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Pharmacy Student Perceptions: How Do They Change and What Does That Mean?

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by

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This dissertation has been approved in partial fulfillment of the requirements for the degree of

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at Lindenwood University by the School of Education

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

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Abstract

With healthcare moving rapidly toward interprofessional expectations, this study examined the perceptions of a particular population of students pursuing a degree in the healthcare field. Pharmacy students attending a free-standing pharmacy institution were interviewed over the course of the 2012 – 2013 academic year. Interviews were conducted before, during, and after the students engaged in collaborative coursework with students from a variety of health care majors attending a nearby institution. The results demonstrated the positive impact exposure to peer students pursuing degrees in health care fields can have. Results of the interview process highlighted the impact intentional interaction with a variety of students (i.e. medical, nursing, social work, physical therapy, occupational therapy, and physician assistant students) had for the students at the free-standing pharmacy institution. Results also demonstrated an increase in the perceived value of collaboration with other health care professionals. Additionally, results highlighted the importance of respect and communication as active components of interprofessional collaborations. Study participants grew in their understanding of their own role in the field of healthcare. Lastly, the depth of participants' understanding of optimal patient care grew over the course of the intentional interaction during the academic year. Along with presenting and analyzing the results of the interview process, this document makes suggestions regarding practical application of said results to the academic curriculum at an institution granting only a pharmacy degree.

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Chapter One: Introduction

Throughout the doctoral program at the researcher's degree-granting institution, one characteristic has remained consistent: a desire to understand personal and professional relationships as they relate to educational processes in adult learners. Due to her background in education at different levels, the researcher has routinely assessed the roles of relationships in various efforts to transfer knowledge. The catalyst for this research mirrors that interest. This chapter includes information addressing the context of the study, as well as the framework of the course that served as an intervention in the experience of the research subjects.

Background

This study grew out of the researcher's efforts to prepare for a new professional position. While reviewing material prior to starting a position with a new institution, the researcher came across an article in the institution's alumni publication. The piece chronicled a pharmacy student's experience in a class designed to enable students seeking degrees related to various health care professions. The student openly identified value in the exposure to other professionals and attributed the course to an increase in her respect for other health care professionals ("Interprofessional Education," 2011). While the idea of healthcare professionals working together was not new or novel, the idea that there was something to be gained from aspiring healthcare professionals (students) working together struck a chord.

In the early weeks of the new position, the researcher had opportunities to collaborate on small- and large-scale programming designed to provide continuing education for individuals from various healthcare professions. As program evaluations

were reviewed and feedback assessed, two distinct patterns started to emerge. Some participants enjoyed the idea of a collaborative approach to programming and content delivery and indicated that having other individuals in the room from different professional fields helped generate a more robust image of the situation described or the implementation of the specific care being presented. On the other end of the spectrum were participants who felt certain professional fields did not belong at the proverbial table for discussions or presentations related to patient cases. As a potential patient, the researcher began to think about which health care professionals would be more appealing to the patient in an emergency. Those who wanted to collaborate with others were deemed more likely to provide optimal care.

Throughout the review of evaluations, the ideas from the article in the alumni publication kept resurfacing. Interest in whether or not an intentionally structured course, designed to simulate collaborative patient care, would generate pharmacy students who were more likely to respect other students across the health sciences field and subsequently enter the health care profession primed to respect fellow health care professionals became the main impetus for this research.

Institutional demographics. The institution that served as a setting for this study is a small, private college established in 1864 as a school with the sole purpose of educating pharmacists. The institution was one of the last in the country to eliminate its Bachelor of Science degree in pharmacy, and at the time of the research the only degree offered was a Doctorate of Pharmacy. The institution was located in an urban area of a metropolitan city with a single campus for the necessary student coursework.

At the time of the research, the institution offered two approaches to obtaining a pharmacy doctorate. In the first approach, students could begin in the first year of the curriculum and move through a total of six years of coursework and practicum experiences. Students in this category were frequently identified as ‘traditional’. They most commonly entered the institution’s program immediately following graduation from high school and experienced the curriculum in its entirety. This population made up the vast majority of the institution.

In the secondary approach to pursuing a pharmacy doctorate with this institution, students could enter during the third year of the curriculum, also known as the ‘first professional year’. Students entering in the first professional year were frequently identified as ‘transfer’ students. To enter into the first professional year, students must have completed a collection of academic requirements, and most likely had earned an undergraduate degree. In some instances transfer students decided to return to school to pursue a pharmacy doctorate after years of being in the workforce. As a result, the variance in average age for transfer students with relation to traditional students could be large.

Because the institution only offered a pharmacy doctorate, it boasted a self-selecting population. Students arrived on campus, whether traditional or transfer, with a specific professional trajectory in mind. The narrow population was an additional impetus for this study. Pharmacy students in programs at institutions with a variety of degree offerings were exposed to various professions throughout their academic processes. Students may have been in campus organizations or general education courses with peers who were studying to become artists, elementary school teachers, or botanists. Exposure

to peers pursing other career paths has the capacity to help foster students' abilities to value the perspectives of others (Hoffman & Harnish, 2007). Subsequently, broad exposure to others with different professional aspirations also has the potential to help students tolerate how a variety of opinions, rooted in differing contexts, can be applied to the same professional issue. At an institution where students will rarely, if at all, accidentally encounter individuals from other degree programs, conversations swirl about the value of intentional exposure to others. The purpose of this study was to help contribute to the literature that assesses the impact an intentional exposure to fellow students in health sciences fields might have on students at a free-standing pharmacy institution.

Interprofessional team seminar. The experience being reviewed for this research was part of a larger course taught at the institution. The larger course was called "Introductory Practice Experience: Interprofessional Patient Care" (IPE) and was a one credit-hour required course for all students in the second professional year of the program. For a traditional student, this would equate to the fifth year at the institution and for a transfer student, this would equate to the second year at the institution.

The overall purpose of the course was to expose students to principles of longitudinal and interprofessional patient care (Grice, 2012). Students were assigned specific patients to work with over the course of the academic year, and they attended online lectures to support the exposure to the longitudinal patient care principles. As for the interprofessional principles, the students were assigned into small groups with students in various health profession degree programs at a nearby institution to participate

in collaborative case studies. This portion of the course was called “Interprofessional Team Seminar” or IPTS (Grice, 2012).

During the interprofessional case discussions that comprised the majority of the IPTS experience, students worked in groups randomly selected by the coordinators of the course. As noted, this overarching course was required by all students in the second year of the pharmacy program. This IPTS portion of the program was also a requirement for students in the various health profession degree programs, leading to representation of a variety of fields in each small group. Some degree programs had a smaller overall student population, so for those fields this may have resulted in just one student (or possibly none) in a small group. The small groups met three times in the fall semester and three times in the spring semester. Each group was given the same case to review and discuss during the meetings; discussion efforts were facilitated by a faculty member teaching in a health profession degree program from one of the two institutions involved in IPTS. The faculty member was assigned to the same small group throughout the academic year.

Statement of the Problem

At the time of this writing, health science professionals were looking at collaborative practice models in the community and clinical settings (Hallin et al., 2009). In documents released by the Institute of Medicine (2001), expectations of collaborative practice and effective communication were connected with increases in overall patient safety. Understanding how one portion of students in a health science professional degree program population responds to interprofessional coursework could help identify the impact or value of integrating interprofessional education rooted in collaborative practice into the curriculum for students in other health science degree programs. This

researcher hopes the results from this study will contribute to curriculum development discussions in the future, especially at institutions where the only degree offering is a pharmacy doctorate. The institution the pharmacy students in this study attended was in the process of overhauling its curriculum and shifting from a six-year degree program to a seven-year degree program. With a better understanding of the impact interprofessional experiences might have on students, the researcher may be able to provide additional insight during discussions about curriculum development.

Purpose of the Study

This research was designed to gain insight into the changes of perceptions that students seeking a pharmacy doctorate may have regarding students in other health science degree programs after working collaboratively with them. The primary interest and focus of the study was tied to the perceptions pharmacy students at a pharmacy-only institution had toward students in other health science degree programs. The format of the study was intended to establish a baseline assessment of how the pharmacy doctorate students at a free-standing pharmacy institution perceived the students pursuing degrees in other health science fields. Then, changes over time were assessed as the pharmacy students participated in intentional interactions with fellow health sciences students attending a different institution.

Additional interest lies in understanding how pharmacy students see various components of the healthcare field working together over the course of structured interprofessional experiences. A similar process of gaining a baseline assessment and then following up after a number of intentional interactions was used to explore this secondary concept. Better understanding of how pharmacy students perceive

collaborative practice before and after a series of intentional interactions could serve to validate the push for requiring curriculum designed with intentional structure to enable students to interact across the health science degree programs. Additionally, there is potential to replicate this study in the future with students in other health science degree programs, allowing for a comparison of the changes in perceptions and opinions for students in various fields.

Research question. This study was designed to answer a basic question: "How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in health science degree programs change after collaborative practice opportunities with students in those various fields?" The question automatically assumes that there is some sort of change, but the researcher entered the process aware that the change could be minimal. The reality surrounding the question is that if there is no change, perhaps it is not worth the effort and energy an institution might put forth to design interprofessional experiences and intentional collaborations for students pursuing various health care careers. If, on the other hand, even a mild change would occur, the discussion could then shift to whether or not additional opportunities of similar nature should be integrated into degree programs. A supplemental component to potential integration is tied to appropriate timing of additional interprofessional collaborations during the academic process. The researcher has great interest in so many components of interprofessional educational opportunities in health science degree programs, but the logical starting place for a researcher with a qualitative perspective was to start with this question as a baseline for future efforts.

Importance of the Study

This study has the capacity to impact the nature of not just the curriculum at the specific institution attended by the participants, but the curriculum of any pharmacy doctorate degree program. Accreditation standards already exist for programs around the country; the results of this study however, have the capacity to identify a need for further study and subsequent review of existing standards. As the literature review in the Chapter Two notes, healthcare at large is beginning to integrate interprofessional experiences into practice expectations. This means students must be prepared to effectively participate in an interprofessional environment upon completion of a health science degree program.

With many health care fields becoming increasingly saturated with job applicants, it is the researcher's opinion that it is an institution's obligation to identify meaningful approaches for preparing students in such a way that they can stand out in a collection of applicants as individuals who are best prepared to engage in the workplace. Thus, understanding how students' perceptions change with regard to interprofessional peers can drive how an institution might best support student growth in interprofessionalism during the pursuit of a health science degree.

Definition of Terms

For purposes of this study, the following will serve as operational definitions for frequently used terms. These definitions are taken from the May 2011 "Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel", which was developed through sponsorship from Interprofessional Education Collaborative (IPEC) Expert Panel, an entity sponsored by the American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine,

American Association of Colleges of Pharmacy, American Dental Education Association, Association of American Medical Colleges, and Association of Schools of Public Health.

Interprofessional education. With regard to this study, this term will refer to the situation "when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (IPEC Expert Panel, 2011, p. 2). This definition was selected by IPEC from the World Health Organization's 2010 "Framework for action on interprofessional education and collaborative practice" (as cited in IPEC Expert Panel, 2011, p. 43).

Collaborative practice. This term will be similar to the World Health Organization's definition of interprofessional collaborative practice used for their 2010 "Framework for action on interprofessional education and collaborative practice (as cited in IPEC Expert Panel, 2011, p. 43). The IPEC definition states that interprofessional collaborative practice is accomplished "when multiple health workers from different professional backgrounds work together with patients, families, carers [sic], and communities to deliver the highest quality of care" (IPEC Expert Panel, 2011, p. 2). The operational difference for this paper is that 'collaborative practice' will look at students (aspiring practitioners) from various professional backgrounds working together on behalf of fictitious patients, rather than professionals in the respective fields (current practitioners) working together on behalf of actual patients.

Limitations

The primary limitations associated with this research are tied to three categories: variations in the types of students interviewed, student experiences during the small group sessions, and concurrent external interprofessional experiences. Each of these three

categories has specific components causing them to represent limitations of the study. Additionally, there is a limitation on the application of the study's results directly related to the type of institution the participants attend.

Variations in the types of students interviewed. Some participants interviewed were traditional students, who attended an institution of higher education for students pursuing a pharmacy doctorate, and some were transfer students, who completed education work at a different institution and were exposed to college-level students seeking a variety of degrees. It is possible that students in the different categories might have differing opinions of other degree programs and students pursuing those degrees. The research design for this study did not include type of student as limiting criteria for participation of any students.

Additionally, prior to the IPTS collaborative practice experiences, all pharmacy students in the study completed a summer Introductory Pharmacy Practice Experience (IPPE) in a hospital setting. While the IPPEs had specific criteria per the accreditation standards established by the Accreditation Council for Pharmacy Education (ACPE, 2011), execution of each component may be conducted differently based on the specific hospital. Some students may have had exposure to professionals across the healthcare field engaging in collaborative practice by utilizing a team approach to conducting rounds, while others may have had limited, if any, opportunity to see professionals from certain healthcare fields contribute to direct patient care scenarios.

Lastly, students involved in the study might have different professional experiences and exposures to the various roles healthcare providers play as a result of jobs they held prior to the study or at the time the study was being conducted.

Professional experience was not included as criteria for limitation in participant selection, so some students may have been involved in pharmacy technician jobs where they were interacting with individuals across the healthcare environment. This exposure had the capacity to skew responses and establish a variable lens through which a student might respond to interview questions.

The limitation tied to the variance in students is countered by the analysis approach of reviewing one student's responses at three different points in the process, thus enabling the researcher to establish a personal baseline for each student. Anecdotally, some participants referred to specific individuals or experiences related to the opinions shared; in those instances if the information was relevant to the analysis conducted, the context given by the interviewee was presented. The limitation is presented simply to highlight the fact that establishing a baseline across the research subjects could not be done without assessing all previous experiences of interprofessional education or collaboration, which was not the purpose of the study.

Variations in small group experiences. When considering the small group experiences of the pharmacy students, it was important to remember that it was unlikely any one small group operated in the exact same way as any other. For starters, some groups did not have the same health science degree programs represented as others. All groups had medical students and nursing students for the pharmacy students to interact with, but even within those populations the number of students in each additional field varied. Additionally, the faculty facilitators for each group were not the same and represented a variety of healthcare professions. While each facilitator completed training and was given specific instructions, it is impossible to be certain all criteria were

followed identically and without bias. These two pieces may cause the small group experiences of the participants to result in a mild limitation.

While the limitation is relevant and important to remember when reflecting on the study, the weight of the limitation in the overall scheme of the study is minimal. Similar to the fact that no small group will function in exactly the same way, no practice site for professionals will function in exactly the same way. Practice sites have established guidelines and processes related to legislative regulations, but professional interactions and approaches to collaborative practice may always be a variable in the field of healthcare.

Variance in concurrent external interprofessional experiences. During the course of this research, students continued with outside jobs they had and continued to socialize outside of class with peers at their home institutions, as well as with individuals from various social contexts. Additionally, students were continuing to engage in the other activities designed for the IPE course which included components related to experiential activities. One of these components was the requirement of 12 hours of patient interaction throughout the academic year. During these patient interactions, students may have encountered peer students pursuing other health science degrees who were in the same environment as a result of their programs. The pharmacy students may also have interacted with professionals at the sites where the patient interaction took place. This could have contributed to the formation of the opinions shared during the interview process. Much like the variance in the small group experience, this limitation is important, but no two experiences are alike for practitioners. As such, the limitation is

important to remember, but does not take away from the validity and application of results presented later in this document.

Mortality. During the course of the research, participants were consistently reminded at the beginning of the each interview that they could elect to leave the study at any time. While no participants voiced a desire to leave the study, three participants failed to participate in the final round of interviews. As a result, the data presented in Chapter Four do not include the responses from those three participants during the first two rounds of interviews. It is possible, because of the lack of awareness about other health science fields and students pursuing degrees in those fields, that these three participants would have definitive shifts in their perceptions over the course of the study.

Assumptions

The primary assumption of the researcher entering this study was that pharmacy students will have perceptions about their peer students participating in other health science degree programs. Whether those opinions are rooted in personal experience, social norms, or pop-culture references, the basic assumption for this study was that they will exist. It is possible that they may not exist at the beginning of the study. The research assumes that if no opinion exists at the beginning of the study, but after exposure to peers through the interprofessional case work, then the student's perceptions will have changed from a state of non-existence to one of existence.

Additionally, the researcher entered this study with an assumption that the pharmacy students interviewed would move from a stereotypical set of opinions to one founded in personal experiences that were part of the IPTS requirements. Worded another

way, the researcher assumed that there would be greater homogeneity in the responses from the first phase of interviews than in the responses from the third phase of interviews.

Another assumption made with relation to this study regards the connection between interprofessionalism and optimal patient care. As noted in Chapter Two of this document, research shows that optimal patient care is directly related to the utilization of an interprofessional approach in a practice setting Hallin et al., 2009; Hoffman & Harnish, 2007). Pharmacy students who have a better understanding of their peers in health science degree programs are more likely to understand the value of interprofessionalism and its impact on patient outcomes Hallin et al., 2009).

Lastly, the researcher developed this study with the assumption that the interview responses would provide validation to the students' experiences in IPTS. The assumption is that validation will occur by identifying that a change in opinions led to a better understanding of collaborative practice, interprofessional interactions and optimal patient care. This assumption is the driving force for the overall scope of the study and its importance to the field of healthcare education, and more specifically the field of pharmacy education.

Summary

The study presented and its results grew from the experiences of a passionate professional working in various areas of pharmacy education prior to its inception. With the framework of a pharmacy student population, that in some instances was rarely exposed to other professionals in the healthcare field prior to the IPTS case work, a data collection process was developed in an attempt to help add meaningful information during an institution's discussions of curriculum redesign. Similar to other studies, this

one has specific terminology that appear throughout and limitations that can impede the transference of results to other populations. The study also operates within the parameters of a clear set of assumptions made by the researcher at the onset of the study. In the chapter that follows, an assessment of literature relevant to the study is presented.

Chapter Two: Review of Relevant Existing Literature

Understanding a research topic requires casting a net across various literature sources and subjects, then subsequently drawing information from a variety of the available resources. Any topic has its own intricate components and caveats; the researcher has a responsibility to identify the niche he or she is hoping to fill. This particular study is no different. What follows is a chapter designed to highlight some of the unique components of this study and how its results can contribute to the larger field of education.

This chapter also seeks to provide a framework for reading the remainder of the dissertation. Understanding the historical concepts impacting a pharmacy degree and the andragogical principles that should be driving the adult learning process may give clarity to the material presented in the first chapter of this document, including the rationale for this particular study and the course around which it centers. Reviewing relevant student development theories may help add perspective to the data analysis presented in the fourth chapter of this document, as well as the suggested implementations found in the final chapter. Additionally, assessing components of student development theories may help add depth to the methods process established for this study, particularly the selected questions for the interview process.

Along with adding insight through student development theories, this chapter provides discussion about key topics related to the study, its results, and the transference of these results. Presenting current research on the value of interprofessional collaboration in the students' intended practice setting, along with discussing content about the impact of interprofessional course efforts at other institutions, relate to the

author's effort to give additional credibility to this study's perceived value. In a similar fashion, an effort is made in this chapter to provide supporting justification for the design of the qualitative study given the nature of the research question and the researcher's initial desires for assessing whether or not there is a need for future research on the topic of interprofessional education from this particular angle.

