden, R. S., O'Sullivan, P., & Fecteau, L. (1987). Changes in students' perceptions of the professional role. *Physical Therapy*, 67, 226-233. <http://ptjournal.apta.org/content/67/2/226>.
- Creswell, J. W. (2014). *Research Design. Qualitative, quantitative, and mixed methods Approaches*. Thousand Oaks, CA: SAGE Publications.
- Desveaux, L. (2016). The rise of leadership in physical therapy: a call to action. *Physical Therapy Reviews*, 20(5-6), 344-346. doi:10.1080/10833196.2016.1142163
- Desveaux, L. & Verrier, M.C. (2014). Physical therapists perceptions of leadership across the health care continuum: a brief report. *Physiotherapy Canada*, 66(2), 119-123. doi: 10.3138/ptc.2013-02
- Deusinger, S. S., Crowner, B. E., Burlis, T. L., & Stith, J. S. (2014). Meeting contemporary expectations for physical therapists: imperatives, challenges, and proposed solutions for professional education. *Journal of Physical Therapy Education*, 28, 56-61.
- Dobrzykowski, E. (2014, February). Fundamentals of dynamic leadership and management: conducting successful change. *Combined Sections Meeting*. Symposium conducted at the meeting of the American Physical Therapy Association, Las Vegas, Nevada.
- Evaluative Criteria PT Programs. (2014). Commission on Accreditation in Physical Therapy Education (CAPTE). Retrieved from: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Accreditation_Handbook/EvaluativeCriteria_PT.pdf
- Friedman, E., Sabatino, F., Anderson, H. J., & Souhrada, L. (1991). Health care's changing face: the demographics of the 21st century. *Hospitals*, 67(7), 36-43.
- Galloway, J. & Sheridan, S. M. (1994). Implementing scientific practices through case studies: Examples using home-school interventions and consultation. *Journal of School Psychology*, 32, 385-413.
- Gersh, M. R. (2006). Servant-leadership: a philosophical foundation for professionalism in physical therapy. *Journal of Physical Therapy Education*, 20(2), 12-16.
- Gilmartin, M. J. & D'Aunno, T. A. (2007). Leadership research in healthcare, a review and roadmap. *The Academy of Management Annals*, 1(1), 387-438. doi:10.1080/078559813
- Greenwood, E. (1966). *Attributes of a profession*. Englewood Cliffs, NJ. Prentice-Hall, Inc.

- Greenwald, R. (2010). Today's students need leadership training like never before. *Chronicle of Higher Education*, 139.62.234.57. <http://chronicle.com/article/Todays-Students-Need/125604/>
- Hatch, J. A. (2002). *Doing qualitative research in educational settings*. Albany, NY: State University of New York Press.
- Houghton, B. & Stang, J. (2012). Population risk factors and trends in health care and public policy. *Journal of the Academy of Nutrition and Dietetics*, 112(1), 535-546. doi: 10.1016/j.jand.2011.12.011
- Henry J. Kaiser Family Foundation. (2013). *Focus on health reform. Summary of the affordable care act*. Retrieved from <http://kaiserfamilyfoundation.files.wordpress.com/2011/04/8061-021.pdf>
- Indiana University Center for Postsecondary Research (n.d.). The Carnegie Classification of Institutions of Higher Education, 2015 edition, Bloomington, IN: Author.
- Jacobson, B. (1974). Role modeling in physical therapy. *Physical Therapy*, 54(3), 244-250.
- Jacobson, B. (1980). Role-model concepts before and after the formal professional socialization period. *Physical Therapy*, 60, 188-193.
- Jensen, G. & Mostrom, E. (2013). *Handbook of teaching and learning for physical therapists* (1st ed.). St. Louis, MO.: Elsevier/Butterworth-Heinemann.
- Jensen, G. M., Gwyer, J., Shepard, K. F., & Hack, L. M. (2000). Expert practice in physical therapy. *Physical Therapy Journal*, 80(1), 28-43. <http://kaiserfamilyfoundation.files.wordpress.com/2011/04/8061-021.pdf>
- Jette, A. J. (2012). Face into the storm. *Physical Therapy Journal*, 92(9), 1221-1229. doi: 10.2522/ptj.2012.mcmillan.lecture
- Kigin, C. M., Rogers, M. M., & Wolf, S. L. (2010). The physical therapy and society summit (PASS) meeting. Observations and opportunities. *Physical Therapy Journal*, 90(11), 1555-1567. doi: 10.2522/ptj.20100138.cx
- Ledlow, G. & Coppola, M. (2014). *Leadership for health professionals*. Burlington, MA: Jones & Bartlett Learning.
- Leudtke-Hoffmann, K. (2002). *Identification of essential managerial work activities and competencies of physical therapist managers employed in hospital settings* (Doctoral). Texas Women's University.
- Lindquist, I., Engardt, M., Garnham, L., Poland, F., & Richardson B. (2006a). Development pathways in learning to be a physiotherapist. *Physiotherapy Research International*, 11(3), 129-139.

- Lindquist, I., Engardt, M., Garnham, L., Poland, F., & Richardson B. (2006b). Physiotherapy students' professional identity on the edge of working life. *Medical Teacher*, 28(3), 270-276.
- Lopopolo, R. B. (2002). The relationship of role-related variables to job satisfaction and commitment to the organization in a restructured hospital environment. *Physical Therapy*, 82(10), 984-999.
- Lopopolo, R. B., Schafer, D. S., & Nosse, L. J. (2004). Leadership, administration, management, and professionalism (LAMP) in physical therapy: a Delphi study. *Physical Therapy Journal*, 84(2), 137-150.
- Lopopolo, R. B., & Schafer, D. S. (2004). Re-conceptualizing the role of leadership, administration, management, and professionalism (LAMP) in physical therapy practice. *HPA Resource*, 4(2), 1-4. doi: 10.2522/ptj.20060003
- McClellan, M., & Skinner, J. (2006). The incidence of Medicare. *Journal of Public Economics*. 90, 257-276. doi:10.3386/w6013
- McGowan, E., & Stokes, E. K. (2015). Leadership in the profession of physical therapy. *Physical Therapy Reviews*, 20(2), 122-131. doi: 10.1179/1743288X15Y.0000000007
- Normative Model of Physical Therapist Professional Education* (2004) Alexandria, VA: American Physical Therapy Association.
- NPTE-PT Test Content Outline, Effective January 2013*. 1st ed. Alexandria, VA: Federation of State Boards of Physical Therapy, 2012. Web. 20 Sept. 2015.
- Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Forum: Qualitative Social Research*, 7(4), 1-13. <http://www.qualitative-research.net/index.php/fqs/article/view/175/391>.
- Patient Protection and Affordable Care Act (PPACA) of 2010, 111 U.S.C. §§ H.R. 3590 (2010).
- Pavett, C. M. & Lau, A. W. (1985). A comparative analysis of research and development managerial jobs across two sectors. *Journal of Management Studies*, 22, 69-82. doi: 10.1111/j.1467-6486.1985.tb00243.x
- Physical Therapy Pro Bono National Honor Society (2015). Mission statement and institutional membership. Available at: <http://www.ptprobononhs.org/>.
- Repko, A. F. (2012). *Interdisciplinary research, process and theory* (2nd ed). Thousand Oaks, CA: SAGE publications.
- Reynolds, P. (2015). How service learning experiences benefit physical therapist students' professional development: a grounded theory study. *Journal of Physical Therapy Education*, 19(1), 41 -54.