Historical Perspective of Pharmacy Degree Programs

While the practice of pharmacy dates prior to Tutankhamen and the question of the 'earliest prescription' had historians comparing one document etched in stone being compared with one scribed on papyrus, the study at hand does not depend on all 4000 (plus) years of pharmacy history to establish relevant context (LaWall, 1927). The history of formal pharmacy education in the United States found its roots in 1765 with the opening of the first medical school at the University of Pennsylvania; this, of course, was prior to the establishment of the United States as a country separate from British rule (LaWall, 1927). During its inaugural year, this institution included pharmacy curricula presented by John Morgan (LaWall, 1927). So, as this country was identifying educational components for the practice of medicine, pharmacy was an integrated part and indicated as an overall contributor to the care of patients. LaWall (1927) included that Morgan was the first to introduce the practice of prescription writing in the colonies. It is worth noting, however, that this content was truly pharmacy taught by and for physicians, rather than pharmacy taught as its own independent profession (Sonnedecker, 1976). After the University of Pennsylvania medical school was established and pharmacy given a structured role in health care, growth of the practice and its regulation was slow. In 1775, still prior to America's declaration of independence from King

George III, an Office of Apothecary-General was developed as part of the United States Army (LaWall, 1927). Though it was clear that health care and the education of health care practitioners was progressively changing, it would be more than 30 years before the United States would publish a document identifying common expectations of the practice through a code of medical ethics, in 1807 (LaWall, 1927). All this was still during a time period when pharmacy education was merely a component of a medical degree.

The role of pharmacy would be changed with the establishment of its own degree program as part of the founding of Philadelphia College of Pharmacy in 1821 (LaWall, 1927; Sonnedecker, 1976). The progress of formalized pharmacy education made its way across the Mississippi River and into the middle of the country in 1864 with the establishment of the St. Louis College of Pharmacy (St. Louis College of Pharmacy, 2013). In time, some institutions of higher education would establish departments of pharmacy and offer degrees in the practice, as well. However, the purpose of this research is to look at the experience of students at a free-standing pharmacy institution and assess their understanding of practitioners in other areas of health care, with minimal exposure to students pursuing degrees outside the practice of pharmacy.

While the establishment of free-standing pharmacy institutions and departments of pharmacy shaped the profession in a number of ways, the inconsistency of curriculum from one institution to another and the inconsistency of degree program titles served to create a variety of chasms in the profession during its early years. Variants existed in the prerequisite education, with everything from an ability to “read, write or cypher” (Sonnedecker, 1976, p. 236) to a finite expectation of a partial high school education, while some institutions expected high school graduation of its applicants (Sonnedecker,

1976). It was not until 1923 that completion of a 4-year high school curriculum became a requirement of the institutions bound together as part of what became known as the American Association of Colleges of Pharmacy, which was a regulatory body intended to ensure the education affiliated with the practice of pharmacy in the United States had uniform minimal requirements (Sonnedecker, 1976). Successful completion of a four-year high school curriculum or documentation reflecting the completion of an equivalent amount of education, continued to be part of the requirement for entrance into the first year of a free-standing institution of pharmacy. In the case of the research study at hand, this would have been required of all 'traditional students' whereas 'transfer students' who began coursework at the study's institution of interest would have met a different set of requirements for entrance into the professional portion of the institution's pharmacy doctorate program.

Anecdotally, the researcher noticed that while similarities existed regarding program entrance requirements, when it came to the 'value' of a particular role in the field for various practitioners in the health science fields, labels established an immediate hierarchy of authority. This hierarchy was rooted in the 'doctor' resting at the top of the chain of command. The challenge is that 'doctor' can be used for a variety of practitioners across health care. In fact, as early as the spring of 1960, students beginning the pursuit of a pharmacy degree were able to seek a doctorate of pharmacy and subsequently be referred to as 'Doctor' (Sonnedecker, 1976). The initial development of the doctorate of pharmacy degree was structured in a way that first required the completion of a bachelor of science in pharmacy. After this, a candidate could apply for a two-year program upon which completion resulted in the issuance of a doctoral-level

degree. Roughly 25 years later in 1984, a national taskforce on pharmacy education called for the phasing out of the Bachelor of Science in pharmacy degree and the establishment of the six-year doctor of pharmacy as the minimal degree to be issued of all practicing pharmacists (Zebrowski, 2014). Eventually, early in the twenty-first century, the last of the Bachelor of Science in pharmacy programs were either morphed into doctor of pharmacy programs or closed. More recent pharmacy students will graduate as a doctor and enter the field collaborating with a doctor who completed a medical doctorate, and potentially with a doctor who completed a doctoral-level nursing degree, the more recently established doctoral-level physical therapy degree program, or one of a variety of additional doctoral-level programs available to practitioners with health science backgrounds. The study at hand was intended to examine how one particular collection of doctors perceives other doctors with completely different training and responsibilities.

Interprofessional Collaboration

Interprofessional collaboration as a component of knowledge transference is not, in and of itself, a revolutionary idea. Human resource managers often look for cross-training opportunities and spend resources on programming that allows for the joining of employees to learn content that multiple fields can benefit from understanding (personal communication, Human Resources Director / Title IX Coordinator, May 2012). Some areas of higher education are no different. Looking at a traditional liberal arts degree or the general elective courses of a degree program on most campuses, courses overlap and students studying to be journalists have the opportunity to sit in the same classroom as students studying to be nurses (personal communication, Vice President for Student Development, April 2011). The reality is, in most of those scenarios, that both student

populations are learning mythology or post-Civil War American history; and while they may collaborate on a project together in a course, the large-scale impact of the collaboration may leave much to be desired.

In its report, "Statement of Interprofessional Collaborative Practice" (2013), the World Health Professions Alliance (WHPA) has called on health care professionals to increase collaborative practice efforts. For the pharmacy students in this particular study, exposure to individuals pursuing degrees in other health care professions, especially in a professional context, is somewhat limited. These students are entering a professional field where interprofessional collaboration is being recognized as contributing positively to patient outcomes, as noted in both the 2007 article from Hammick, Freeth, Koppel, Reeves and Barr and the 2010 article from Schmied, Mills, Kruske, Kemp, Fowler and Homer. Of additional importance, the Schmied et al. (2010) article specifically noted one of the beliefs held by this researcher at the beginning of the study, "Collaboration requires knowledge of the roles and responsibilities of colleagues and skill in communicating effectively with a diverse range of professionals" (p. 3516). Schmied et al. (2010) also discussed the value of mutual respect and trust across the scope of healthcare professionals. Additionally, research presented in a 1987 article from Spencer, included results indicating that practitioners perceived interprofessional values positively.

With research supporting collaborative practice in the professional environment, it was not surprising that educators have been integrating curriculum designed to support the growth of interprofessional skills in health science students. In a 1987 article, Harbaugh, Casto and Burgess-Ellison presented ideas suggesting that when students participate in interprofessional courses they are more likely to recognize the value of

collaborative practice and will subsequently spend more time engaged in interprofessional collaboration when they are practicing after graduation. Harbaugh et al. (1987) also stated that students who participated in interprofessional educational activities tended to feel more engaged in their professions when they were practitioners. Additionally, value was given to interprofessional curriculum efforts in helping students learn to develop relationships within the professional context (Harbaugh et al., 1987).

In his 1987 publication, Spencer presented research showing a similar value for interprofessional courses in curriculum for students in a collegiate environment. In Spencer's (1987) work, some students participated in an interprofessional seminar that took place under supervision in a clinical setting. The research demonstrated that students who participated in interprofessional opportunities reported positive feelings toward future collaboration in the professional context and interprofessional education opportunities as part of continuing education efforts (Spencer, 1987). This was slightly different than the case-based interprofessional discussion subjects in this study participated in; the interview participants for this study were not working within the framework of actual patients in real-time context. Spencer's (1987) findings still provide meaningful context to the study at hand.

The Psychology of Collaboration

Because the intent of this work was not just to focus on students' abilities to collaborate interprofessionally, but rather to 'effectively' collaborate interprofessionally, it is important to reflect on which components should be present in effective collaborations. A variety of researchers have identified that exposure tended to generate better understanding and better understanding tended to generate an increase in respect

of, or respect for, the initial idea to which the subject was exposed (Bergom, Wright, Brown, & Brooks, 2011; Furlong &Wight, 2011; Knott, Mak, & Neill, 2013; Parker, Hall, & Kram, 2008). In their 2011 work, Bergom et al. discussed a collaborative approach utilized on the University of Michigan's campus called "hevruta" (p. 20). The approach required students to maintain a single partner across an academic experience; the expectation was that through these relationships students would gain a more personal understanding of their partners and subsequently a deeper academic experience overall (Bergom, et al., 2011). The authors found that not only were students growing in their understanding of content, but a level of trust grew out of the process that enabled a framework allowing for more meaningful discussions of differing beliefs or opinions (Bergom, et al., 2011). Along related lines, Knott et al. (2013) noted that students reported an increase in respect and sensitivity with regard to varying opinions of others after participating in curriculum designed to provide new knowledge and exposure to a variety of viewpoints. Furlong and Wight (2011) presented an argument for increasing critical awareness in the practice of multiple areas of allied healthcare. They identified that a "practitioner has to be willing, and also placed in a supportive milieu within which it is safe, to de-naturalise their own position" (Furlong & Wight, 2011, p. 50). This exposure and willingness to supportively engage in understanding the positions of others provided groundwork for more effective collaboration and professional success. For Parker et al., 2008), peer coaching and engagement on collaborative projects served as developmental tools for the student as a professional and as a person. They noted that a relational approach, rooted in collaboration, was critical for the learning process; their

assessment of an appropriate relational approach included providing context for work-related experiences (Parker, et al.)

Andragogy

Traditionally, when educators referred to the learning process, they used pedagogical concepts to frame their thoughts. While an appropriate framework when applied in the correct context, pedagogy is linked with concepts of learning designed to support the education of children (Browning, 1987; Knowles & Associates, 1984). As such, there are fundamental differences between the application of pedagogical principles and achieving the best possible outcomes for adult learners. In Browning's 1987 publication, he directly connected andragogical principles with the development and execution of interprofessional curriculum for adult learners. Browning's (1987) work strongly supported the integration of andragogy into the context of this particular study. To provide clarity on the relationship between andragogy and interprofessional education, a further exploration of the andragogical concepts is necessary.

Knowles and Associates (1984) presented a set of five assumptions about learners represented by the pedagogical model as well as by the andragogical approach. The assumptions presented in 1984 continued to be relevant nearly 25 years later when Merriam (2008) presented her chapter on adult learning in the 21st century as part of the discussion of adult learning theory contained in the larger text she edited. Knowles partnered with Holton and Swanson (2011) to revisit the adult learning concepts and assess their variance from pedagogical principles. To help separate the ideas of andragogical framework from those of pedagogical framework, a discussion of those differences is presented. Additionally, to give them contextual weight in the current

approaches to adult education, supporting validation from Merriam's (2008) *Update on Adult Learning Theory* will also be integrated into the discussion.

Assumption One: The concept of the learner. In a pedagogical model, the learner is dependent on the teacher. As a result, the teacher should be driving the learning process and taking ownership of all learning-related decisions (Knowles & Associates, 1984; Knowles et al., 2011). Counter to that, the andragogical model identifies a self-directed learner who has vested interest in the process of learning itself (Knowles & Associates, 1984). This represents a situation in which the adult learner most effectively engages in the learning process when s/he contributes to the direction of curriculum and content.

In a situation like the case-based discussions experienced by the research subjects in the current study, the adult learner had an opportunity to guide conversation and look for opportunities to apply individual experiences or knowledge to the larger discussion. This approach supported the andragogical assumption that adult learners bring a desire for contribution to overall direction when they walk into a classroom. Merriam's (2008) work identified that not only the concept of the learner, but also the contextual background the individual brought to the process could impact the degree to which the learner absorbed, and later applied, content. Understanding cultural framework and perceived social norms the research subjects (and their peers) felt about the practices of health care professionals at the course's onset allowed the discussion facilitators to take their support of the participants to the next level (Merriam, 2008).

Assumption Two: The previous experience of the learner. In a pedagogical model, learners are presumed to have little or no experience to contribute to the learning

of particular material. Instead, the experiences of a teacher or those identified in a textbook are utilized as the mechanism for transmitting knowledge regarding a particular subject (Knowles & Associates, 1984; Knowles et al., 2011). In context, andragogy assumes that learners bring a vast array of experiences to the learning experience, both from the longevity of life and from the variety of individual experiences a person might have (Knowles & Associates, 1984). This allows adult learners to serve as resources to each other during the transference of knowledge. In Merriam's (2008) work, she discussed the physiological process of learning and identified that part of the brain's method of storing new information involved working to connect the new experience with previous ones.

Additionally, an approach rooted in knowledge the learner brings to the process shifts the role of the instructor from 'teacher' to 'facilitator' – guidance or direction may be given to shape the conversation or redirect if needed, but the delivery of relevant content is not solely a responsibility of the instructor (Knowles & Associates, 1984; Knowles et al., 2011). Again, when considering the use of case-based discussions, the subjects in this study experienced an environment more reflective of andragogical frame work. The discussion groups had a faculty member who was able guide dialogue and reinterpret material if necessary, but the participants were fully able to bring their own previous knowledge and experiences to the activity.

Assumption Three: The learner's readiness to learn. When using pedagogical ideals, the third assumption is that a learner comes to the experience ready to learn what is necessary for progression. There is not likely an investment on the part of the learner in the concept of learning for the altruistic purpose of gaining knowledge or personal

development; learning is merely a function of ‘growing up’ or going through the motions based on social and societal expectations (Knowles & Associates, 1984; Knowles et al., 2011). Andragogy, on the other hand, brings an assumption that learners value the act of learning differently. For Knowles and Associates (1984), adult learners related and applied knowledge more directly to their own lives. Adults sought information they could integrate into better performance in some aspect of their lives. Merriam (2008) wrote about the phenomenon of learning as "“multidimensional” (p. 94) and her assessment of adult learners included the sense that they came to the process seeking more than just a basic cognitive experience.

The case-based interprofessional discussions in which the subjects of this study participated allowed the adult learners to not only understand the roles of peer professionals in the health care profession, but also to glean knowledge they could take directly to their practice environment and implement. The use of this approach supported the andragogical assumption about the readiness of these adults to learn during the experience.

Assumption Four: The learner’s orientation to the learning process. For a pedagogical approach, the assumption is made that a learner will most effectively move through curriculum set up in a logical series of sections or units that build upon each other and move smoothly through content (Knowles & Associates, 1984; Knowles et al., 2011). This approach is structured in such a way that content revolves around one particular subject until that content is exhausted, and then a new subject is introduced. An andragogical approach will move through material differently. For an adult learner, the need for knowledge about a subject is typically related to need for application in a

particular situation (Knowles & Associates, 1984). As such, the nature of an effective course may be structured in a way that allows adults to bring relevant topics to the discussion and seek input from fellow learners, or the course facilitator, about the topic as they see it applying in their own situation. Support for the andragogical response to this assumption comes from Merriam's (2008) ideas about integrating creativity into the instructional approach. Cutting ties to traditional methods, when possible, has the capacity to enable the facilitator in a learning experience to maximize the experience for an adult learner who brings a unique collection of experiences and contextual confines to the learning process (Merriam, 2008).

The case-based discussions in this study allowed for some variance in the content. A student could, for example, bring new symptoms to the discussion that s/he had recently encountered to ask the group how that might change the team's approach to achieving the best possible outcome for the patient. However, the initial cases designed for each discussion were pre-selected by course coordinators. This approach was taken to accommodate the overall number of students involved in the course and the training of the discussion facilitators. That said, it was not the most andragogically sound approach with regards to this particular andragogical assumption. To more fully align with the ideas of Knowles and Associates (1984), the disease states for the cases would not be predetermined and participants would have freedom to bring cases from their own experiences to the discussion sessions.

Assumption Five: The learner's motivation to learn. For learners moving through a pedagogical model, the assumption is that motivations to learn are tied to external concepts (Knowles & Associates, 1984; Knowles et al., 2011). For example, the

drive to learn in an elementary school student may be rooted in concern about what would happen if failure occurred; or perhaps a high school student is invested in learning specific material to enhance opportunities for collegiate acceptance. This assumption places little, if any, weight on a young student's interest in a topic just for the sake of learning. Adult learners, however, are assumed to be driven by sources of internal motivation. Knowles and Associates (1984) noted that potential motivators include "self-esteem, recognition, better quality of life, greater self-confidence, [and] self-actualization" (p.12). The authors did include acknowledgement that adults may also be impacted by external motivators, most particularly related to increased professional opportunities or better compensation for performance. Merriam's (2008) evaluation discussed the process of learning as making meaning of information and recognized that the most meaning would result when participants in the learning process had a sense of how the content would impact future roles and responsibilities they valued.

The case-based discussions in this study were part of a graded course tied to the participant's degree program, so it was logical to assume the participants were experiencing some external motivation for engagement. However, students who progressed all the way to the third year of a professional degree program were likely driven by internal motivators, like increased self-confidence for times when they would be responsible for ensuring efforts for providing optimal patient care were appropriately implemented (Gansemer-Topf, Ross & Johnson, 2006; Hoffman & Harnish, 2007; Weidman, Twale, & Stein, 2001). So it would seem the design of case-based discussion allowed for appeal to both the students' internal and external motivators.

Program design for adult learners. Along with utilizing the assumptions of andragogy's framework to validate the use of the case-based discussion forum in which the research subjects participated, the principles of andragogy can help provide context for the anticipated larger impact of the discussions the research subjects engaged in during the academic year. As presented by Maehl (2000), the principles of andragogy established by Knowles and Associates (1984) included the integration of a few key concepts for all programs intended to support adult learners. With an altruistic andragogical approach, the belief was that adult learners will most successfully absorb and subsequently apply knowledge from the experience.

The first concept presented was the idea that a program designed to support the adult learning process had a climate that was "friendly" (p.78) on multiple levels (Maehl, 2000). This would encompass more than just the physical space for the learning activity. Part of Maehl's (2000) ideal climate for adult learners was related to the psychological component; whether or not the adult learner felt a sense of respect from the other learners in the process and whether or not his/her experiences were valued as contributing to the dialogue. To help establish the supportive nature Maehl would deem appropriate, faculty discussion leaders were trained on guiding the conversation and managing stronger personalities if the dialogue got railroaded. This approach allowed all voices the opportunity to contribute during discussion and subsequently established value for the various experiences students were bringing to the table (a key component of Maehl's third concept).

The second concept Maehl (2000) presented with regard to developing a successful program for adult learners related to the learner's contribution to the

experience and learning outcomes. Unfortunately, there was little room in the design of the course in which the research subjects participated for this to take place. The expectation was that all small groups were given the same case information to assess and discuss. Therefore, it was possible for participants to integrate questions along the way to enhance their own learning. This could include adding a particular symptom to the patient's identified disease state or changing the patient's age or integrating other medications into the patient's existing disease-state management protocol. A choice along these lines for any of the participants possibly would have shifted the direction of the discussion and allowed the participants to glean additional knowledge they may have been looking to integrate into their own personal roles outside the classroom. So in a small way, Maehl's (2000) idea was present, but the overall objectives of the course and the major components of the curricular content were established for the entire course long before the first day of class for the students.

In his third characteristic of appropriate programming for adult learners, Maehl (2000) referenced a need for adaptability throughout the learning experience. Adaptations needed to be made to validate the previous experiences of the learner as the course began and needed to be continuously made as the learner experienced new things in between sessions of the course. Additionally, the facilitator should be prepared to provide appropriate positive reinforcement of participants and feedback throughout the process to acknowledge helpful contributions made by the learners (Maehl, 2000). In the case-based discussion group, the facilitators were somewhat bound by curricular expectations and identified course objectives; however within the context of the discussion carried out by the specific group, there were opportunities for learners to integrate external experiences

into the discussion, if said learners felt comfortable shifting the dialogue based on their own desires. That level of comfort for the learners was likely directly related to how well the facilitator framed the experience and successfully established Maehl's (2000) other two criteria for successful adult programming.