- Roemer, L (1996). Hospital middle managers' perceptions of their work and competence. *Journal of Healthcare Management, 41*(2), 210-218.
- S. Res. 7852, 113th Cong., NY Senate (2015) (enacted).
- Saarinem-Rahiika, H. & Binkley, J. (1998). Problem based learning in physical therapy: a review of the literature and overview of the McMaster University experience. *Physical Therapy, 78*, 195-207.
- Schafer, D. S. (2002). Three perspectives on physical therapist managerial work. *Physical Therapy, 82*(3), 228-236.
- Schafer, D. S., Lopopolo, R. B., & Leudtke-Hoffmann, K. A. (2007). Administration and management skills needed by physical therapist graduates in 2010: a national survey. *Physical Therapy Journal, 87*(3), 261-281. doi: 10.2522/ptj.20060003
- Schmoll, B. J. (1998). Educational leadership from a holistic perspective. *Journal of Physical Therapy Education, 12*(3), 6-10.
- Segal, M. (2010). The quality/cost initiative of PPACA: an evolution in healthcare delivery? *Medical Practice Management, 26*(2), 106-108.
- Shepard, K. F. (1977). Considerations for curriculum design. *Physical Therapy, 57*(12), 1389-1393.
- Shepard, K. F. & Jensen, G. M. (1990). Physical therapy curricula for the 1990s: educating the reflective practitioner. *Physical Therapy, 70*, 566-573.
- Silverstein, M. (2008). Meeting the challenges of an aging workforce. *American Journal of Industrial Medicine, 51*, 269-280. doi: 10.1002/ajim.20569
- Singleton, R., & Straits, B. (2010). *Approaches to social research*. New York, NY: Oxford University Press.
- Standards and Required Elements for Accreditation of Physical Therapist Education Programs. (2015). Commission on Accreditation in Physical Therapy Education (CAPTE). Available at: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Accreditation_Handbook/CAPTE_PTStandardsEvidence.pdf
- Stickler, L., Grapczynski, C., & Ritch, J. (2013). Student perceptions of outcomes from participation in physical therapy pro bono clinics. *Journal of Allied Health, 42*(1), 46-55.
- Stiller, C. (2000). Exploring the ethos of the physical therapy profession in the United States: social, cultural, and historical influences and their relationship to education. *Journal of Physical Therapy Education, 14*(3), 7-16.

- Suter, E., Arndt, J., Lait, J., Jackson, K., Kipp, J., Taylor, E., & Arthur, N. (2007). How can frontline managers demonstrate leadership in enabling interprofessional practice? *Healthcare Management Forum, Winter*, 38-43.
- Swenson, S., Pugh, M., McMullan, C., & Kabcenell A. (2013). High-impact leadership: Improve care, improve the health of populations, and reduce costs. IHI White Paper. Cambridge, Massachusetts: Institute for Healthcare Improvement. (Available at ihi.org)
- Teschendorf, B. & Nemshick, M. (2001). Faculty roles in professional socialization. *Journal of Physical Therapy Education, 15*(1), 4-10.
- Threlkeld, A. J. & Paschal, K. A. (2007). Entry-level physical therapist education in the United States of America. *Physical Therapy Reviews, 12*, 156-162. doi: 10.1179/108331907X175140
- Trofino, J. (1995). Transformational leadership in health care. *Nursing Management, 26*(8), 42-47.
- Village, D., Clouten, N., & Millar, A.J. (2004). Comparison of the use of service learning, volunteer, and pro bono activities in physical therapist education. *Journal of Physical Therapy Education, 18*(1), 22-28.
- Wong, C., Cummings, G., & Ducharme, L. (2013). The relationship between nursing leadership and patient outcomes: a systematic review update. *Journal of Nursing Management, 21*(5), 709-724. doi: 10.1111/jonm.12116

Appendix A

Program Director Recruitment Email

Dear (Program Director name inserted here):

My name is Elizabeth Clark and I am a doctoral candidate in Executive Leadership at St. John Fisher College in Rochester, New York. I am writing to request your participation in my dissertation research. The purpose of the study is to examine course descriptions and associated student learning outcomes, within accredited Doctor of Physical Therapy program curricula, for the presence of leadership knowledge and skills development. Program directors and faculty will be individually interviewed to gain an understanding of considerations underlying curriculum design, methods of delivery, and knowledge versus skill acquisition related to leadership criteria.

I am interested in your participation as a program director of a CAPTE accredited PT program. Your participation in an interview would focus on the decision making and underlying factors surrounding leadership development in your entry level physical therapist curriculum. The interview would be scheduled at our mutual convenience, for approximately one hour. The interview would take place either at your institution, via Skype, or by phone. Your participation in this research is voluntary, and your individual as well as faculty and institution privacy will be maintained throughout the study.

You would additionally assist the researcher in identification of courses where leadership content is delivered to students, and provide the researcher the course syllabi with student learning outcomes. All acquired documents will be kept confidential. Individual faculty would be recruited by the researcher through contact information on course syllabi, and their individual participation would be voluntary, and kept confidential. An email on the purpose of this study,

and the intent of individual, voluntary, confidential, faculty recruitment will be provided to you to send to your faculty, if you consent to participate within this study.

If you are willing and able to participate, please respond accordingly to this email, or my contact information provided below. Please provide your signature on the attached informed consent form and scan/email back to me. Also, I have attached an email with sample language that you can use to let faculty know I may contact them for participation within this study. If you require additional information regarding participation, please feel free to contact me.

Regards,

Elizabeth Clark PT, DPT, NCS
Assistant Professor
emc02359@sjfc.edu

Appendix B

Email to Faculty from Program Director, on Behalf of Researcher

Dear Physical Therapy Faculty:

I have consented as the program director to participate in a research study on decision making and program curriculum design, on leadership in physical therapy. The doctoral candidate, Elizabeth Clark, may be contacting you via email to request your participation within this study. Your participation is voluntary, and your decision to participate or not will be kept confidential throughout the research process. Please respond in a timely manner to her request, regarding your willingness to participate. Elizabeth can be contacted with any additional questions or concerns surrounding this study.

Regards,

Program Director

Cc: Elizabeth Clark PT, DPT, NCS
Assistant Professor
emc02359@sjfc.edu

Appendix C

Faculty Recruitment Email

Dear (Insert faculty name here):

My name is Elizabeth Clark and I am a doctoral candidate in Executive Leadership at St. John Fisher College in Rochester, New York. I am writing to request your participation within this proposed study. The purpose of this study is to examine course descriptions and associated student learning outcomes, within accredited Doctor of Physical Therapy program curricula, for the presence of leadership knowledge and skills development. Program directors and faculty will be individually interviewed to gain an understanding of considerations underlying curriculum design, methods of delivery, and knowledge versus skill acquisition of leadership criteria.

I am interested in your participation as a faculty member of a CAPTE accredited PT program. Your participation in an email interview would focus on the decision making and underlying factors surrounding leadership development in your entry level physical therapist curriculum. The interview questions would come to you via email and should take no more than 60 minutes. Your reply is requested within 10 days of receipt of the email. Your participation in this research is voluntary, and your individual as well as your institutions privacy regarding participation will be maintained throughout the study. Your program director will not be informed of your decision regarding participation.

If you are willing and able to participate, please respond accordingly to this email, or my contact information provided below. Please sign the attached informed consent and scan/email back to me. If you require additional information regarding participation, please feel free to contact me.