Andragogy in professional education. In their book, Knowles and Associates (1984) identified that picking a specific career was one of life's most adult decisions and as a result, it was imperative that individuals pursuing professional degrees as part of that decision must be supported in their efforts through an andragogical framework. The work of Neufeld and Barrows (n.d.), as presented in the Knowles and Associates (1984) text represented the integration of andragogy in heath science education as they discussed the curriculum and philosophy of McMaster University's medical education program. Philosophically, it was logical to strive to produce lifelong learners in the health science fields given the ever-changing developments associated with patient care. A degree's value was potentially negated by research revolutions or new information regarding the cultural makeup of the population being served. For health care professionals to remain on the progressive front of the field, it was necessary that they completed their formal education with the desire to constantly pursue additional education throughout their careers. And, though revolutionary curriculum was established in the early 1980s, the efforts the administration and faculty made to support the learning process for the institution's adult learners reflected the concepts Merriam (2008) identified as necessary for adult learning in the 21st century.

When looking at the scenario presented by Knowles and Associates (1984) concerning Neufeld and Barrows, the roots of the program were clearly andragogical in

nature. What is interesting about this degree program was that the faculty behind its development did not necessarily set out to develop an altruistic andragogy degree program. They developed the program with the intent to support adult learners in the pursuit of medical degrees; structured choices were made based on the combined experiences and observations of the individuals redesigning the curriculum (Knowles & Associates, 1984). The authors of the chapter openly recognized that individually the concepts of the career program were by no means revolutionary. Rather, it was the combination of self-directed learning, problem-based learning, and small-group learning that demonstrated an innovative approach to providing appropriate learning experiences for adult learners pursuing professional degrees (Knowles & Associates, 1984).

In the McMaster model, the learner was assumed to be self-motivated and responsible enough to take ownership of the professional trajectory associated with seeking a medical degree (Knowles & Associates, 1984). This had the capacity to present a bit of a contrast for some of the students involved in the research. While they were all nearing the end of a professional degree program, for students who entered the institution immediately after high school it was possible that they were finishing the degree program more to cover the debt they had accrued, rather than because they were still passionate about the particular practice of pharmacy. This particular issue was not addressed through the interview questions used, but was a possible challenge with the transference of some results. On the other hand, the students who were part of the transfer population and selected the institution for the particular degree, similar to the process of aspiring medical students, would be more likely to align with the McMaster model of self-motivation and overall perceived maturity. Again, the assumption was not that ‘all’ traditional students

were not self-motivated or that ‘all’ transfer students were self-motivated; the point was to acknowledge there could be some variance based on the two different student populations represented in the overall research subject pool.

Student Development

One component of student development that played into this study was the role of student affairs professionals in the student experience. In 2005, Kuh, Kinzie, Schuh, Whitt, and Associates presented a text filled with arguments for maximizing the college experience for students in an effort to enhance student outcomes. The role of institutional staff members dedicated to the entirety of the student experience was enhanced when considering the importance of exposure to non-pharmacy peers for students at a pharmacy-only institution. In his 2001 work, Sandeen highlighted the importance of courage in a student affairs professional, because these were the professionals who were responsible for challenging the status quo and who often served as the impetus for change. The results of this study presented opportunities for student affairs professionals to progressively engage the students at a pharmacy-only institution in the name of a well-rounded student experience that had the capacity to impact patient outcomes.

Additionally, this section strives to review a few different student development theories relevant to the study. Prior to discussing each theory, it is important to identify what exactly was meant by ‘student development’. As noted in Evans, Forney and Guido-DiBrito (1998) researchers spent nearly 50 years describing, defining, and redefining student development. For the purposes of this document, student development will refer to the intellectual growth, the affective changes, and the behavioral changes that occurred for students during the collegiate experience. Therefore, the theories discussed strive to

assess these components of a student's experience and provide framework for a student's movement through an academic arena. The theories selected had definitive portions that provided a strong connection to the experiences of the pharmacy students during the course of the interprofessional experience being studied through this research.

Schlossberg's Transition Theory. One of the greatest contributions Schlossberg (Schlossberg, Lynch, & Chickering, 1989; Schlossberg, Waters, & Goodman, 1995; Schlossberg, & Robinson, 1996) made to the field of student development theory was bringing to attention the idea that theories of adult development (which is how her Transition Theory is typically categorized) and theories of student development are not mutually exclusive (Chickering & Schlossberg, 1995; Schlossberg, Lynch, & Chickering, 1989; Schlossberg, & Robinson, 1996; Schlossberg, Waters, & Goodman, 1995). Schlossberg's works push professionals to look at the impact of transition regardless of a student's age or his/her status as a traditional or non-traditional student (Evans et al., 1998). As part of the 1995 *Counseling Adults in Transition* developed by Schlossberg et al., the definition of transition was established as, "any event, or non-event, that results in changed relationships, routines, assumptions and roles" (p.27). In that same work, the authors identified the importance of an individual subscribing meaning to the experience; if a change occurred without the individual attaching much significance to the event, then the event was not a transition within this theoretical frame work (Evans et al., 1998). This concept will be important during the discussions in Chapter Five as results of student reflections on the course of study are analyzed.

Along with the importance of an individual subscribing meaning to an event to be classified as a transition for the individual, Schlossberg and Robinson (1996) discussed

the importance of the three types of transitions that existed within the theory's framework. The first type of transition was an anticipated transition. This transition is something that would occur as expected by the individual; a predictable event with an existing expectation of occurrence (Evans et al., 1998; Schlossberg & Robinson, 1996). An example of an anticipated transition would be a teenager getting his or her driver's license.

The second type of transition was an unanticipated transition. This type of transition related to something that occurs seemingly 'out of the blue' or with no anticipation by the individual. This event is not in correlation with a schedule or associated with any sense of predictability (Evans et al., 1998: Schlossberg & Robinson, 1996). An example of an unanticipated transition would be experiencing substantial loss in the wake of a natural disaster.

The third type of transition discussed as part of Transition Theory was a nonevent. This is an event the individual expects to occur, but either the circumstances are not right or the context leading up to the event changes; a scheduled event that is part of the individual's 'plan' that does not end up occurring (Evans et al., 1998; Schlossberg & Robinson, 1996). An example of a nonevent would be if an individual was slated to get married, but then that individual's fiancé did not show up on the day of the wedding. It is important to note that a nonevent must be related to something the individual knew was likely to happen in order to qualify as a transition (Schlossberg & Robinson, 1996). If an individual buys a lottery ticket and does not win, that event would not fall into the nonevent category because the expectation of winning would have been minimal at best.

Another key differentiation to make regarding the various transitions discussed above is that the meaning an individual may assign to a particular transition or the specific categorization of that transitional event would be relative and vary from one individual to the next (Evans et al., 1998). As such, transition theory discusses not only the types of transitions, but also the transition process and its impact on an individual.

When looking at the transition process, the easiest mnemonic is to recognize the '4 S's' that Schlossberg et al. (1995) used to structure their assessment of the process. For Schlossberg et al. (1995), the first 'S' was situation and pertained to a wide variety of factors as they might impact an individual. This list ranged from the trigger and timing of an event to the individual's stress level based on circumstances outside the event. The second 'S' was self, and this piece is actually structured into two additional categories: personal characteristics and demographic characteristics (Evans et al., 1998). These characteristics are regarded as having an effect on an individual's view of life. The third 'S' presented by Schlossberg et al. (1995) was support; it is constructed of three components for some researchers and four categories for others. For those in the 'three' camp, the components of support were: types, functions, and measurements (Evans et al., 1998). For those in the 'four' camp, the components of social support were: intimate relationships, family units, networks of friends, and institutions and communities (Evans et al., 1998). The final 'S' that Schlossberg et al. (1995) identified was strategies and relates to the concept of coping responses presented by earlier work of Pearlin and Schooler (1978), as cited in Evans et al. (1998). According to Evans et al. (1998), the concepts Pearlin and Schooler (1978) discussed can be diluted into three categories of

coping: “those that modify the situation, those that control the meaning of the problem, and those that aid in managing the stress in the aftermath” (p.114).

After establishing an understanding of the ‘4 S’s’, a greater value for Schlossberg’s theory begins to emerge. When an individual experiences an event or a nonevent, according to transition theory change in some capacity results (Evans et al., 1998; Schlossberg et al., 1995; Schlossberg & Robinson, 1996). A person’s ability to deal with change, regardless of the type of transitional experience, will develop and will impact that individual’s response to the moving in, moving through, and moving out phases of a transition (Evans et al., 1998). Various pieces impact an individual’s ability to progress in a healthy fashion and transition theory can be integrated into a variety of counseling models to guide the transition process and assess an individual’s response to the current transition, as well as future occurrences of transition (Evans et al., 1998).

In 1989, Schlossberg joined with Lynch and Chickering to develop clear applications of transition theory in areas of higher education. In 1995, Schlossberg partnered with Waters and Goodman to present ideas related to transition theory and the development of workshop development for adults. Both collaborations resulted in reminders that application of transition theory was not only possible in relation to the collegiate experience, it was a relevant approach to assessing and supporting the student experience regardless of the student’s age or prior experiences (Evans et al., 1998). Publications from Schlossberg’s various collaborations supporting the integration of transition theory at institutions of higher education include: *Improving Higher Education Environments for Adults* (from Schlossberg’s 1989 collaboration with Lynch and Chickering) and *How to Get the Most out of College* (from a separate collaboration

between Schlossberg and Chickering in 1995). These publications documented the need for supportive approaches and services on a campus in preparation for student transitions throughout their experiences. Additionally, these publications made an effort to identify the applicability of the theory's concepts regardless of a student's age (Evans et al. 1998).

As presented in Love and Guthrie (1999), Kegan's Orders of Consciousness seemed to align with principles presented by Schlossberg et al. (1989) related to the need for supporting students through the collegiate experience and the challenges or transitions that may occur along the way. Similarities come in how both theoretical concepts individualize and assess a student's effort to make meaning out of the pieces making up an event or transition (Love & Guthrie, 1999; Evans et al., 1998; Schlossberg et al., 1995; Schlossberg & Robinson, 1996). A key differentiating factor for the two theoretical frameworks comes from Kegan's focus on not only assessing a student's assignment of meaning at a current state, but also supporting development of a student's ability to move forward to the next 'level' or 'higher order' of consciousness (Love & Guthrie, 1999). In her discussions of transitional theory, both singly and in collaboration with others, Schlossberg's attention was not on any form of 'progressing' an individual to a particular level or stage, but rather understanding the context for the current approach to assigning meaning and supporting the individual in that moment/framework.

For students in a pharmacy degree program, there was an anticipated event most could expect to occur upon graduation: as pharmacists they would need to collaborate with other health care professionals while striving for optimal patient outcomes. This expectation could be identified through some of the required coursework and rotational experiences identified in the Accreditation Standards for Colleges of Pharmacy (ACPE,

2011). Additional support for this anticipated event comes from a May 2011 report entitled “Core Competencies for Interprofessional Collaborative Practice: Report of an Expert Panel.” This report was developed through sponsorship from Interprofessional Education Collaborative (IPEC), an entity sponsored by the American Association of Colleges of Nursing, American Association of Colleges of Osteopathic Medicine, American Association of Colleges of Pharmacy, American Dental Education Association, Association of American Medical Colleges, and Association of Schools of Public Health. Collectively, these documents point toward a very intentional interprofessional approach to health care now and in the future.

Pharmacy students have been exposed to a variety of discussions regarding collaboration and interprofessionalism in the scope of health care throughout their time seeking a pharmacy doctorate. For some students at the institution for this study, the exposure to curriculum did not expose them to peer students in the health professions until participation in the course being used to guide this study; those were the traditional students on the college’s campus. Those who were non-traditional or transfer students had presumably interacted with peers during the pursuit of associate or bachelor degrees prior to arriving on campus. Therefore, it was still possible that students who fall into the non-traditional/transfer category had not collaborated with others pursuing careers in one of the health sciences.

Schlossberg’s (1995) transitional theory, and its iterations over the years, helped identify how students in the “Introductory Practice Experience: Interprofessional Patient Care” (IPE) course might respond to the required small-group case discussions with students representing a variety of degree programs related to the health sciences. The

individualized nature of transition theory and its concepts contributed to assessing the change in participants of a qualitative study such as this one (Maxwell, 2005). Through Schlossberg's framework, it was possible to consider and assess the subjects' processes of coping with interprofessional collaboration prior to the group case work, and then again after the completion of the six sessions during the academic year (Chickering & Schlossberg, 1995; Schlossberg et al., 1989; Schlossberg et al., 1995; Schlossberg & Robinson, 1996). A further exploration of this assessment can be found as part of the discussion presented in Chapter Five.

Additionally, Schlossberg et al.'s (1995) work helped present understanding about a pharmacy student's choice to enter future opportunities with professionals across the health care profession, based partially on whether or not the students felt connected and engaged in the group's discussions. Braxton's chapter on Student Success in the 2003 *Student Services: A Handbook for the Profession* (edited by Komives, Woodard, Jr., and Associates) presented a similar application of Schlossberg's work as it related to overall student persistence in the collegiate experience. He identified that Schlossberg's work revolved around a student's sense of belonging, especially in environments with new or unclear roles and expectations (Komives et al., 2003). For pharmacy students engaging in interprofessional case discussions, it was possible that others participating in the discussion could directly impact how that individual would engage in future collaborative practices. The chapter Roberts (2003) contributed to the same handbook compiled by Komives et al. (2003) presented concepts of community building and related them to Schlossberg's work on an individual's sense of belonging. Roberts (2003) identified that

individuals made decisions about future affiliations based on their experiences and the subsequent feelings of mattering and/or marginality (Komives et al., 2003).

It is worth noting that Love and Guthrie (1999) presented a differentiation for the process through which women experience and move through transitions. The nature of this study was one of establishing a baseline assessment for future work and the question of gender was not a factor documented or deemed necessary to evaluate a student's changing perceptions and perspectives. This resulted in an intentional choice to stay within the context of Schlossberg's work without further exploring the gender differentiation piece at the time. Additionally, Love and Guthrie (1999) presented the role of culture in the transition process. Again, with the intent of gaining an initial understanding of the student's experience, specific questions of culture were not explored during this initial research.

Kolb's Theory of Experiential Learning. With his complex ideas about style differences and belief of the impact understanding them could have on providing appropriate forms of challenge and support during the collegiate experience, Kolb's (1985) theory of experiential learning began impacting higher education upon its initial arrival in the mid-1970s, as noted by King (2003) in her chapter included in Komives et al.'s (2003) text, with a stronger reemergence in the early 1980s (Evans et al., 1998). After initial presentation of his ideas, Kolb presented a deeper look into the conceptual framework he had established and subsequently published his first stand-alone book, *Experiential Learning: Experience as the Source of Learning and Development* in 1984. Kolb's attention to the learning process and the importance he placed on individual outcomes based on tailored approaches to learning led to discussion of his theoretical

concepts at institutions of higher education looking to revolutionize curriculum and maximize student outcomes (Evans et al., 1998; Komives et al., 2003). A discussion of the stages of the learning cycle associated with Kolb's (1985) theory, the bridge between learning and development for students, and the application of this theory to the experiences of students participating in a pharmacy degree program is included in this dissertation.

In his 1981 chapter, Kolb described the process of learning as a four-stage cycle; he affirmed and refined this description in his subsequent publications (as cited in Evans et al., 1998). As presented by Evans et al. (1998), the four stages were identified as: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC) and active experimentation (AE). Evans et al. (1998) also noted that Kolb's (1985) identification of the four segments as 'stages' was a bit off; their preferred identifier was 'cycle' since the theory was rooted in movement through a series of steps, rather than a set of developmental stages.

At the cycle's core, it became evident that learners must have the capability to move in and out of each cycle, allowing for adaptation depending on the context of the learning situation (Evans et al., 1998; Komives et al., 2003). Because the pieces of the cycle build upon each other, a learner must first be able to complete, engage in a concrete learning experience, and absorb the experience for what it is, without personal bias or judgment. Theoretically, only then can a learner move to the next portion of the cycle and analyze an experience from a variety of perspectives (including, but not limited by, his or her own). The observance of various perspectives through reflection prepares the learner to create tailored theoretical concepts of his or her own, after which the learner can apply

his or her own theories when addressing issues, facing challenges or making decisions. Individuals move through each portion of the cycle in different ways and with varying levels of comfort (Evans et al., 1998; Komives et al., 2003). This reality led to the development of the next piece of Kolb's (1985) theory.

While the cycle itself could be a stand-alone component, Kolb (1985) developed a learning style model supported by the four cycles, along with an individual learner's preference for one approach over another. Evans et al. (1998) provided a table in which the CE piece is identified as the feeling component, the RO piece is identified as the watching component, the AC piece is identified as the thinking component, and the AE piece is identified as the doing piece. Because the concepts associated with the act of feeling are the polar opposite of those associated with thinking, these two pieces of the cycle appeared at opposite ends of the x-axis; similarly, doing and watching are the expression of two completely different behavioral choices, so they appeared at opposite ends of the y-axis (Evans et al., 1998). Each quadrant, identified by stronger comfort executing, or consistent demonstration of two of the four cyclical stages gets named and described in further detail, to enable Kolb's (1985) theory to be more applicable across the scope of higher education and student experiences (Evans et al., 1998; Komives et al., 2003).

In Kolb's (1985) learning style model, a learner with strengths as a problem solver and a definitive decision maker was identified as a Converger. This type of individual was likely very practical in nature and typically paired deductive reasoning with identifying the 'best' answer (Evans et al., 1998). These learners used abstract conceptualization in combination with active experimentation to guide their work

(Komives et al., 2003). They were not interested in the feelings or values brought to the table by others and had no desire to watch others move through the experimental process (Evans et al., 1998). With these characteristics, it was common that learners in the Converger category were pursuing degrees in either physical science or engineering fields.

The next learning style discussed reflects an individual on the opposite end of the spectrum. When an individual's approach to learning is stronger in areas of concrete experiences and reflective observations, the learner is exhibiting a style referred to as being a Diverger (Evans et al, 1998; Kolb, 1985; Komives et al., 2003). This style represented a learner who was imaginative and consistently showed an interest in others' feelings. These learners were perspective takers and showed strength in an ability to offer various options for a particular issue. Academically speaking, Evans et al. (1998) noted students in humanities and liberal arts degree programs were likely to fall into this category.

Falling between Converger and Diverger within Kolb's (1985) learning style model is an Assimilator (Evans et al., 1998; Komives et al., 2003). Like Convergers, those exhibiting an assimilator learning style valued thinking and the role of abstract conceptualization as part of the decision-making process; like Divergers, however, these learners would rather observe and process ideas than quickly execute decisions (Evans et al., 1998). As noted by King (2003), these learners preferred to develop theoretical frameworks through which ideas were tested and data analyzed (Komives et al., 2003). Assimilators were commonly found pursuing degrees in basic sciences or mathematics (Evans et al., 1998).

Also falling between the Converger and Diverger, but appearing opposite the assimilator was the final category on Kolb's learning style model. This category represents an individual who gets stuff done more directly than the other categories and is referred to as an Accommodator (Evans et al., 1998). As action-oriented learners, these individuals were open to change or new concepts and demonstrated strength in adapting. Like the Divergers, accommodators fell on the 'feeling' side of things; like the Converger, these learners prefer hands-on learning and a more 'trial-and-error' approach to gaining knowledge and understanding (Evans et al., 1998; Komives et al., 2003). As individuals who were adept at influencing others, business majors and entrepreneurs were likely to be the ones on a college campus who most consistently exhibited the accommodator learning style (Evans et al., 1998).

In 1986, Kolb partnered with Smith to present learning situations that played to the various strengths of each piece in the learning cycle (Smith & Kolb, 1986). About a decade later, in 1995, Kolb partnered with Rainey to further develop this concept and identify learning environments related to each of the four segments of Kolb's original cycle of learning (Rainey & Kolb, 1995). These learning environments are defined by six categories including the purpose of the knowledge acquisition, the role of the instructor, and the activities through which knowledge is gained (Komives et al., 2003; Rainey & Kolb, 1995). An individual's responses to the various learning environments can ultimately impact the developmental outcomes generated from the learner experience (Evans et al., 1998; Komives et al., 2003; Rainey & Kolb, 1995).