Regards,

Elizabeth Clark PT, DPT, NCS
Assistant Professor
emc02359@sjfc.edu

Appendix D

Table D1

Template for Collection of Participant Institution Demographics

Participant Institution Pseudonym	Physical Therapy Pro bono National Honor Society Member	Institution Overall Size (# of total students)	Institution Student Demographics	Annual Physical Therapist Graduates	Frequency of LAMP/FINHOP concepts and terms within online course descriptions

Appendix E

Table E1

Template for Collection of Participant Demographics

Institution	Pseudonym assigned by researcher to institution	Role at institution (Program Director or Course Faculty)	Physical therapist educator (years)	Time at current institution (years)	Entry level PT degree	Terminal academic degree

Appendix F

Program Director Interview

Introduction

Thank you for taking the time to speak with me today. This interview explores areas of leadership in entry level physical therapist education, and my questions will pertain to your definition of leadership, leadership implementation in your curriculum, any leadership thread that may exist, as well as resource allocation surrounding courses with leadership content. This interview will last approximately 60 minutes. Your name and institution will not be revealed within the transcripts of this interview, nor during the write up or future publication of this data. If you prefer not to answer certain questions, please let me know, and we will move on to other questions. I have your returned consent for participation on file. Are you ready to begin?

Questions

Opening question. First, I would like to gather some demographic data.

- a. How long have you been a part of physical therapy education?
- b. How long have you been at your current institution?
- c. What was your entry level PT degree?
- d. What is your terminal academic degree?

Body of the interview. Now I would like to move into questions related to leadership within the curriculum in your program.

1. (R1) What is your definition of leadership, as it applies to entry level physical therapist education? This could be one your program utilizes or your own definition of leadership in physical therapy.

2. (R1) What if any curricular threads exist within the program's curriculum related to leadership, administration, management (FINHOP), and professionalism?
3. (R2) What department and/or program resources enable you to provide leadership development within your curriculum?
4. (R2) What limitations exist regarding leadership development within your curriculum?
5. (R2) How do you measure knowledge acquired versus skill performed related to leadership development?
6. (R2) What is your overall understanding of leadership development within your curriculum, given your current resources?
7. (R2) For institutions with pro bono clinics:
 - a. How long have you implemented service learning/pro bono clinics as part of the curriculum?
 - b. What decision making factors contributed to the implementation of service learning through the pro bono clinic?
8. Is there anything else you would like to add?

Thank you for your time today. I am happy to send you the analysis, once complete.

Appendix G

Faculty Interview Confidential Response Sheet

Introduction

Thank you for taking the time to speak with me today. This interview explores leadership in entry level physical therapist education, and my questions will pertain to your definition of leadership, leadership implementation in your curriculum, any leadership thread that may exist, as well as resource allocation surrounding courses with leadership content. This interview will last approximately 60 minutes. Your name and institution will not be revealed within the transcripts of this interview, nor during the write up or future publication of this data. If you prefer not to answer certain questions, please move on to other questions.

Questions

Opening question. First, I would like to gather some demographic data.

- a. How long have you been a part of physical therapy education?
- b. How long have you been at your current institution?
- c. What was your entry level PT degree?
- d. What is your terminal academic degree?

Body of the interview. Now I would like to move into questions surrounding leadership within your curriculum at your program.

1. (R1) What is your definition of leadership, as it applies to entry level physical therapist education? This could be one your program utilizes or your own definition of leadership in physical therapy.

2. (R3) What specific student learning outcomes (SLOs) exist within your courses that are related to leadership knowledge versus leadership skills? Please reference course name/number and SLOs within course syllabi.
3. (R3) How do you measure knowledge acquired versus skill performed related to leadership in your course? Please elaborate on your use of written exams, self-reflection, clinical performance instrument, or other tools for evaluation of student learning.
4. (R3) How is leadership delivered within your course? This is comprehensive surrounding both development of leadership knowledge and leadership skills. Please discuss your teaching methodology and pedagogy utilized within the course(s). Please elaborate on the use of lecture, lab, experiential learning, clinics, or other teaching environments.
5. (R3) What human and material resources are available for developing leadership in your courses? Please describe any challenges.
6. Is there anything else you would like to add?

Thank you for your time today. If you would like a copy of the analysis once completed, please indicate that in your email when you return this faculty interview confidential response sheet.

Appendix H

Table G1

Research Questions, FINHOP Framework, and Interview Questions

All research questions are related to the FINHOP framework (Schafer et al., 2007).