The four learning environments are: Behaviorally Oriented, Cognitively Oriented, Perceptionally Oriented, and Affectively Oriented (Komives et al., 2003). While all four

learning environments have their own importance, the interprofessional interactions evaluated by this study are rooted in the application of existing knowledge to a particular patient case. A simulation of this nature would fall into Rainey and Kolb's (1995) 'Behaviorally Oriented' learning environment. This learning environment most successfully supported learners who found comfort in the active experimentation phase of the cycle (Komives et al., 2003; Rainey & Kolb, 1995). This can cause challenges for students in pharmacy degree programs, depending on the scientific area they most associate with in the curriculum; chemistry being more of a physical science, and biology being more of a basic science (Komives et al.,; Rainey & Kolb). There is an outlying factor of a transfer student who pursued a degree in a somewhat unrelated field but also completed the necessary prerequisites to attend pharmacy school. While this latter category is a possibility, the likelihood was small enough that this research (seeking to establish a more generic, baseline understanding) did not spend energy reflecting on learning environments for this study population.

As noted, assimilators are usually students pursing basic sciences or mathematic degrees. With the field of basic sciences typically involving biology coursework, it was likely that a number of pharmacy students fell into the assimilator category. As stated, assimilators are more comfortable in the 'watching' and 'thinking' categories. These learners would be more comfortable in either the 'Perceptionally Oriented' or 'Cognitively Oriented' learning environments; the particular environment that would allowed for maximum knowledge acquisition would be driven by whether the learning exhibited more of the 'watching' or more of the 'thinking' during a problem solving process (Evans et al., 1998; Komives et al., 2003; Rainey & Kolb, 1995). The result of an

assimilator in a ‘Behaviorally Oriented’ learning environment is a student participating in a structured interprofessional experience that may not have the overall desired outcome or long-term effect. Additionally, pharmacy students who subscribed to the assimilator learning style may end up less likely to subscribe large-scale meaning to the value of interprofessionalism or a collaborative approach to health care when pursuing optimal patient outcomes.

Pharmacy students who are drawn to the physical science courses in the curriculum, including physics and chemistry, are likely to fall into the accommodator learning style. As such, they would be likely to exhibit strength in both the ‘feeling’ and ‘doing’ behaviors (Evans et al., 1998; Komives et al., 2003). These students were likely to find easy and professional enjoyment out of an activity, like the patient case discussion with peer students from other health science degree programs. Additionally, for these students the long-term effect of the case study exercise may have more of an impact as they appreciate its application to their anticipated practice. It was a logical deduction that the concepts of interprofessionalism the students develop through the experience were greater in depth and value than that of their assimilator counterparts.

As Evans et al. (1998) presented, Kolb’s (1985) theory demonstrated a perspective through which “education in an academic discipline represents for the individual student a process of socialization to the norms in that field” (p. 213). For pharmacy students, this can create conflict if the mechanism for learning either fails to represent appropriate social norms or if the learning environment does not fully support the learning styles reflected in the student population. Chapter Five will discuss the impact of this quagmire on developing pharmacy curriculum, most particularly as it

related to interprofessional programming for students at an institution providing only pharmacy degrees.

While presenting the challenge of a learning activity that is counterintuitive for a presumed subset of pharmacy students, it is also important to note that like so many other theories, subscribing too intently to one learning style can have negative ramifications (Evans et al., 1998; Komives et al., 2003). Kolb (1985) presented a belief that no learner should function solely in one particular learning style category, and that variety of programming can help support an individual learner's ability to subscribe meaning and value regardless of the activity supporting the knowledge acquisition (Evans et al., 1998).

Perry's Theory of Intellectual and Ethical Development. In the late 1960s, Perry (n.d., as cited in Love & Guthrie, 1999) began a potential theoretical revolution with his initial discussions about a new cognitive theory applied to adults, particularly college students. His work drew attention and criticism, subsequently leading to Magolda's (n.d., as cited in Love & Guthrie, 1999) development of the Epistemological Reflection model, Knefelkamp and Widick's (n.d., as cited in Love & Guthrie, 1999) creation of the Developmental Instruction model, among other developmental models used to assess and interpret behaviors of adult learners on campuses around the globe (Evans et al., 1998; Love & Guthrie, 1999). And, though Perry's work may have seemed old to some, it was far from outdated. Nearly 50 years later, it was rare for dialogue about the cognitive development of college students or research assessing such development to occur without first orienting the discussion to Perry's work (Love & Guthrie, 1999). For the purpose of application to this particular study, the focus of this discussion section will be on review of Perry's theoretical positions and looking at the potential implications of

these positions on participants in the study at hand. First, a brief orientation to Perry's work.

An important starting point for understanding Perry's work was the recognition that he drew, sometimes directly and sometimes indirectly, from the accomplishments and internationally recognized work of Piaget (Evans et al., 1998; Love & Guthrie, 1999). Perry's efforts were rooted in assessing the movement of adults through cognitive development, and Piaget's work spanned though mid-adolescence. The two, though not directly integrated, seem to work in harmony on some aspects and provide almost a life-long scope for the learner (Love & Guthrie, 1999). Perry's analysis of his subject's interview responses over the course of their collegiate experience led to the development of categories identifying how adults made meaning of the information around them. He consistently noted that the categories, or positions, were fixed, but the learners movement between the structured perspectives was where the cognitive growth occurred, which was of much greater interest (Evans et al., 1998). Additionally, unlike Piaget's work, Perry did not necessarily assign age constraints to his positions; a collection of external experiences could directly contribute to progression or movement from one position to another. With all this in mind, the next few sections will look at Perry's positions through the lens of pharmacy students and the particular case-based discussion activity involved in this study.

The first position noted in Perry's work was that of Basic Duality. For learners viewing the world from this position, all questions had an answer leading to a perspective of right or wrong. These learners looked to authority figures for definitive knowledge on all subjects and assumed the learning process to be primarily about memorizing what was

right (Evans et al., 1998; Love & Guthrie, 1999). The role of the learner in this position was tied to conformity and listening to presentation of truth from instructors. While Perry did not necessarily depend on age when evaluating student transitions from one stage to another, he did note that none of the subjects he studied operated from the position of Basic Duality at the end of their first year of collegiate education (Love & Guthrie, 1999). As a result of this first year note, it was safe to assume that all students participating in the study at hand, whether traditional or transfer, had moved past an expectation of right and wrong solutions to the cases presented prior to participating in the course.

Perry's second and third positions, as well as the initial portion of his fourth position, were connected to an idea of multiplicity. They were labeled Multiplicity Pre-legitimate, Multiplicity Legitimate but Subordinate, and Multiplicity Coordinate, respectively (Evans et al., 1998; Love & Guthrie, 1999). For Perry, multiplicity related to a movement from singular meaning to a plurality of truths. In the early position of multiplicity, a learner might elect to separate areas of study into those with right answers, as typically in the hard sciences, and those in which variance in responses might be acceptable, the social sciences and humanities, for example. These learners also still looked to authority figures as the driving sources of correct responses (Evans et al., 1998; Love & Guthrie, 1999). For these learners, a case-based discussion presented a challenge when the faculty role was that of guiding the conversation, but not necessarily identifying solutions. Additionally, some cases utilized may have multiple correct options and the discussion may spin into an opinionated one about which of those options was 'ultimately right' for a particular patient. Given the nature of study represented during the cases,

which are a collection of hard science students with some representing social science, a student in this position may struggle to transfer knowledge from the case discussion to other scenarios if a collective right choice is not made by the group.

As a learner moves toward legitimizing multiple responses, s/he is also transitioning from the idea of education as learning how to learn correctly to the idea that education is about learning how to think critically and analyze (Evans et al., 1998; Love & Guthrie, 1999). Therefore, learners even in the Multiplicity Legitimate but Subordinate position accept variable responses primarily because they perceive the variance to be temporary; they operate with a belief that the eventual ultimate right answer will be established (Love & Guthrie, 1999). Additionally, for Multiplicity Legitimate but Subordinate learners, situations where a definitive truth cannot be agreed upon led to an acceptance that all parties involved were allowed an opinion on the topic instead (Love & Guthrie, 1999). This context led to a shift from rightness as the standard measure of assessment; learners looked for a sense of what the authority figure (teacher, boss, parent, etc.) in a situation wanted and worked to provide that (Evans et al., 1998; Love & Guthrie, 1999). Learners observing the world from this position might find appreciation in the discussion-based approach of learning, but may struggle with identifying which student or professional field represented the penultimate authority and thus knew the right solution when seeking an optimal patient outcome in a particular case.

Even in the final position of multiplicity, learners may still be grasping a dualistic mentality. For these individuals, responses to questions became an accepted hybrid of a right-wrong collection of knowledge and personal opinion (Love & Guthrie, 1999). Perry's fourth position had a different track as well, one of relativism labeled as

Relativism Subordinate (Evans et al., 1998). Learners positioned in a place of relativism had let go of a right-wrong concept and assessed information through a framework of better or worse (Evans et al., 1998; Love & Guthrie, 1999). For learners in the multiplicity context for position four, a case-based discussion would continue to offer frustration if a right choice was not established from a perceived authority on the specifics of the case analyzed. However, for learners in the relativism context for this position, it was possible for multiple choices to be right, but there would be a notion of varying degrees of right still leading to the likelihood of single best choice once enough information was gathered about a particular context and the contributing opinions were analyzed.

It is not until operating from position five, Relativism, that learners were fully capable of moving from a duality approach to a framework allowing for a mix of invalid opinions (a concept not exhibited in earlier positions) and an acceptance of disagreement rooted in support from various sources (Evans et al., 1998; Love & Guthrie, 1999). This position required individuals to contribute to the conversation with evidence and appropriate supporting arguments, giving knowledge a qualitative weight not previously allowed (Evans et al., 1998). Students viewing the worlds from position five would look for participants in the case-based discussions to come prepared with supporting materials related to their suggested decisions. In instances where participants noted they think something is the best approach, if data/recognized research was not paired with the presented idea, it was likely a learner would determine the contribution to be invalid. Additionally, position five of Perry's theory required a learner to embrace perspective taking as a component of critical analysis (Love & Guthrie, 1999). For students

participating in the study, if they were in position five, they may also have perceived fellow students involved in the discussion as equals to the faculty facilitator with regard to the ability to make quality judgments and valuable contributions to the overall decision regarding a specific case.

The final four positions associated with Perry's theory tended to draw the most critical responses with regard to applicability. All four were related to varying levels of a learner's commitment to Relativism. Perry himself spent little time dissecting these categories, especially in relation to the efforts made related to the first five positions (Evans et al., 1998; Love & Guthrie, 1999). These positions were where Perry's theory moved from cognitive development concepts to ethical development. Given the nature of this study and its lack of intent for ethical assessment, there was no need to discuss the latter part of Perry's theory or its application to participants in the study.

Given the nature of health care and the frequent reality that all choices can have degrees of better or worse associated with them, understanding how a learner might digest information in a case-based discussion can help categorize that learner's responses to the questions in the interview process. For example, if a learner perceived the world while transitioning from position four to position five, and someone else in the discussion did not present appropriate justification for a suggested choice, the learner may not value what that individual contributed (Evans et al., 1998; Love & Guthrie, 1999). Then, when asked in the interviews about the students pursing this field and/or the role of a particular heath care practitioner, the learner may subscribe less validity to the field the contributor represented in the discussion. For pharmacy students with little exposure to the other health science fields in a professional context prior to the final year of rotations, this

negative attribution may become a truth for all individuals in that profession. With the previously noted importance of interprofessional collaboration established on a global scale, the establishment of this truth may be detrimental to that pharmacy student when s/he begins practicing in an environment that expects a collaborative approach where validity of all fields is recognized.

Qualitative Research

This study is designed to be a springboard for a variety of studies for the researcher related to various components of interprofessional awareness for students in professional health science degree programs. After reviewing the qualitative research information presented in texts written by Fraenkel and Wallen (2009) and Maxwell (2005), it became clear that data collection through a qualitative approach would be a more effective way to establish a baseline understanding of the students' experiences. The overall intent of this study was to get a sense of the individual experiences of a selection of the population and look for overlap; qualitative research and the use of recorded interviews allowed the researcher to clearly identify the specific changes in a small collection of student perspectives (Fraenkel & Wallen, 2009; Maxwell, 2005). After completion of this project and the review of the various themes revealed, the research anticipates looking at future studies of similar student populations from both the qualitative perspective and a more transferable quantitative perspective (Fraenkel & Wallen, 2009; Maxwell, 2005).

Summary

As this chapter highlighted, the case-based discussion sessions and the outcomes of the research subjects are related to a wide variety of existing research. With the future

of higher education and the scope of the practice of pharmacy on the brink of new horizons, understanding how best students can be prepared for interprofessional experiences in the workplace will continue to be extremely important. Looking at the history of the pharmacy education process helps give context for where the field's efforts are at the time of this writing. Additionally, establishing a sense of interprofessional collaboration trends in the professional environment supports the need for this study and creates a segue for the implications of this study in Chapter Five. Identifying appropriate concepts for all adult learners enables the identification of opportunities to strengthen the curriculum in the future, as discussed in Chapter Five. Assessing the course setup and the potential growth/change for students through a variety of student development theory lenses allows for greater analysis of the results presented in Chapter Four and establishes parameters for the dialogue in Chapter Five. However, before getting to the results and the supportive analysis, it is important to understand the framework for the study itself. The method of research is presented in the next chapters and will identify how the data were collected.

Chapter Three: Methodology

After discovering a reflective article written by a student at an institution granting only pharmacy doctorate degrees, this study was created by the researcher to understand the impact structured interprofessional exposure would have on students in an otherwise homogenous peer environment. More specifically, the design for this study was intended to answer the question: "How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in the health science fields change after collaborative practice opportunities with students in those fields?" Students attending the same small, private, pharmacy-only institution were the subjects of the study at hand.

With so many research options available and an even greater number of opinions regarding the appropriate development of data collection tools, it was important to concretely understand the end result of the project. When evaluating available methods, the major driving factor was selecting a process that would enable the author to most effectively and reliably gain the details necessary to provide a distinct picture of the impact the intervention had on the perspectives of the students in their 3rd professional year of a pharmacy doctorate program. The information in this chapter is intended to provide both context and clarity for the particular design selected to complete the research in question and set up the discussion found in Chapter Five of this document. The primary framework of the methodology was driven by works assessing qualitative research presented in texts written by the team of Fraenkel and Wallen (2009) and Maxwell (2005). Additional guidance came from evaluating qualitative research methods used by other researchers in education. Direction for the development of the study

methodology was also provided by faculty well-versed in qualitative research methods, both at the publishing institution and the institution where the research took place.

Research Site

The research setting for this study was a small, private college established for educating pharmacists. The institution was one of the last in the country to eliminate its Bachelor of Science degree in pharmacy, and at the time of the research the only degree offered was a Doctorate of Pharmacy. The institution accepted traditional students entering with no previous higher education and transfer students, some with previously attained undergraduate degrees, into its six-year program. For traditional students, the third year of curriculum was known as the first professional year of study.

The intervention experience considered for this study was an activity offered as a part of one of the courses taught at the research site, “Introductory Practice Experience: Interprofessional Patient Care” (IPE), which was a one credit-hour required course for all students in the second professional year of the program. The purpose of the course was to expose students to principles of longitudinal and interprofessional patient care (Grice, 2012). This study was concerned with interprofessional principles. The activity that provided data for this study involved collaborative small groups of students enrolled in various health profession degree programs at a nearby institution to participate in collaborative case studies. This portion of the course was called “Interprofessional Team Seminar” or IPTS (Grice, 2012). Students were randomly assigned to small groups and supervised by faculty from the health care fields.

The data collection associated with this project took place on the home campus of the students being interviewed. This allowed for ease on the part of the interview

candidates, given their daily travel to the campus for program coursework. The institution was a small, free-standing Midwestern college of pharmacy; the only available degree for graduates is a pharmacy doctorate. At the time of the study, the institution was boasting an average cohort size of 225 students in the each of the four classes of students pursing the professional pharmacy degree.

This location also allowed for a stronger guarantee of secure data storage. The researcher was able to lock the data gathering mechanism and the appropriate consent waivers in a filing cabinet to which she had the only key. This helped ensure the confidentiality presented in both the waiver paperwork (Appendix A) and the recruitment script (Appendix B). As is noted in the Recruitment and Selection section of this chapter, the site was directly related to the use of convenience sampling (Fraenkel & Wallen, 2009).

Research Perspective

The research question around which the study was designed was, “How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in the health science fields change after collaborative practice opportunities with students in those fields?” The research study was conducted as a qualitative phenomenological study where the intent was to understand a change in perspectives as related to a particular phenomenon (Fraenkel & Wallen, 2009). In an effort to adjust/account for a common challenge that Fraenkel and Wallen (2009) noted can be associated with phenomenological studies, it was decided that a series of assessments would take place throughout the academic year, rather than upon completion of the intervention.

Integrating multiple assessments was intended to alleviate reporting issues from the interview participants struggling to recall particular opinions related to the particular phenomenon associated with the research (Fraenkel & Wallen, 2009). As the instrumentation section below describes, a series of interviews were conducted during the 2012-2013 academic year allowing for an authentic, in the moment response. When data was processed and participant responses assessed, the researcher was able to review the students' perceptions prior to, during, and after the completion of the intervention. The qualitative approach selected aligned with the choices others made to understand perspectives of students pursuing a degree in a health science field (Ashcroft & Hall, 2006; Drinkwater, Tully & Dornan, 2008; Harding & Taylor, 2005; Taylor & Harding, 2007).

Recruitment and Selection

The initial phase of participant recruitment occurred in August of 2012 during a mandatory orientation session for all students beginning the third professional year of the pharmacy program at the research study site. Because all students comprising the identified population to be studied were required to attend this orientation, it ensured that the opportunity to participate in the study was made available to all eligible participants. The course identified as the intervention throughout this research was mandatory for all students in the third professional year, so all students in attendance at the orientation session were eligible for participation and considered to be relevant subjects for the study. The script found in Appendix B was read during the orientation session held in a large lecture hall on the institution's campus. As stated in the script, students were given consent forms but given time to reflect on the study following the orientation. This was

intended to relieve any perceived expectations the students might have regarding participation in the research and grades affiliated with the intervention course. When students submitted consent forms to the researcher, additional efforts were made to answer remaining questions participants had regarding the study, its purpose, and the impact of participation. It was also when students submitted consent forms that the researcher assigned six-digit identification numbers for participants who elected to join the study.

The confines of geography, funding, and professional responsibilities prevented the researcher from utilizing a participant selection process that aligned with a qualitative research sampling population referred to by Fraenkel and Wallen (2009) as a "purposive sample" (p. 99). Similar concepts were used by LeCompte and Preissle (1993) to describe a term they called "criterion-based selection" (p. 69) and by Patton (1990) to describe "purposeful sampling" (p. 169). While the particular name of the sampling approach may vary, the concept is related to the intentionality used when selecting qualitative research participants (Fraenkel & Wallen, 2009; LeCompte & Preissle, 1993; Patton, 1990). As identified by Maxwell (2005) approaching research with this method of intentional selection enables the researcher to increase the likelihood that participants are able to effectively communicate with regards to the research question.

Instead, a specific population was identified within an institution to which the researcher had access. Capitalizing on access was the best option given external constraints. This resulted in a convenience sampling approach (Fraenkel & Wallen, 2009). It was anticipated that there would be better data to study regarding changing perspectives by selecting a population engaged in a structured intervention. A narrowed

recruitment pool of the students participating in a structured interprofessional education course required as part of the third professional year was identified as a relevant population participating in a structured interprofessional education experience. Some of the changes in perspective noted during the data collection process may be attributed to other components of the experience a typical student in the third year of a pharmacy program might have, but the interprofessional education course was used as a mechanism for guiding the interview process and focusing responses. Once the target population was appropriately identified and it was clear that all establish criteria were met by all members of the population, any interested participants from the targeted population to engage in the research were allowed to participate.

Participants

Prior to beginning the candidate recruitment and selection process, the researcher worked to establish an expected baseline for participants that was deemed as satisfactory by stakeholders in the research process. The research and its purpose were discussed with faculty at the institution where the intended interview subjects were students. While faculty did not provide a specific number that seemed ‘right’, they indicated that a slightly larger participant pool might establish increased opportunities for the participation of both traditional students, defined by being in their fifth overall year at the institution, and transfer students, those who had completed coursework including, but not limited to, an associate or bachelor’s degree from a different institution prior to entering the professional program at the institution where they were currently seeking a pharmacy doctorate degree. The ratio of transfer students to traditional students in the third

professional year for the 2012 – 2013 academic year at the institution in question was approximately 1 to 5.

Encouragement to cast a wide enough net to allow for representation from students with varying experiences during summer rotations under health systems pharmacists was also provided. As noted in Chapter One of this document, during the summer prior to the third professional year, students in accredited pharmacy programs must complete a 120-hour practice experience with a health systems pharmacist (ACPE, 2011). There is a standardization process for the experience, however that standardization does not guarantee particular exposure of the student to other health systems professionals. The collected perspectives students had at the beginning of the interprofessional education experience may have been related to the exposure they had to other health science professionals during the health systems summer rotation. The intent was to conduct enough interviews to account for a variance in different rotation experiences.

Additionally, faculty members at the researcher's degree granting institution were consulted to sort through the collection of factors contributing to a potential sample. In the end, it was determined that a sample of 10% was appropriate for the intent of this particular study. After that, the size of the larger intended sample, students in the third year of their professional program at an institution with a structured interprofessional experience that led to collaborative experiences, was evaluated. That population at the time of Institutional Review Board application for this study was approximately 185, which led to a proposed initial sample of 20 students.

After completion of the above described recruitment and selection process, the research began with a total of the desired 20 students. Twenty initial interviews were successfully completed with students who met the desired criteria. The criteria included being in the third professional year of a pharmacy degree program at the institution of access, which subsequently meant enrolled in the interprofessional education course, and able to complete the initial interview prior to the first meeting of the interprofessional education course. Demographic information was not collected because there was no interest in including the impact of gender on the research question at the time of IRB application.

Instrumentation

To complete this research, an interview questionnaire of open ended questions was developed under the guidance of the committee chair, with additional faculty guidance at the institution granting the researcher's degree, and the institution where the research subjects were students (Fraenkel & Wallen, 2009). Questions were designed to directly answer the initial research question. Additional interest existed regarding the impact students' perceptions of peer health science students had on the role of those specific professions. As such, questions were included to help define any connections between perceptions of the student population and various health care professionals. A third category of questions was included to allow for assessing the overall role understanding peers in other health science professions plays with regard to understanding interprofessionalism and patient outcomes.

The interview was conducted in a structured fashion with deviation from established questions only to seek clarity in a participant's response (Maxwell, 2005). As

noted in the procedure section, the data collection process consisted of three different interviews at intentional times throughout the academic year. Interviews were conducted at the beginning of the academic year, halfway through the academic year and at the conclusion of the academic year. The various instruments utilized during each respective interview are included in Appendix C.

The Small-Group Intervention

During the interprofessional case discussions that comprised the majority of the Interprofessional Team Seminar (IPTS) experience, students worked in groups randomly selected by the coordinators of the course. This course was required by all students in the second year of the pharmacy program. This IPTS portion of the program was also a requirement for students in other various health profession degree programs, leading to representation of a variety of fields in each small group. Some degree programs had a smaller overall student population, so for those fields this may have resulted in just one student (or possibly none) in a small group. The small groups met three times in the fall semester and three times in the spring semester. Each group was given the same case to review and discuss during the meetings; discussion efforts were facilitated by a faculty member teaching in a health profession degree program from one of the two institutions involved in IPTS. The faculty member was assigned to the same small group throughout the academic year.

When the small groups gathered to discuss their cases, the students gathered into subsets with peers in their specific degree program. Each subset within the group was given portions of the case, but it is possible that within the subsets one group may have a piece of information that another group did not. The subsets reviewed the material they

were given, and after a set period of time, each subset made a recommendation to the small group. These recommendations become the fuel for discussion as students learned pieces of the patient case that may not have been in the packet of materials their subset received, or as various health professions brought issues to the table that other groups were aware might cause concern. An example might be if a recommendation came from the group of pharmacy students to initiate a particular medication that must be taken three times a day with food, and social work students identified that because of religious beliefs noted in the case, this option would not align with a patient's current status of fasting during the day.

As the layers of information and variety of recommendations come together, the students reflected on various pieces of patient care ranging from safety to health literacy to available community resources. These discussions also allowed all participating students the opportunity to gain a sense of the healthcare system and how practitioners in different areas of healthcare could seek to partner across the health science fields to ensure optimal patient care is provided. The design of this course was supported by the results of Hallin et al.'s (2009) study. They found students in a variety of health care degree programs who participated in a collaborative course "improved perceived knowledge of other profession's competences, one's own professional competence and role and profoundly contributed to the understanding of the importance of communication and teamwork to patient care" (Hallin et al., 2009, p.156).

Procedure

When conducting the research, the first objective was to establish a timeline that would allow for interviews before, during, and after participation in the interprofessional

education course. A mid-year assessment was included to gauge any sort of shift in thought regarding the bigger picture of interprofessionalism. The overall schedule of interviews was as follows: first interview conducted prior to first gathering of the interprofessional education course; second interview between the 3rd and 4th gatherings of the interprofessional education course; third interview after the final gathering of the interprofessional education course. Participants were interviewed between the third and fourth gatherings because the course met six times throughout the academic year, so the halfway mark was in this specific gap. The average length of the first round interviews was 11 minutes and 36 seconds. The average length of the second round interviews was 3 minutes and 30 seconds. The average length of the third round interviews was 13 minutes and 30 seconds.

To schedule each round of interviews, participants were contacted via the email address they elected to provide on the waiver. It was noted that the interview would take place in person and participants were asked to indicate a window of time that would allow for the completion of the interview (i.e. 30 minutes for the first interview). After settling on a convenient time for the participant, and occasionally rearranging responsibilities to accommodate the participant, the researcher identified a location for the interview that was intended to enable confidentiality. If the researcher's officemate was not scheduled to be on campus the day of an interview, the interview was held in said office with the door closed. If, however, the officemate was scheduled to be on campus, a meeting room with a door to allow for a quiet, closed space to conduct the interview was secured.

All interviews took place between the researcher and the participant in a face-to-face setting; no interviews were conducted over the telephone. At the beginning of each interview, participants were informed that participation in the process was completely voluntary and that at any time they could elect to refrain from answering a question. A reminder was also included that at any time, participants could terminate their inclusion in the study.

Each session was recorded with a digital recorder and all interviews were transcribed verbatim by the researcher. Upon completion of each round of interviews, slips of paper with all participants' names written on them were placed in a bowl. An individual unaffiliated with the research drew a slip of paper from the bowl and gave it to the researcher. That person was contacted by the researcher to indicate the individual was the recipient of the $100 gift card noted in the consent form (Appendix A) and in the recruitment script (Appendix B). After connecting with the gift card winner, all slips of paper were processed through a shredder and put in a recycling bin.

Data Analysis

The approach to data analysis for this study mirrored the approach frequently taken when conducting a qualitative study (Maxwell, 2005). Each interview was reviewed as the transcription process was completed by the researcher. Then, two different systems of categorizing the information were developed – an approach commonly referred to as coding (Fraenkel & Wallen, 2009; Maxwell, 2005). The first system of coding was developed to assess overall themes within the group at each stage in the interview process (i.e. did all students indicate the same or similar themes?). The second system of coding was developed to evaluate an individual participant's responses

across the academic year. This was intended to identify what, if any, change in perception occurred. Both coding systems were designed after receiving guidance from an established researcher with a background in qualitative research.

After utilizing the established coding systems to categorize findings, overarching themes that grew out of the results were reviewed. This included looking for similar types of change in perspective and similarity in justification for said changes. Efforts were also made to find connection to change with similar experiences outside the interprofessional education course that participants referenced during the interview process. This was intended to identify external confounds as they related to results (Fraenkel & Wallen, 2009; Maxwell, 2005).

Additionally, themes discovered were compared to material used by the institution researched to look for alignment the responses might have to material presented as a part of the students' classroom experience. Most notably, the themes associated with optimal patient care and the themes associated with the role of the pharmacist correlated to the areas of practice presented by the institution. Various curriculum documents note the following areas of assessment: assess patient-specific medical problems, evaluate current therapy, select and recommend therapy, monitor patient's medical problems and therapies, educate patient, and educate fellow healthcare professionals. The discussion in Chapter Four identifies how these specific areas of assessment are related to the themes utilized in the coding process.

Summary

The framework developed for the research was heavily rooted in existing best practices approaches for qualitative research (Fraenkel & Wallen, 2009; Maxwell, 2005).

An in-person interview process with a structured questionnaire of open-ended questions was utilized to assess the driving research question (Fraenkel & Wallen, 2009). The approach was designed to support confidentiality of the participants and allow for assessment of changes in the participants' thought processes regarding peers in other health sciences programs. Coding and categorizing strategies were employed to gain understanding of the picture presented by the data collected. The next chapter will provide a detailed account of data collected during the various interview processes.

Chapter Four: Results

After learning about the academic process for students at a small, private institution conferring only pharmacy doctorate degrees, the researcher set out to answer a question related to the students' interprofessional awareness. The research question for the study was: "How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in the health science fields change after collaborative practice opportunities with students in those fields?" Subjects of the study were students in a pharmacy doctorate program participating in a course with a peer institution housing other various health science degree programs. Subjects engaged in small group case discussions over the course of the academic year with individuals from multiple non-pharmacy health science fields. The structured interactions were facilitated by practitioners in health care, and all small groups were given the same six cases over the course of the academic year to discuss.

This chapter is a presentation of the data collected during three rounds of interviews conducted for this research. Interviews were conducted prior to the initial interprofessional interaction, at the halfway point of the interprofessional experience after three interactions, and at the conclusion of the academic year after six total interactions. The presented data was collected in an effort to answer the study research question: "How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in the health science fields change after collaborative practice opportunities with students in those fields?" Prior to presenting specific components of participant data, an overview gives a general sense of the pieces of the research experience. Only data contributing to the intended discussion is presented in the chapter.

Additionally, the discussion reflects on topics ranging from the change in pharmacy students' perceptions of peers, the change in their awareness of a pharmacist's role in healthcare, to the shift in pharmacy students' definitions of optimal patient care and the shift in their definitions of interprofessionalism and subsequent interprofessional interactions. An assessment of the participants' perspectives regarding their experiences is also presented.

Overview

The initial sample population used for this study was 20 students in the third professional year of the pharmacy doctorate degree program at the host institution. All 20 students participated in the first round of interviews and the second round of interviews. Three students did not complete the third round of interviews prior to starting their rotations. Given the nature of the interviews and the data being collected it was inappropriate to interview those three students after their rotations began because it would have been difficult to differentiate changes of opinion related to the course being assessed and changes of opinion related to exposure of the pharmacy student to other health care providers as part of the rotation experience.

During the first round of the data collection process, the length of interviews ranged from 7 minutes to 27 minutes in length with an average of 11.5 minutes across the 20 participants. During the second round of the data collection process, the length of interviews ranged from just over 1 minute to 10 minutes in length with an average of 3.5 minutes across the 20 participants. During the final round of data collection, the length of interviews ranged from 9 minutes to 31 minutes in length with an average of 13.5 minutes across the 17 participants.

Presentation of Student Data for Participant Small Groups

During the intervention, the make-up of the health care field represented in the randomly-assigned small groups for each participant was identified via question two of the third interview. In an instance when a participant indicated uncertainty, meaning s/he stated "two or three," the lower number was selected for calculation purposes. No participant reported the same make-up of his/her section; therefore, it is likely that each participant was assigned to a different group than other participants. The average small group contained four pharmacy students, three medical students, two nursing students, one physical therapy student and one occupational therapy student. Only five of the 17 participants who completed the third interview indicated having social work students in their small groups. Similarly, only 12 of the 17 participants indicated having physician assistant students in their small groups.

Results Related to Student Characteristics

When compiling the responses from the question regarding 'typical students' pursuing degrees in various health science fields, responses were coded to fall into one of four categories. For each type of student (e.g. pharmacy student, medical student, etc.), responses regarding the type of student were identified as relating to academic criteria, social criteria, both, or neither. A response coded as an 'academic reflection' response meant the subject discussed the nature of curriculum and/or the type of work ethic a student in this area would have (e.g. 'motivated' or 'detail oriented'). A response coded as a 'social reflection' response meant the subject discussed personality traits with regard to social interaction a student in this area would have (e.g. 'good listener' or 'not sociable'). If a response was coded as 'both', the subject reflected on academic and social

components a student in the degree pursued would have. If a response was coded as 'neither', the subject indicated s/he did not know anything about that type of student and/or had no idea what they might be like. The following figures depict the type of student and the total number of responses in each category.

Table 1 records the coding frequencies of the first and third-round interview responses. Figure 1 provides a visual representation of the responses represented Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed no change in Academic Focus and Neither, as well as small change in Social Focus and Both when comparing first-round interviews to third-round.

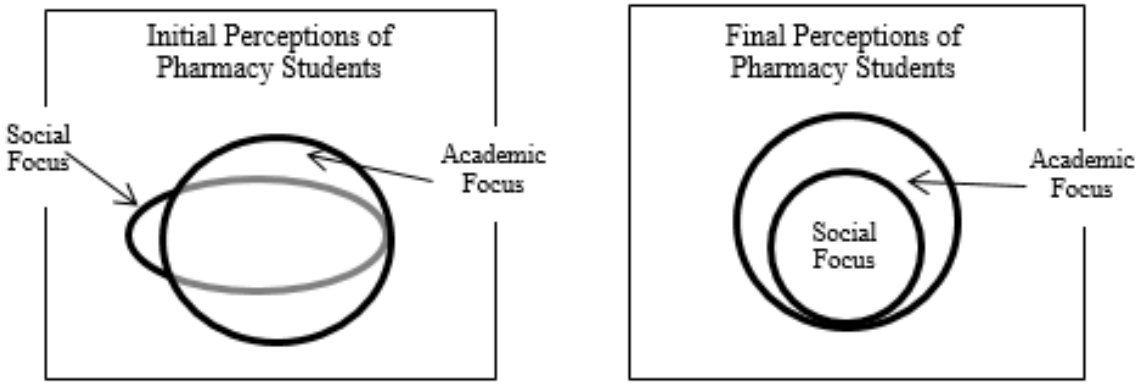

Figure 1: Change in participant perceptions of pharmacy students.

Table 1.

Participant Perceptions of Pharmacy Students.

	Academic	Social	Both	Neither
First Round Interview	8	1	8	0
Third Round Interview	8	0	9	0

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 2 records the coding frequencies of the first and third-round interview responses. Figure 2 provides a visual representation of the responses representing Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed no change in Academic Focus and Neither, as well as a small increase in Social Focus and a small decrease in Both when comparing first-round interviews to third-round.

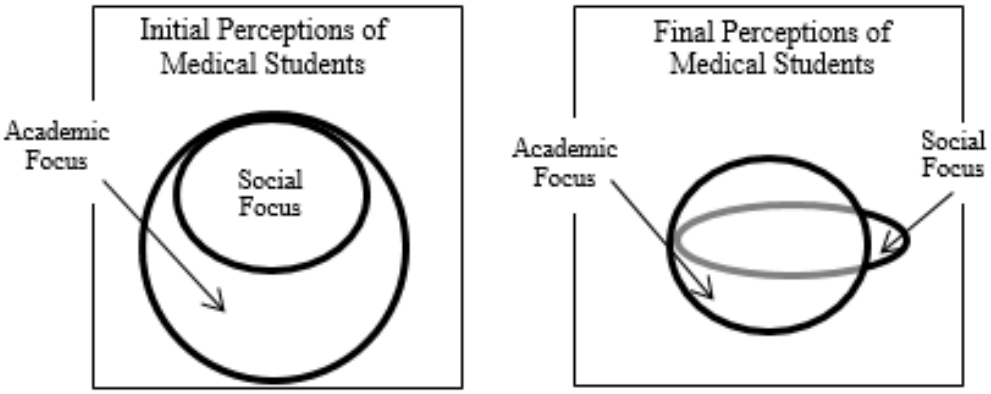

Figure 2: Change in participant perceptions of medical students.

Table 2.

Participant Perceptions of Medical Students.

	Academic	Social	Both	Neither
First Round Interview	8	0	9	0
Third Round Interview	8	1	8	0

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 3 records the coding frequencies of the first and third-round interview responses. Figure 3 provides a visual representation of the responses representing Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed an increase in Academic Focus, a decrease in Social Focus and Both, as well as no change in Neither when comparing first-round interviews to third-round.

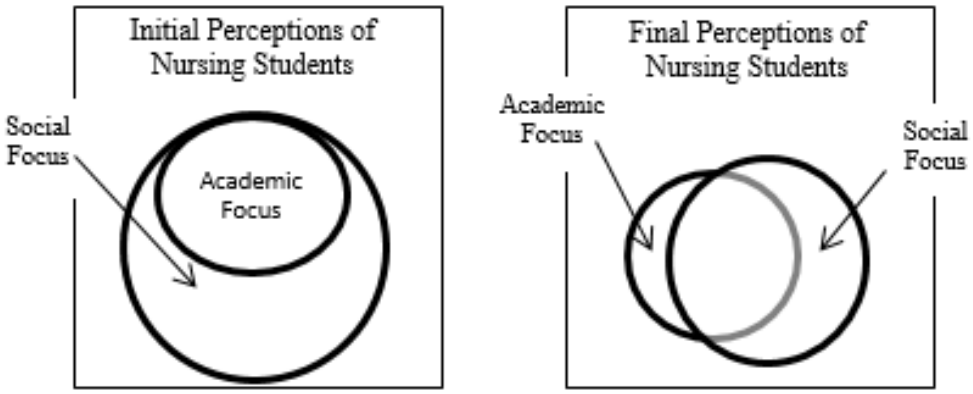

Figure 3: Change in participant perceptions of nursing students.

Table 3.

Participant Perceptions of Nursing Students.

	Academic	Social	Both	Neither
First Round Interview	0	8	9	0
Third Round Interview	4	7	6	0

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 4 records the coding frequencies of the first and third-round interview responses. Figure 4 provides a visual representation of the responses represented Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed no change in Academic Focus and Neither, as well as small change in Social Focus and Both when comparing first-round interviews to third-round.

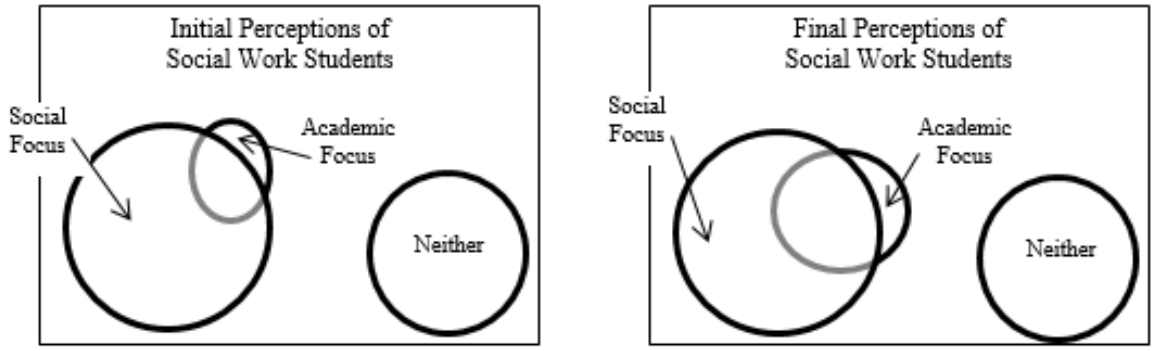

Figure 4: Change in participant perceptions of social work students.