Research Question (R)	Interview Questions (#)
<p>1. In what ways are leadership skills embedded within PT curriculum?</p>	<p><u>All study participants:</u></p> <ol style="list-style-type: none"> 1. What is your definition of leadership, as it applies to entry level physical therapist education? <p><u>Program Directors:</u></p> <ol style="list-style-type: none"> 2. What, if any, curricular threads exist within the program's curriculum related to leadership, administration, management (FINHOP), and professionalism?
<p>2. How do program directors make decisions regarding leadership skills in curriculum design?</p>	<p><u>Program Directors:</u></p> <ol style="list-style-type: none"> 3. What department and/or program resources enable you to provide leadership development within your curriculum? 4. What limitations exist regarding leadership development within your curriculum? 5. How do you measure knowledge acquired versus skill performed related to leadership development? <p><u>Course Faculty:</u></p> <ol style="list-style-type: none"> 7. What human and material resources are available for developing leadership in your courses? Please describe any challenges.
<p>3. How do faculty make decisions regarding pedagogy and implementation of leadership skills in their courses?</p>	<p><u>Program Directors:</u></p> <ol style="list-style-type: none"> 8. What is your overall understanding of leadership development within your curriculum, given your current resources? 9. For institutions with pro bono clinics: <ol style="list-style-type: none"> a. How long have you implemented service learning/pro bono clinics as part of the curriculum? b. What decision making factors contributed to the implementation of service learning through the pro bono clinic?

Research Question (R)	Interview Questions (#)
	<p data-bbox="703 268 909 300"><u>Course Faculty:</u></p> <ol style="list-style-type: none"> <li data-bbox="751 306 1422 485">2. What specific student learning outcomes (SLOs) exist within your courses that are related to leadership knowledge versus leadership skills? Please reference course name/number and SLOs within course syllabi. <li data-bbox="751 491 1386 701">3. How do you measure knowledge acquired versus skill performed related to leadership in your course? Please elaborate on your use of written exams, self-reflection, clinical performance instrument, or other tools for evaluation of student learning. <li data-bbox="751 707 1422 995">4. How is leadership delivered within your course? This is comprehensive surrounding both development of leadership knowledge and leadership skills. Please discuss your teaching methodology and pedagogy utilized within the course(s). Please elaborate on the use of lecture, lab, experiential learning, clinics, or other teaching environments.

Appendix I

Consent form

St. John Fisher College Informed Consent Form

Title of study: Examining Leadership Knowledge and Skills Development Opportunities for Physical Therapist Students: A Multiple Case Study Design

Name of researcher: Elizabeth Clark PT, DPT, NCS (585) 309-1976

Faculty supervisors: Dissertation Chairperson: Dr. Marie Cianca (585) 899-3878
Committee Member: Dr. Joellen Maples (585) 899-3727

Purpose of the study: The researcher is pursuing a doctoral degree in Executive Leadership at St. John Fisher College in Rochester, New York. As part of this process, a research study must be conducted. The purpose of this study is to examine course descriptions and associated student learning outcomes, within accredited Doctor of Physical Therapy program curricula, for the presence of leadership criteria. Program directors and faculty will be individually interviewed to gain an understanding of considerations underlying curriculum design, methods of delivery, and knowledge versus skill acquisition of leadership criteria.

Study procedures: A qualitative research approach will be used. First, program directors will be interviewed and audio recorded regarding decision making surrounding curriculum design, program resource allocation, and leadership content within the program's curriculum. Second, course syllabi and associated student learning outcomes will be reviewed for frequency of leadership terminology. Finally, program faculty associated with courses identified with leadership content, who consent to participate, will be email interviewed to obtain rich qualitative data about course design, implementation, resources, and limitations within the program.

Approval of study: This study was submitted and approved by the St. John Fisher College Institutional Review Board (IRB).