Table 4.

Participant Perceptions of Social Work Students.

	Academic	Social	Both	Neither
First Round Interview	1	7	2	7
Third Round Interview	1	5	4	7

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 5 records the coding frequencies of the first and third-round interview responses. Figure 5 provides a visual representation of the responses represented Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed an increase in Academic Focus, Social Focus and Both, as well as a decrease in Neither when comparing first-round interviews to third-round.

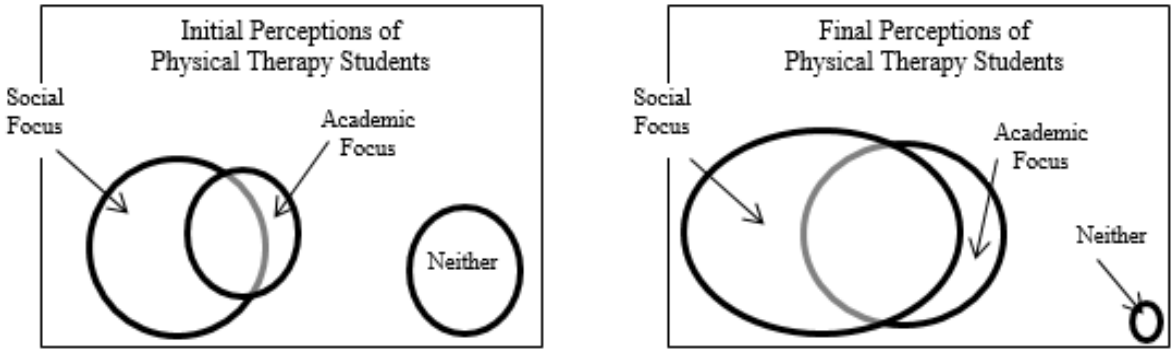

Figure 5: Change in participant perceptions of physical therapy students.

Table 5.

Participant Perceptions of Physical Therapy Students.

	Academic	Social	Both	Neither
First Round Interview	2	5	4	6
Third Round Interview	3	7	6	1

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 6 records the coding frequencies of the first and third-round interview responses. Figure 6 provides a visual representation of the responses represented Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed no change in Academic Focus, a decrease in Neither, as well as a changes in Social Focus and Both when comparing first-round interviews to third-round.

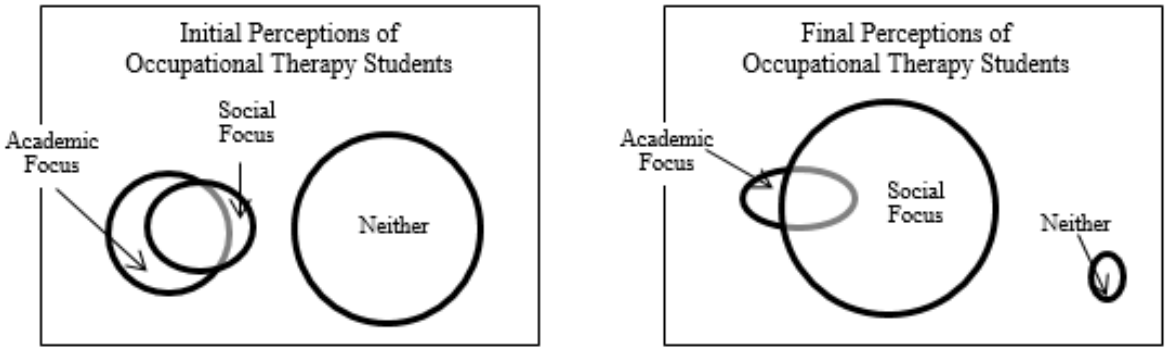

Figure 6: Change in participant perceptions of occupational therapy students.

Table 6.

Participant Perceptions of Occupational Therapy Students.

	Academic	Social	Both	Neither
First Round Interview	2	1	4	10
Third Round Interview	2	11	3	1

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Table 7 records the coding frequencies of the first and third-round interview responses. Figure 7 provides a visual representation of the responses represented Academic Focus, Social Focus, Both, and Neither categories. Coding of pharmacy student perceptions showed a decrease in Academic Focus and Neither, as well as changes in Social Focus and Both when comparing first-round interviews to third-round.

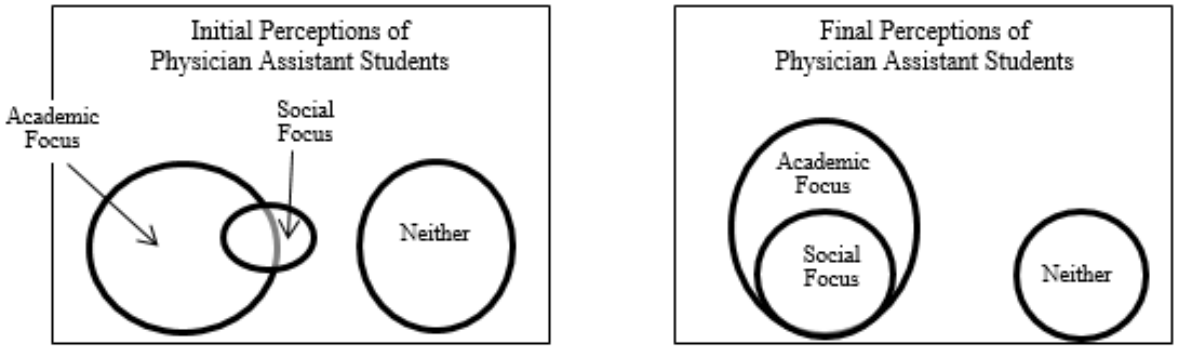

Figure 7: Change in participant perceptions of physician assistant students.

Table 7.

Participant Perceptions of Physician Assistant Student.

	Academic	Social	Both	Neither
First Round Interview	6	2	2	7
Third Round Interview	5	0	6	6

Note: Responses from 3 participants who did not complete the final interview process were omitted since their material cannot be used for comparison purposes.

Specific characteristics. With regard to specific characteristics of individuals in various heath science degree programs, the responses led to two main categories: academic assessments and social assessments. The criteria that led to a response coded as an academic assessment included comments from the subject about the academic content

or rigor of a particular degree program. For one participant, a response in the academic category regarding medical students indicated they were, “probably similar to pharmacy students, but more hard-working” (Participant 061752, first round interview). Academic responses also included the type of work ethic a student in the specific degree program might have. Participant 012490 mentioned this during the first round interview with regard to social work students:

> I would think maybe they have more of an ease of studying. So maybe they have more time on their hands. . . I don’t know what their curriculum is or anything . . . but I would assume that they would have to study less than a pharmacy or medical student (Participant 012490).

On the other end of the response spectrum, participants may have responded with information coded as ‘social’ in nature. This meant the subject reflected on personality traits related to a specific population. Participants seemed quickest to identify the social components of a ‘typical nursing student’. These comments ranged from ‘caring’ to ‘passion for patients’.

Ideally, participants would end the process with reflections of an ‘entire person’, meaning the response noted components of both the social and the academic aspects of a ‘typical’ student in a given field. For students to be able to appreciate all that a peer can bring to the table, it is necessary to appreciate that any collaboration would be with a person, not just a set of academic knowledge or a particular personality. By the end of the process, there was an overall increase of 10.5% in responses encompassing both academic and social components.

In a few instances, the participants showed greater maturity and reflection with concluding thoughts noting that their responses on the social side of things were based on stereotypes, or even better, that it is difficult to generalize the personalities held by a population because, "specific groups of students don't have strict personalities." This growth shows a sense of awareness about peers that may serve the participants well in the future. Engaging in a profession that mandates collaboration can be difficult if a person brings preconceived expectations about a fellow collaborator to the process. Additionally, participant growth in any responses related to academics (meaning the 'academic' category or the 'both' category) helped validate the hope the researcher had regarding this course: that student exposure to individuals pursuing other degrees, in a collaborative approach where all participants were empowered to apply academic knowledge, would create a greater sense of value regarding the contributions of others.

Participant tone. Responses to the question regarding 'typical students' in the various degree pursuits were also coded for tone. Responses were deemed to be positive (e.g. "difficult curriculum" or "good at collaborating with others") or negative (e.g. "don't have to study much" or "chip on their shoulder"). The indicators for a positive tone included mention of navigating difficult curriculum or strong work ethic in an academic context or socially valued or desirable personality traits (e.g. "people-person" or "nice"). Responses meriting a tally in the negative column included traits like arrogance or reference to an 'easy program'. Negative responses included comments like this respondent's thoughts about a typical pharmacy student, "someone who couldn't make it as med student," or this respondent's thoughts on typical social work students, "it's not even a real job. I don't know how they can get a degree in that." In a few

instances responses may have been coded as ‘mixed’ if the participant reflected positively about some areas and negatively about others; there were a few rare cases when results were deemed neutral due to lack of description in any one direction. The results are as follows:

Results indicated in Figure 8 and Table 8 show that there was an increase in the positive remarks made. In the first round of interviews, 72 of the 117 responses related to peers were positive, representing 61.2% of the responses. In the third round of interviews, 86 of the 117 responses merited a positive tally, representing 73.5% of the responses. The increase in positive responses correlates with the decrease in responses coded as ‘no relevant answer’. Participants had 50% fewer responses with no relevant content during the third round of interviews.

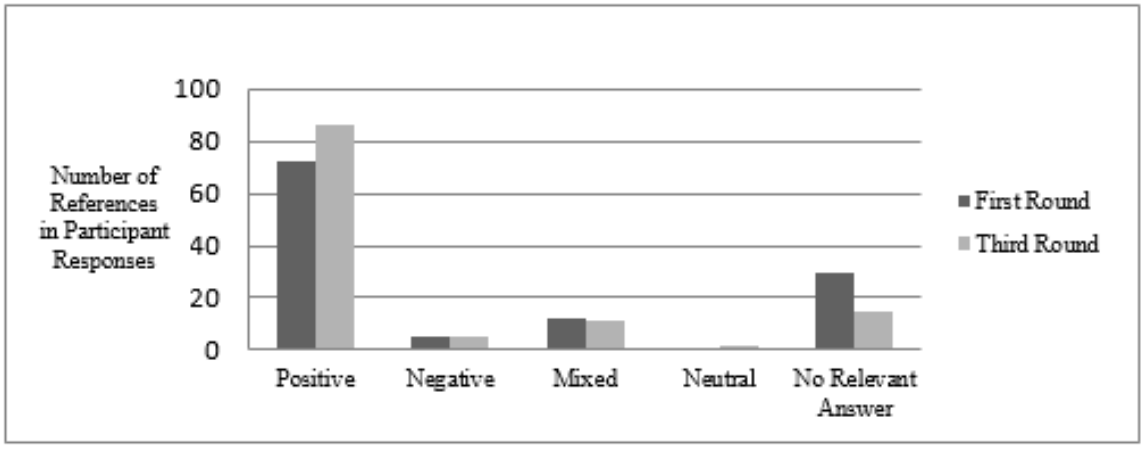

Figure 8: Change in tone of responses regarding student characteristics.

Table 8.

Participant Tone Regarding Student Characteristics.

	Positive	Negative	Mixed	Neutral	No Relevant Answer
First Round Interview	72	5	12	0	30
Third Round Interview	86	5	11	2	15

The researcher found the increase in positive responses as a meaningful piece of support for the importance of exposure for students at a pharmacy-only institution to peers in other health science degree programs. If students are expected to enter the workforce ready to collaborate (IPEC, 2011), they are more likely to enter that collaboration with an open-mind if they have some context, even if anecdotal, for the other collaborators (Bullock, Morris, & Atwell, 2012).

Results Related to the Role of the Pharmacist

Each round of interviews included a question regarding the role of pharmacists in the health care field. A portion of the results in this section were unexpected. As anticipated, they showed a shift not only in the participants' understanding of their peers. However, it became clear that the interprofessional experiences were developing the participants' understanding of how their academic training and resulting degree would fit within the scope of healthcare upon graduation. Three common themes emerged in participant responses. Participants spoke about at least one of the following areas in each response given: direct patient care/specific job responsibilities (e.g. "fill prescriptions"); patient relationships (e.g. "counseling patients"); and interprofessional relationships (e.g. "provide recommendations"). In some instances, responses included more than one category (Figure 9; Table 9). As an aside, the researcher found it interesting that at no point during the three rounds of interviews did a single participant include all three areas of practice in a response.

Also, for contextual purposes, over half the participants, 9 out of 17, perceived the role of the physician to be the team leader at the completion of the academic year. Comments indicating this opinion included: "quarterback," "commander-in-chief," and

"coordinator of patient's care". During the same time, 7 out of 17, or 41% of the participants, perceived that the role pharmacist included a responsibility to double-check or 'catch mistakes' of others on the healthcare team. Figure 9 represents the frequency of each identified category in participant responses:

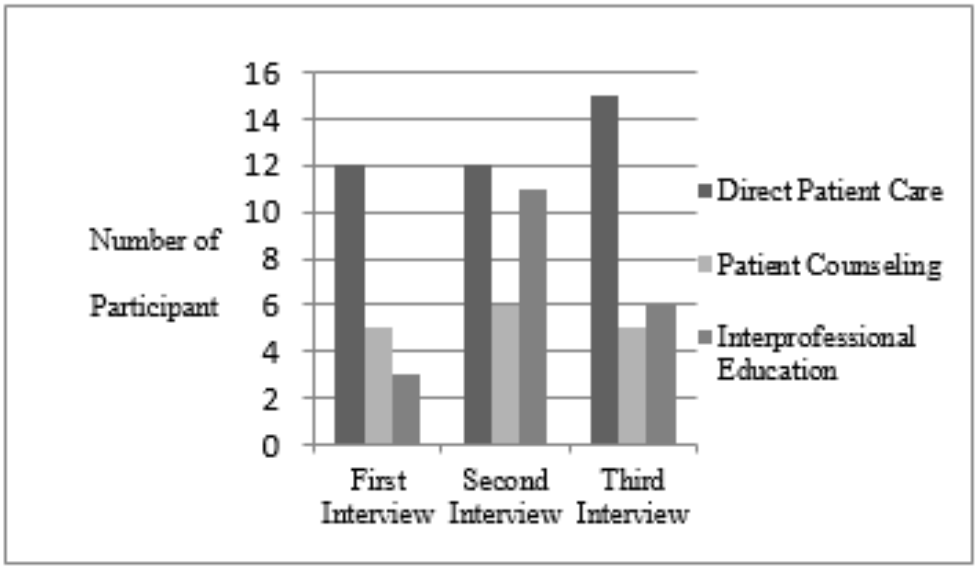

Figure 9: The role of a pharmacist in health care.

Table 9.

Descriptors Related to the Role of a Pharmacist in Health Care

	Direct Patient Care	Patient Counseling	Interprofessional Education
First Round Interview	12	5	3
Second Round Interview	12	6	11
Third Round Interview	15	5	6

Direct patient care. The area of practice noted most by participants was the act of direct patient care. Reponses in this category reflected some of the more common stereotypical expectations of a pharmacist. This area includes filling prescriptions, adjusting doses, developing treatment plans, etc. During the first round of the interview

process, 70.6% of the participants included some component of direct patient care in their responses about a pharmacist's role in health care. That number increased to 88.2% with the third round of interviews. Direct patient care is the most tangible component of a traditional pharmacist's workload (Io, Hu & Ung, 2013; Miyares, 2013); as such, it is reasonable that participants would begin the course with a high awareness of this role.

Patient counseling. Participants remained almost consistent across the interview process with their inclusion of patient counseling as a component of responsibilities for a pharmacist. The first and third round of interviews showed just about 30% of participants including this responsibility. The rate of inclusion is surprisingly low and a bit disappointing given the frequency of pharmacists in the top five 'Most Trusted Professionals' (Newport, 2012).

Research has shown that pharmacist place consistently high when the general population is surveyed; a 2012 Gallup poll showed pharmacists as the second most trusted professionals in a list of 22 different professionals (Newport, 2012). With the public perception so favorable regarding the trustworthiness of pharmacists, it is important for the pharmacy students to identify with the patient counseling role. More and more, pharmacists are fielding questions and providing guidance; legislation trends across the United States show that the scope of practice for pharmacist in this area will continue to increase (Keely, 2002; Paolini & Rouse, 2010).

Interprofessional education. Providing education to peer health care professionals saw a substantial spike between the first and second round of interviews. Initially, 35.3% of participants identified this responsibility; during the second round of interviews, the number jumped up to 64.7%.

The researcher contributed this drastic increase to the reality that for most participants, the collaborative cases would have been the first opportunity to educate those outside the pharmacy field on information like doses, classes or adverse effects of medications. It is likely that the participants possibly identified most specifically with this role at the mid-point of the interview process because the act of educating peers was novel. The third round of interviews showed a reduction in responses including interprofessional education as a responsibility of pharmacists; the assumption is that the novelty may have worn off by the time the third round of interviews occurred.

Results Related to Optimal Patient Care

When reviewing the responses for the question regarding 'optimal patient care', information was coded regarding inclusion of three components: reference to collaboration across health care professions, reference to patient outcomes, and reference to patient interaction/engaging the patient in the process. These themes were developed based on conversations with faculty members at the pharmacy-only institution. Participants who did not include reference to an area in the initial interview, but did include a reference in the final interview, were marked as an 'inclusive' change. Participants who did include reference to an area in the initial interview, but did not include a reference in the final interview, were marked as an 'exclusive' change. In some instances, the change in inclusion occurred in the second interview. Participants whose responses across the interviews reflected no changes were marked as either 'remained inclusive' (referenced the area in all three interviews) or 'remained exclusive' (failed to reference the area in all three interviews). In some instances participants were coded as one of two 'mixed' categories because their initial response and their final response were

the same, but their response during the second interview was different. If the participant included the area in the first and third response but did not include it in the second response, it was coded as ‘mixed inclusive’. Conversely, if the participant excluded the area in the first and third response but did include it in the second response, it was coded as ‘mixed exclusive’.

Responses mentioning the importance of collaboration in relation to optimal patient care included comments like, “all the different fields working together” and “everyone sharing what they know.” Responses integrating patient outcomes included mention specifically of “patient outcomes” but also included phrasing like, “treat the patient the way they need to be treated and make sure that everything they’re doing is right for the patient” or “keeping the patient in mind the entire time.” A response reflecting a patient/pharmacist relationship as part of optimal patient care reflected “part of it is how the healthcare team treats the patient . . . the mental part of it” and also the importance of “covering all aspects . . . patients know what’s going on.”

The results from an ‘inclusive’ versus ‘exclusive’ perspective for the importance of collaboration were 88.2% and 11.8% respectively. The importance of patient outcomes results showed 58.8% ‘inclusive’ and 41.2% ‘exclusive’ at the conclusion of the third interview. With the largest number of exclusive responses, 70.6% versus 29.4% inclusive, the importance of patient relationships showed the lowest presence at the conclusion of the third round interview. Responses are reflected in Figure 10 and Table 10:

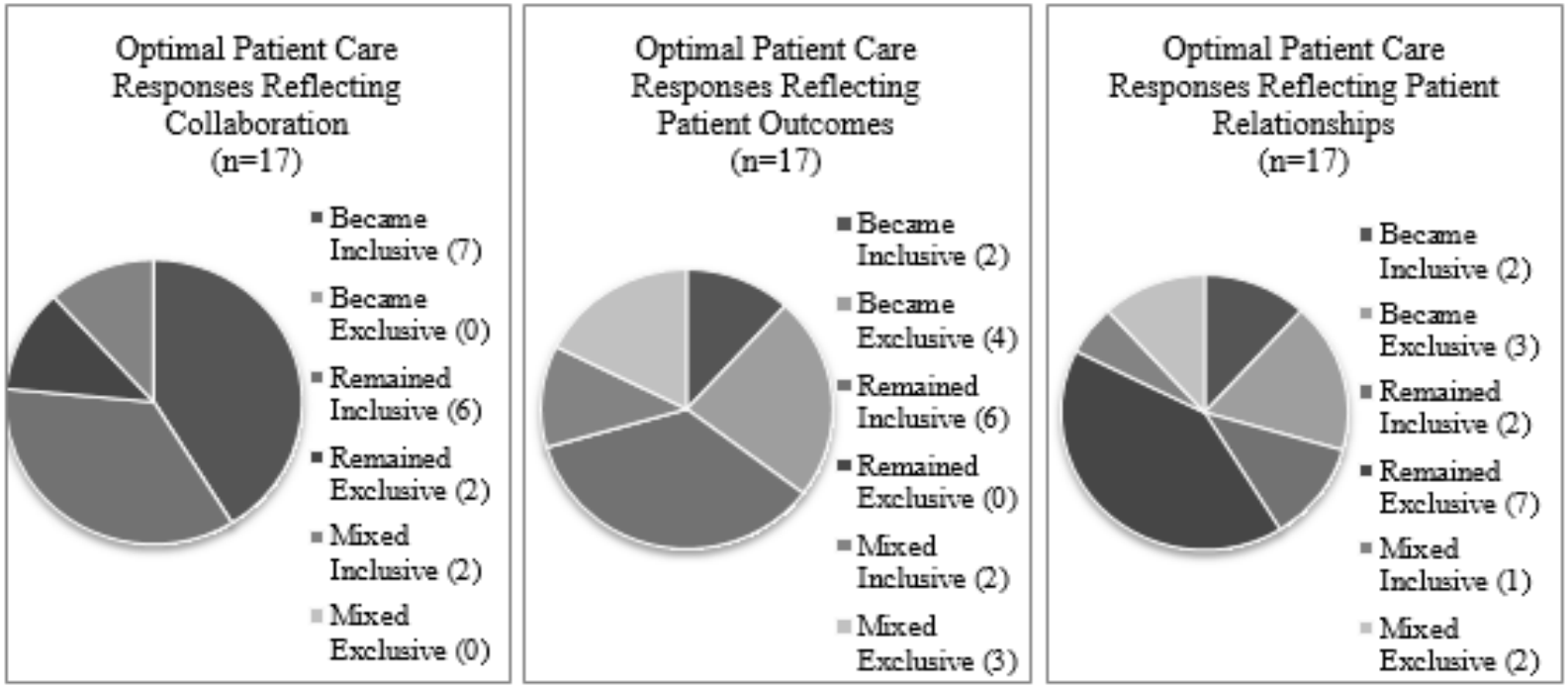

Figure 10: Components of optimal patient care

Table 10.

Participant Responses: Identified Components of Optimal Patient Care.

	Became Inclusive	Became Exclusive	Remained Inclusive	Remained Exclusive	Mixed Inclusive	Mixed Exclusive
Collaboration	7	0	6	2	2	0
Patient Outcomes	2	4	6	0	2	3
Patient Relationships	2	3	2	7	1	2

Even within the exclusive category, responses in the ‘Became Exclusive’ and ‘Mixed Exclusive’ categories would mean that participants mentioned the category at least once during the course of the interview process. The responses coded as ‘Remained Exclusive’ in any category represent a participant who had no integration of a particular category during the entire experience. No respondents remained exclusive with regard to the importance of patient outcomes. The number was relatively small, 11.8%, regarding interprofessional collaboration. The patient relationship category posted the most concerning ‘remained exclusive’ number with 41.2%.

The importance of collaboration. By the final interview, participants identified collaboration most consistently when speaking about the role of a pharmacist in the healthcare profession. Notably, over half of the participants, 53.3%, mentioned the importance of collaboration during the initial interview, so they were aware that collaboration was a key component to the profession prior to the case study experience. By the end of the process, nearly all participants, 88.2%, recognized the importance of entering into the field prepared for collaborative practice to ensure optimal patient care.

Given the importance placed on interprofessionalism, this result demonstrated that the case study exercises with peers pursing degrees in other health science field were making the desired impact on pharmacy students (Irby, Cooke, & O’Brien, 2010). Helping students develop an appreciation for the role of collaboration serves to ultimately benefit patients and likely increase positive patient outcomes (Spencer, 1987).

The importance of patient outcomes. The most surprising shift related to patient outcomes. Given that at its core, healthcare is about patients and patient outcomes, it was a bit unexpected that at the end of the process nearly half, 41.2%, of the participants

omitted reference to patient outcomes from their responses regarding optimal patient care. After spending a semester working with peers on behalf of patients (albeit fictitious patients) through the case studies, it would stand to reason that a question regarding optimal patient care would definitely include something about patient outcomes. To be fair, all participants at some point during the interview process (during one of the three interviews) mentioned patient outcomes to some degree. The theme was not present consistently across the final interview results.

Ehen discussing the areas of practice, the caveat was given that different types of pharmacists practice different roles, so it was understandable that participants may not include one of the three categories related to the role of a pharmacist. However, this section is a bit different. With the context of the question being ‘optimal patient care’ it is rather concerning that patient outcomes were not universally identified as a component of optimal patient care.

The importance of engaging patients. Participating in the case study exercises with peers generated reference to an emerging topic in the field of healthcare: patient engagement. Unfortunately, the frequency of participant reference to patient engagement leaves much to be desired. Given the available data, the number of participants who omitted discussion of patient engagement during the concluding research was disappointing. Less than a third, 29.4%, of the participants included mention of this area in their final responses. Additionally, nearly half of the participants, 41.2%, never referenced the establishment of rapport or any component of a patient’s relationship during the course of the study. At the time of this writing, research supporting the importance of health literacy and the awareness of pharmacists in patient engagement

was getting a lot of attention. There were strong correlations between increased health literacy and patient adherence; subsequently, research shows patient adherence is related to optimal patient outcomes (Ownby, Waldrop-Valverde, & Taha, 2012; Eadie, 2014; Smith, Curis, Wardle, von Wagner, & Wolf, 2013).

Results Related to Participant Assessment of Interprofessional Interactions

Through the process of collaborating with peers from other degree programs, participants developed a more concrete sense of interprofessionalism. Their understanding of meaningful collaboration grew, as evidenced by the 100% integration of collaboration in responses to defining interprofessionalism during the third round of interviews. This was tangible measure of the impact the course had on their perspectives related to the field they are entering. One participant noted the following:

> It sounds kind of sappy, but from going to those, it is kind of cool. I've never thought about it from, we all get the same case, and it's funny how differently people in like, for example the pharmacy focuses on what drugs they're on, how to adjust that. Nursing focuses on this, and PT, they all focus on a completely different aspect, like something I don't deem to be important someone looks at and the stuff I look at they don't think is relevant. It's just kinda [sic] cool how it all fits together and everybody hones in on a different part. (Participant 080189, Third round interview)

Respect and communication in interprofessionalism. Through the coding process, two themes were identified in participant definitions of interprofessionalism. Those themes were ‘respect’ and ‘communication’. Figure 11 and Table 11 represent the shift in participant use of these themes from the first interview to the third interview:

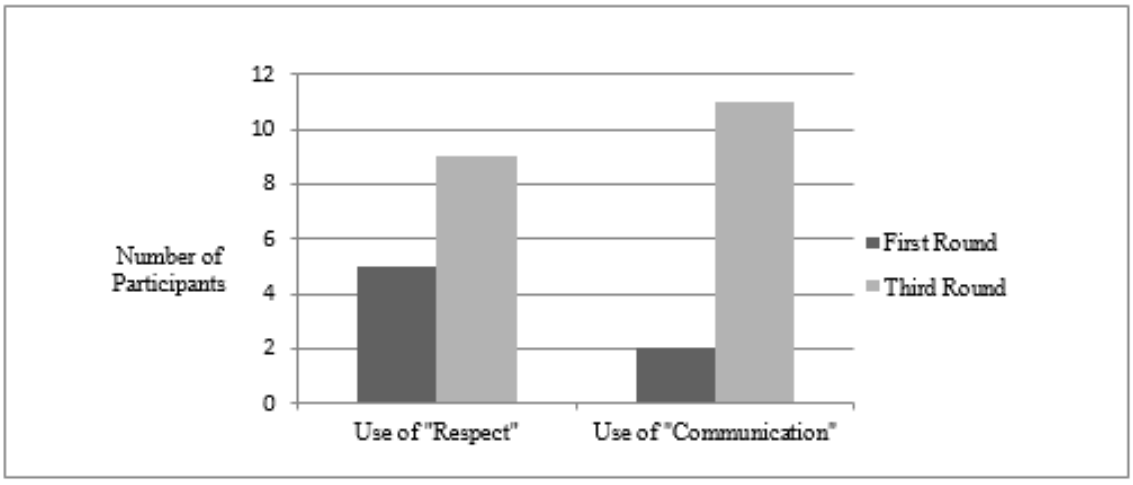

Figure 11: Participant responses related to Components of Interprofessionalism.

Table 11.

Participant Responses: Components of Interprofessionalism.

	Respect	Communication
First Round Interview	5	2
Third Round Interview	9	11

It seems appropriate to draw a line between the importance of meaningful communication, identified during the third round of interviews by 64.7% of participants, and the request for respect across all professions, identified during the third round of interviews by nearly 53% of the participants.

The emergences of ‘respect’ and ‘communication’ as themes in the responses related to interprofessionalism highlight a deeper component of interprofessional collaboration. Over the course of the study, there was a noticeable shift in the expectation participants had for mutual respect and effective communication as part of an interprofessional practice. The increase in inclusion of respect may be a reflection of the way pharmacy students feel they are perceived by peers. Responses like this help solidify

that belief, “Professionals should take into account more about what other professions do. It's easy to think that your way is right and not want to listen to other professions.” Another participant referenced challenges with the opinions peers had of themselves, “One of the things is that you have to watch out for each other's ego.” Lastly, this comment supports the participants’ appreciation for better understanding and increased respect across the healthcare professions:

> Everyone has a particular role and that's good; it creates a good team. But toward the level of schooling/experience, there is some judgment. Trust may not be freely given because of the person's status. Mutual experience and shared respect is [sic] important. (Participant 062590, First round interview)

Additionally, and more substantially, there was a shift in the number of participants who identified a need for effective communication as part of interprofessionalism. The number of responses referencing this theme grew by 450% (from 2 respondents to 11). Responses like this bring some clarity to the reason for the growth, “If we understand how we can help each other, then we can work together better.” References to the knowledge other participants contributed to the specific cases also helped validate the importance of this topic as a component of interprofessionalism.

The researcher believes that there is a connection between the desire for respect and the importance of meaningful communication as part of the bigger picture for participants. As noted by a number of respondents, pharmacy students may have introverted tendencies; if a student does not feel respected, s/he may be less likely to inject opinions related to a patient case (Schmied et al., 2010). Discussed in the Suggestions for Future Research section in Chapter Five are a few thoughts regarding

how to get a better sense of whether these thoughts by participants stem from seeing the value of these themes because they positively contributed to an experience or seeing the negative impact an absence of these themes had on an experience.

Results Related to Participant Definitions of Interprofessionalism

Responses were coded strictly looking for reference to collaboration. These references include comments such as “listen to other professionals” or “team work,” along with various other iterations of those concepts. As the students reflected on the definition of interprofessionalism, it was clear that, at minimum, they understood the importance of collaboration. Figure 12 shows the shift in incorporating collaboration over the course of the interview process:

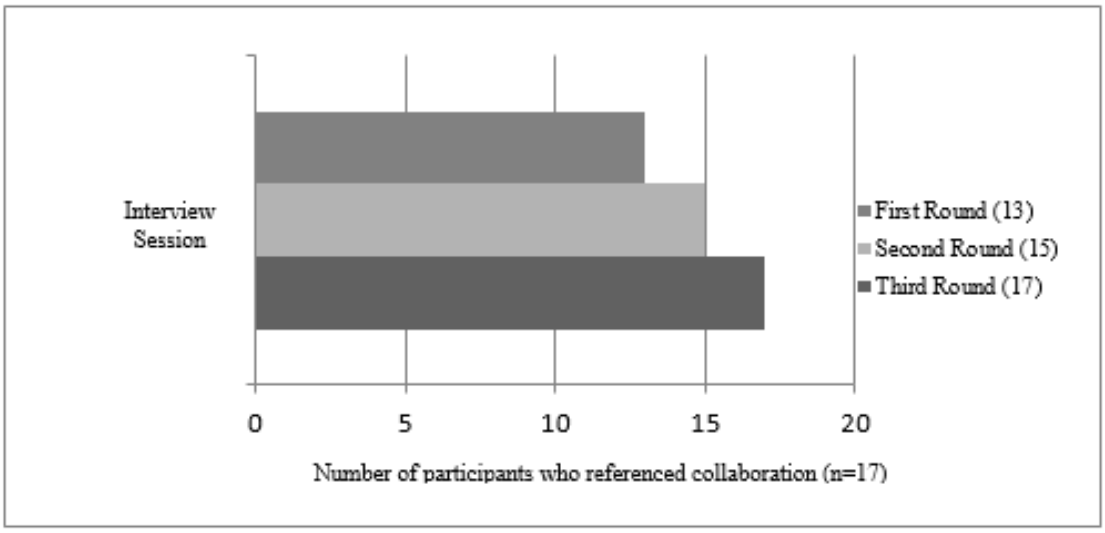

Figure 12: Collaboration in participant definitions of interprofessionalism. The graph presents a clear shift over the course of the academic year related to participant integration of collaboration when defining interprofessionalism. During the first interview session, 13 (or 76.5%) participants noted collaboration as part of the definition. During the second interview session, 15 (or 88.2%) participants noted collaboration as part of the definition. During the final interview session, 17 (or 100%) participants noted collaboration as part of the definition.

By the conclusion of the study, 100% of the participants included a reference to collaboration as part of their definitions of interprofessionalism. This question was asked

during all three interviews and was the only question used across the process that generated a universally consistent answer during the final round out interviews.

What the researcher noted as interesting about the universal inclusion of collaboration as part of interprofessionalism, is that the same universal inclusion of collaboration was not noted when discussing optimal patient care. It was previously noted as having finished with 88.2% of participants referencing collaboration as part of the optimal patient care). Some of the participants demonstrated a disconnect between interprofessionalism and its contribution to optimal patient care.

Results Related to Participant Perceptions of Change

As participants responded to the question regarding their perceived change in perceptions regarding interprofessional interactions over the course of the academic year, responses fell into one of three categories: no change, small change, or large change. Figure 13 indicates the percentage of response in each category.

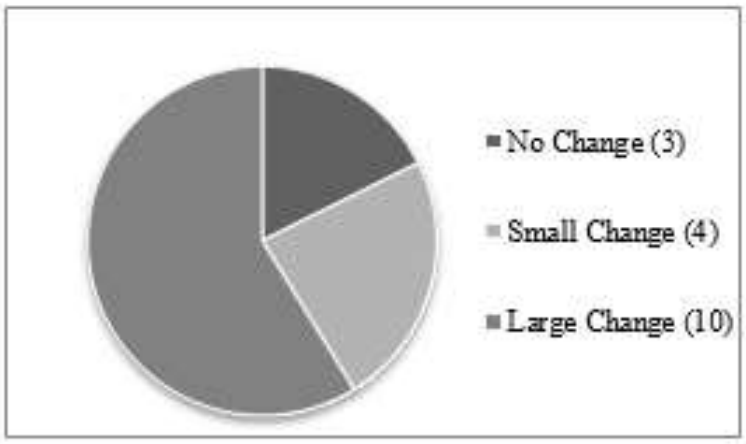

Figure 13: Participant perceptions of change. The graph shows that 3 (or 17.6%) participants perceived no change in their perceptions of peers, 4 (or 23.5%) participants perceived a small change, and 10 (58.8%) participants perceived a large change.

Eighty two point four percent of the participants noted that the experience led to a change in their perceptions of their peers. The remaining 17.6% noted that their perceptions did not change, but were validated.

Additionally, responses were coded with regard to how participants felt their perceptions changed or, if the perception had not changed, how existing perceptions were validated. Universally, participants reflected on a change in awareness of other professional responsibilities across the areas of practice in health care. In instances when a participant identified 'no change' in perceptions, s/he each indicated that learning more about peers confirmed the importance of collaborating with peers and having effective communication in an interprofessional setting.

While the reference to collaboration as part of interprofessionalism was the only universal response, student responses to the case study experience were extremely consistent, as well. Responses about the experience highlighted that for some participants, the value of the course was an unexpected benefit of being required to participate. For instance, one participant discussed the following with regard to the collaborative case study experiences, "I think the thing we did opened up my mind a lot about other professions." Along similar lines, a participant shared the following insight:

> I guess we don't realize how *appreciated* we are by other people. Like they'll say we're so glad that you guys know what you're talking about or know about a specific dosing. I guess we don't get that because it's just us here and we're all in pharmacy together so we don't get the opinions and how other people see us. It's kind of nice to see that we're important. I can tell that they obviously respect

> when you say something about a medication; they just trust you. They'll take what you say as truth. (Participant 071750, Third round interview).

Even within the group that did not indicate the course led to a change in their perspectives, their responses seemed to indicate that was not altogether true. For example, one participant noted no change in perspective but then followed with, “We're all fitting together like little puzzle pieces when we didn't realize there were holes that needed puzzle pieces.” So, the experience of intentional collaboration seemed to be meaningful even when students did not want to assign it much value.

Additionally, along with assigning value to the process, many participants noted that they ‘liked’ the experience. The researcher found this noteworthy because often the ‘valuable’ academic experiences and the ‘enjoyable’ academic experiences were perceived as mutually exclusive to students (Chickering & Schlossberg, 1995). Giving students the opportunity to present the knowledge they gained, in a new environment, with individuals representing future peers, served as an impetus for positive growth on a variety of levels. The rigor of the curriculum at the institution attended by participants created barriers for some students to work in a pharmacy or healthcare environment during the academic process. With that reality in mind, the value identified by students of the experience seemed to be magnified.

Summary

The preceding presentation of data from the three-round interview process served to provide the framework for the discussion in the next chapter. Data was presented in an effort to contextualize the rationale for assumptions made and connections drawn by the researcher. It was analyzed within the framework of the research question and common

themes were identified. Chapter Five will address the implications of this data related to the academic experience of pharmacy students at a pharmacy-only institution. It will also present suggestions for future research of interest as a result of the findings from this study. Lastly, overarching conclusions regarding the study will be presented.

Chapter Five: Discussion

The interview process for this study generated a variety of themes and concepts discussed in Chapter Four, in a research attempt to answer the research question: 'How do the perceptions and perspectives students pursuing a pharmacy doctorate have of other students in the health science fields change after collaborative practice opportunities with students in those fields?' While some were unexpected, all helped solidify the idea that curricular changes for students at a pharmacy-only institution have an opportunity to develop individual awareness and create a greater understanding of interprofessionalism. As noted in Chapter Two, the field of healthcare is propelled toward stronger expectations of consistent collaboration, so aligning the relationship the collaborative casework had with students' understanding of interprofessionalism becomes even more relevant.