Place of study: The face to face interviews with program directors will occur at the program directors institution, or via Skype if a mutually agreeable destination date/time is not possible. The faculty interviews will take place via email, with follow up phone calls by the researcher to the faculty for any necessary clarification/follow up.

Length of participation: The face to face interviews should last no more than one hour. The total email correspondence should last no more than one hour.

Risks and benefits: There are no physical risks to participating in this study. By participating in this study, participants will contribute to study results which will add to the current body of research on leadership in physical therapy curriculum.

Method for protecting confidentiality/privacy: Program directors will identify potential faculty for participation in this study. Program directors will not be informed of faculty participation within the study. All consent is voluntary. Neither names nor other identifying information will be presented in the written transcripts or analysis of the interviews. Written transcriptions will be stored in an office in a locked cabinet with access only to the researcher for a period of 3 years after the successful defense of the dissertation and then shredded. The audio and electronic files of the email data, as well as interview transcriptions will be stored on an external hard drive in an office and will be placed in the same locked cabinet with access only to the researcher for a period of 3 years after the successful defense of the dissertation and then destroyed.

Your rights: As a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you before you choose to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to you.
5. Be informed of the results of this study.

I have read the above, received a copy of this form, and I agree to participate in the above-named study.

Print name (Subject)	Signature	Date
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Print name (Researcher)	Signature	Date
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If you have any questions regarding this study, please contact the researcher listed above for appropriate referrals.

Appendix J

Table J1

A priori codes established for data analysis.

FINHOP framework (Schafer et al., 2007)	A priori codes
<p>Billing and reimbursement. ICD9(10) - Use the system for coding medical diagnosis and/or diagnoses made by a physical therapist. HCPCS – Use the system for coding PT services and supplies. CPT – Use the system for coding PT services and procedures.</p>	<p>Finance (F)</p>
<p>Access to and use of patient and client management data – Use electronic means to retrieve, analyze, summarize, and disseminate patient and client management data to intra- and extra-organizational consumers. Record keeping – Collect data in an organized manner and produce a succinct and accurate summation of the information for current and future use. Data and information analysis – review, revise, and interpret written information to share with others.</p>	<p>Information management (I)</p>
<p>Consultation – provide professional or expert opinion or advice. Professional involvement – participate on a regular basis in educational and governance activities offered through one’s professional organization.</p>	<p>Networking (N)</p>

FINHOP framework (Schafer et al., 2007)	A priori codes
<p>Self-management</p> <ul style="list-style-type: none"> • <i>Listening skills</i> • <i>Verbal and non-verbal communication</i> • <i>Personnel licensure and certification requirements</i> • Job search • Manage stress • Role modeling <p>Ethics and culture</p> <ul style="list-style-type: none"> • <i>Professional ethics</i> • Corporate and business ethics and citizenship • Organizational culture <p>Leading and directing</p> <ul style="list-style-type: none"> • Leadership • Coaching • Motivating • Direction • Manage conflict <p>Personnel management</p> <ul style="list-style-type: none"> • Performance appraisal <p>Policy and procedure compliance</p>	<p>Human Resource Management (H)</p>
<p>Compliance</p> <ul style="list-style-type: none"> • <i>Documentation requirements</i> • <i>Time management</i> • Policies and procedures • Regulatory and accreditation requirements <p>Quality and risk management</p> <ul style="list-style-type: none"> • Quality management 	<p>Operations (O)</p>
<p>Practice analysis</p> <ul style="list-style-type: none"> • Profession review <p>Length of stay (LOS) and number of visit</p>	<p>Planning and forecasting (P)</p>

Notes: The FINHOP framework (Schafer et al., 2007) items on the left are coded as such: items scoring 6 (need limited assistance for skill and substantial knowledge) or 7 (*performs skill independently and has substantial knowledge*). Items are listed here to demonstrate a variety of evidence based examples the researcher utilized during a priori coding of the data.