In this chapter, implications of the presented results are discussed within the context of application to the degree-seeking experience for students at a pharmacy-only institution. As a reminder, the case-based interprofessional discussion in this study varies from discussions in previous studies with regard to true patient interaction; the interview participants for this study were not working within the framework of actual patients in real-time context. After discussion of applications both inside and outside the classroom, suggestions for further research, in alignment with this study and its findings, are presented. Finally, overall concluding thoughts related to this project are shared at the culmination of this chapter.

Findings from This Study

During the course of the study, participants showed an overall increase in understanding of their peers pursuing degrees in other healthcare fields through intentional exposure and structured collaboration. For those participants who started the study with some level of knowledge related to others in healthcare degree programs, the interprofessional case study experiences served to validate, and in some instances strengthen, their perceptions. The study participants also demonstrated a growth in their own self-awareness regarding the role of pharmacists in health care. Participants also grew in their understanding of interprofessionalism with regard to the importance of both effective communication and mutual respect for others working on a patient case.

Unfortunately, participants also failed to draw the connection between interprofessionalism and optimal patient care. Over the course of the interviews, participants did not develop a strong, consistent sense of the key components of Optimal Patient Care. These components were identified in Chapter Four as: collaboration across health care professions; patient outcomes; and patient interaction and engaging the patient in the process. As a reminder, these themes were developed based on conversations with faculty members at the pharmacy-only institution.

Perceptions of Peer Students

Chapter Four presented observable shifts in the perceptions the participants of the study had in relation to how they perceived their peers. The data demonstrated a potential relationship between an increase in the participants' understanding of their peers and a more positive tone when speaking about peers. With this potential correlation in mind, institutions have opportunities to enhance the experience for students at a pharmacy-only

institution through a few approaches to interactions with students in other health science fields.

Integrating results in pharmacy curriculum. Practical application of the results of this study to the curriculum at a pharmacy degree-only institution could be made in a few different ways. As part of the content in one of the professionalism courses, an institution could include descriptions of and comparisons to other academic programs in health science fields. Integration of this nature would grant students more insight into the information peers enrolled in other healthcare majors are learning and will eventually be applying to patient care. Application of this nature could include presentations by faculty, or even students, from other academic programs.

Appropriate timing of the integration could broaden the students' awareness prior to exposure to healthcare practitioners in a professional context. The researcher suggests that this integration of content occur prior to the first rotation experience students have, after their first professional year (ACPE, 2011). The researcher also suggests that part of that rotation experience include reflection related to information contributed by other healthcare professionals to specific patient cases in an effort to solidify the understanding pharmacy students have of the perspectives held by other programs. Similar reflection regarding the contributions of other professionals to patient care could also be integrated into the various rotation experiences throughout the pharmacy degree program; discussion with preceptors about information other professionals can provide for a patient case would help students assess their own knowledge, gained in other health science degree programs. The increase in knowledge about other healthcare programs would

likely increase the frequency of positive opinions about students enrolled in these healthcare programs, among a population of students at a pharmacy-only institution.

Another opportunity for application of these specific results relates to how faculty instruct students with regard to coursework and the practical application to the field of pharmacy of information learned in the classroom prior to graduation. When identifying relevance of specific information, pharmacy faculty could note who on the health care team, other than the pharmacist, might be able to add meaningful context to a patient case. It is easy to teach with 'tunnel vision' and focus only on the part the information plays for the pharmacist; however, helping pharmacy students understand how someone else might also use information supports the idea that other degree programs prepare individuals in different ways to contribute to the care of a patient. The andragogical assumption about a learner's readiness to learn and apply material supports this type of information integration into the curriculum; it identifies tangible ways for learners to take classroom topics and immediately apply the content in a practical way (Knowles & Associates, 1984; Merriam, 2008).

The shift in tone due to exposure, observed during the study was not only related to the academic components of peer experiences; results reflected an increase in social understanding of, and appreciation for, peers as a result of collaborating with them. One logical application for these results is related to student experiences outside the classroom. As part of the staff at a pharmacy-only institution, student affairs professionals have a unique opportunity to connect students with personnel at other institutions by connecting like-minded organizations or student groups. Because the role of student affairs administrators is typically identified as a population of staff members

"responsible for establishing the campus conditions that affirm students and for providing the programs and services to meet their academic and social needs outside the classroom" (Kuh et al., 2005, p. 164), professionals in these roles are naturally drawn to the core concepts driving this recommendation.

Integrating results in the larger student experience. In the non-classroom application the responsibility initially falls to the staff member to identify points of connection and perhaps even orchestrate initial meetings and exchanges. But in time, meaningful collaboration has the potential to generate interest and ownership on the part of the student for future encounters (Sandeen, 2001). By meeting, and likely connecting with peers in other degree programs, individuals at a pharmacy-only institution will have the opportunity to see how varied the individuals seeking other health science degrees really are. In time, it stands to reason that recognizing diversity will enable pharmacy students to be more open-minded during initial interactions with other health care professions when practicing after graduation (Regan de Bere, 2003).

Perceptions of the Pharmacist's Role

This study produced a few unanticipated results and themes during the process. One such instance relates to professional responsibilities. At the beginning of the research it was assumed students in the third professional year of a pharmacy program were aware of expectations placed on a pharmacist. As the data presented in Chapter Four suggested, this was not exactly the case. An institution can work to enhance the students' understanding of pharmacy practice through simple changes in existing curriculum offerings.

Integrating results in pharmacy curriculum. As noted by some respondents, different types of pharmacy practitioners have different responsibilities. It is possible that a pharmacist may operate in an environment where not all three components noted are practiced regularly. Despite that reality, pharmacy degree programs have a responsibility to ensure that graduates understand the basic responsibilities of a pharmacist in all capacities. Part of the rationale for this expectation relates to the number of students who start pursuing a pharmacy degree without really knowing how many different ways are available to practice pharmacy. General understanding of the various healthcare fields, even if a student knows he or she will not practice them, helps create a more complete picture of the profession a student is entering.

An orientation course highlighting various types of pharmacy would be one simple way to address the lack of understanding identified in the research population during this study. To align most closely with andragogical principles the course should include a clear application of the experiences in the degree program to specific pharmacy practice areas (Knowles & Associates, 1984; Merriam, 2008). The researcher also believes that having different types of pharmacists share their specific experiences also has the capacity to generate a more meaningful experience for students.

Additionally, allowing students the opportunity to participate in a shadowing experience early in the degree program would help students develop a greater sense of the field they are planning to enter. With a sense of the demands on practicing pharmacists in real-world environments, students would be better able to identify roles and responsibilities related to direct patient care, patient counseling, and interprofessional education.

Definitions of Optimal Patient Care

When speaking with participants about optimal patient care, responses were coded within the scope of three different themes. Chapter Four's data showed from one interview to the next and across the entirety of the third round of interviews that participants did not have a consistent sense of how to achieve optimal patient care. This seemed to represent a disconnect between the individual components of the healthcare curriculum and the bigger picture of real-world application for students. Participants were asked: 'In your opinion, what does optimal patient care look like?' The results related to this specific question presented some of what the researcher believed to be the most definitive gaps in student understanding of healthcare. As such, integration of changes related to this data are of highest priority from the researcher's perspective. As a reminder, collaboration was included across the board in the IPTS activities, although it was not universally recognized as a piece of the process related to optimal patient care. Responses related to patient outcomes were less frequent than those including collaboration, and the number of responses including patient engagement were low. Collectively, these results created an overall bleak picture of how students identify components of patient care.

Integrating results in pharmacy curriculum. It is possible that components of existing pharmacy curriculum may make reference to the three key areas of optimal patient care, previously identified as collaboration across health care professions, patient outcomes, and patient interaction and engaging the patient in the process; but, it is clear that the information and subsequent importance of these three components is not resonating as it should. Similar to the suggestions related to intentional reflection on

rotation regarding the role of other professionals, it seems students could benefit from discussions with faculty members and rotation preceptors helping connect the actions of practitioners with the three noted areas of optimal patient care. As a reminder, by the time students participated in the case study experiences, they had successfully completed two different rotation experiences with patients that included working with healthcare providers in both a community-based setting and a hospital-based setting.

Theoretically, through the rotation experiences, participants would have been exposed to practicing pharmacists who were operating within the context of providing optimal patient care. The study's results, showing that not one of the three areas either remained inclusive, meaning the participant consistently referenced it or became inclusive, meaning the participant grew in his/her understanding of it, reflect missed opportunities for helping students interpret and apply the finite behavior with the bigger picture. The faculty members who helped identify the three key areas of Optimal Patient Care felt strongly that collaboration across health care professions, patient outcomes, and patient interaction and engaging the patient in the process were all necessary for the process. Of greatest concern to the researcher was the fact that over 40% of the participants failed to mention the role of patient interaction and engaging the patient at any point during the course of the study.

Within the classroom, there are opportunities for students to gain a greater understanding of the identified pieces that make up optimal patient care: collaboration across health care professions, patient outcomes, and patient interaction and engaging the patient in the process. Again, it seems simply matter of helping students connect smaller actions, such as asking patients if they have questions regarding their prescriptions, with

the bigger picture of demonstrating an investment in the patients' overall well-being. It may be as basic as operating with a consistent definition of optimal patient care across an academic curriculum and tying content from individual courses to that definition all along the program. This could mean that an institution includes the areas identified in this study, collaboration across health care professions, patient outcomes, and patient interaction and engaging the patient in the process, throughout the academic and practical experiences of its students. If all institutional faculty include collaboration across health care professions, patient outcomes, and patient interaction and engaging the patient in the process in their expectations regarding student responses to cases used for assessment, the process of thinking through these areas will likely become second nature (Aschcroft & Hall, 2006).

Definitions of Interprofessionalism

Along with developing a stronger sense of the pharmacist's role in health care, participants demonstrated growth in their understanding of interprofessionalism. Through the process of collaborating with peers from other degree programs, participants developed a more concrete sense of what interprofessionalism is and how it is most effectively achieved. These findings from the study offered the most tangible support for additional integration of interprofessional experiences for students at a pharmacy-only institution.

Integrating results in pharmacy curriculum. As noted in Chapter Two, research supports the idea that exposure to others increases the likelihood of meaningful collaboration (Harbaugh et al., 1987). Chapter Two also presents a description of interprofessionalism as an expected component of healthcare practitioners (IPEC Expert

Panel, 2011). Pairing that information with the noted results regarding participants' understanding of collaboration as part of interprofessionalism and the identified value of both respect and communication as part of interprofessional interactions, it seemed clear that an increase in interactions with peers from other degree programs should make a positive impact on the students at a pharmacy-only institution. In the scenario at hand, it is important for institutional administrators to manage relationships with other academic entities to cultivate cross-program opportunities. Students would benefit from intentional interprofessional curriculum requirements throughout the professional degree program.

The challenge is, while this is the easiest connection to make based on the information presented in this study, it is also the most challenging because it is rooted in so many components that are beyond the control of the host institution. . An institution that only provides a pharmacy doctorate would need to identify a peer institution willing to collaborate on curriculum that guarantees the pharmacy students intentional, structured interprofessional experiences. In some instances, a peer institution may not be in close proximity to a pharmacy-only institution. In other instances, institutions near the pharmacy-only institution may perceive competition between the programs they offer and the pharmacy-only program, which could result in difficulty establishing a joint-curricular offering.

However, with support from additional studies, some of which are described further in this chapter, administrators may be able to justify that the benefit for pharmacy students would not be exclusive to the pharmacy students. Based on the previously presented studies and the support of the results from this study, students from other programs stand to benefit from learning about the responsibilities and academic

experiences of a student in a pharmacy degree program. Logic would say that the ideal collaboration would be between an institution that grants only pharmacy degrees and an institution that does not grant pharmacy degrees at all. This would allow students at both schools to gain exposure to programs they would not otherwise encounter academically. Additional affirmation of these thoughts follows as information is presented regarding how participants perceived the experience.

Participant Perceptions of Their Experience

Chapter Four demonstrated an overall satisfaction with, and in some instances authentic enjoyment of, the interprofessional collaboration opportunity, the greater understanding participants developed on topics ranging from peer experiences to a self-identification as future pharmacists. With a strong positive reaction to a mandatory experience, the value identified by students of the experience seemed magnified beyond what the researcher had anticipated. In previous experiences, the research found students to generally respond adversely to additional mandatory requirements. Institutions have the opportunity to capitalize on the positive experience identified by students. The institution studied was small and students in this study were transparent about their experiences. Any time students have a positive experience they share thoughts anecdotally through interactions with peers; this behavior reflects common andragogical principles noted in Chapter Two (Browning, 1987; Knowles & Associates, 1984). As long as the institution continues to develop experiences with tangible meaning that allow students to directly apply and process the course material, the students will continue sharing positive feelings regarding the experience with others who have yet to participate in the course.

Suggestions for Future Research

This study generated a variety of areas that the researcher believes could benefit from further examination. The clearest area relates to any institution that is a single health science degree granting school (e.g. a free-standing college of nursing or an unaffiliated school of medicine). Understanding how interprofessional exposure impacts other students in health science degree programs would likely help validate the need for integration of these types of experiences into course programming. Similarly, it is highly possible that even at an institution offering multiple degrees in the health science fields, there may be an absence of intentional interprofessional collaboration regarding specific patient cases. Research examining the impact of collaborative case study programs would help individuals responsible for curriculum at any institution offering health science degrees justify integrating these experiences.

Additionally, understanding the components of the experience that are most meaningful may also generate beneficial results related to program implementation. This study did not assess the role of the facilitator with regard to the participants' experiences. If replicated, the researcher should consider securing access to specific discussion groups and tracking participant facilitators. It may be possible that consistency, or inconsistency, in participant interview responses related to specific behaviors of individuals facilitating discussions.

Another possibility related to the results of this study is that observable change took place following the initial experience. It would be wise to design a study examining how many intentional collaboration experiences may be necessary for perceptions to shift. Clarity in this area specifically aids administration at free-standing health science

institutions with discussions intended to establish partnerships with peers. If an administrator can say that engaging in this behavior once each semester can have a meaningful impact, it may allow an otherwise apposed peer institution to test the integration of intentional interprofessional experiences into their students' experiences.

The experience used as the intervention for this study was tied to an academic course and subsequently a grade. The researcher would like to consider studying the degree of perception shift for students who elect to engage in interprofessional collaborations with health science peers, rather than being required to do so. Designing and implementing a course places different demands on faculty and administration than organizing a collaborative opportunity for students representing different health science degree programs.

Separate from studies that could be conducted in shorter timeframes, the researcher is interested in the bigger picture related to the outcomes of this study, in consideration of this potential research question: 'How does this experience translate into the professional world?' Perhaps it is possible that there is little real value in having concern for student perceptions if behaviors as professionals are not impacted. This study lays groundwork for a larger, longitudinal study following pharmacy students at a pharmacy-only institution as they move through various interprofessional experiences and engage in rotations with a variety of other types of healthcare professionals. Looking at the actual practice of these students upon entering the professional role of a pharmacist may shed light on both positive impacts, like integration of collaborative practice and efforts to provide education related to drug-therapy to peer healthcare providers, and remaining gaps, like lack of intentional patient engagement. A longitudinal study of this

nature may also allow for a more robust understanding of student abilities to translate the collaborative experiences and draw deeper meaning and job-related connections between the case work and actual practice.

Summary

In the beginning, this study set out to gain basic insight into changing perspectives of students in a professional health science degree program at an institution granting only one degree. Not only did the work meet that expectation, it generated interesting points of discussion related to ideas that contribute to the larger picture of health science degree programs and healthcare itself. Information presented throughout this study serves to open doors for future research and present serious rationale for the integration of intentional interprofessional experiences for students. There is more information to gain and substantial work to be done to fully understand how interprofessional collaboration can support the overall experience of students at a pharmacy-only institution; however, at its core this research validates the use of resources to do the work and pursue the information.

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Appendix A – Informed Consent Form

Lindenwood University
School of Education
209 S. Kingshighway
St. Charles, Missouri 63301

Informed Consent for Participation in Research Activities

"Interprofessional perceptions and perspectives of 5th year pharmacy students: Do they change after collaborative practice opportunities?"

Principal Investigator Erika Michalski, M.Ed.
Telephone: 314-446-8539 E-mail: erika.lynn.breedlove@gmail.com

Participant: _____
Contact phone number: _____
Contact email: _____

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1. You are invited to participate in a research study conducted by Erika Michalski under the guidance of John Oldani. The purpose of this research is to gain some understanding regarding pharmacy students' ideas about interprofessionalism and how they might change after working with others in the health sciences field.

2. a) Your participation will involve
   - Completing 3 individual interviews during the course of the semester. You will select a time that is most convenient for you to meet.
   - The first interview will take place prior to attending the first session of the course.
   - The second interview will take place after you have attended three sessions of the course.
   - The third interview will take place after you have completed the course.

   b) The amount of anticipated time for your participation is as follows: The first interview will last between 45 minutes and 1 hour.
   - The second interview will last between 30 and 45 minutes.
   - The third interview will last between 45 minutes and 1 hour.

In consideration for your time:
- You will have the option to be entered into a drawing for a $100 gift card each time the complete an interview.
- Winners will be notified via phone call if selected.

c) Approximately 20 to 40 participants will be involved in this research.

3. There is minimal anticipated risk associated with this research. The researcher will do everything in her power to maintain the confidentiality of interview responses; however, a breach of confidentiality is possible. There may also be unknown risks that could not have been foreseen by participating in this research.
4. There are no direct benefits for you participating in this study. However, your participation will contribute to the knowledge about interprofessional education and may help society by shaping the educational process of future pharmacists.
5. Your participation is voluntary and you may choose not to participate in this research study or to withdraw your consent at any time. You may choose not to answer any questions that you do not want to answer. You will NOT be penalized in any way should you choose not to participate or to withdraw.
6. We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication or presentation that may result from this study and the information collected will remain in the possession of the investigator in a safe location. All recorded data and documentation of specific interactions will be destroyed following the completion of the researcher's dissertation defense.
7. If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Erika Michalski: 314.446.8539 or the Supervising Faculty, John Oldani: 636.949.4993 You may also ask questions of or state concerns regarding your participation to the Lindenwood Institutional Review Board (IRB) through contacting Dr. Jann Weitzel, Vice President for Academic Affairs at 636-949-4846.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above.

_____	_____
Participant's Signature Date	Participant's Printed Name
_____	_____
Signature of Principal Investigator Date	Investigator Printed Name

Appendix B – Recruitment Script

"Good afternoon. My name is Erika Michalski and I am the Director of the Office of Continuing Professional Development here at STLCOP. I am also a Doctoral candidate at Lindenwood University. I am writing my dissertation about the interprofessional education for pharmacy students and would like to recruit individuals from this group to participate in my study. Your information will be kept completely confidential. No names will be affiliated with interview responses. Participation in this project is completely voluntary and whether or not you participate will not impact your grade in the IPE course in any way. Participation will include 3 rounds of interviews, with the longest interview lasting between 45 minutes to an hour. Each time you participate in an interview, you will have the option to enter your phone number into a drawing for a $100 gift card. After each round of interviews, one phone number will be drawn and called to schedule a time to pick up the gift card. 3 total gift cards will be given out during the course of my research. To make this as easy on participants as possible, you will pick the interview times that work best in your schedule. I have consent forms available for all of you to review. I will not collect any at this time so you can fully consider participating in this project. You will find my phone number on the consent form if you have any questions or need clarification. If you elect to participate, please bring the consent form by my office at which time you will schedule a one-hour interview time. You will also be given your ID code to be used throughout the interview process; this code will be how your interview responses are documented. I am typically in the office Monday – Friday from 9 a.m. until 5 p.m. for you to drop off your consent form, but interview times will be available until 10 p.m. Each participant will need to have his or her first interview

completed prior to the first session of IPE. My office is in the Experiential Education suite on the 3rd Floor of Jones Hall. I will be back at my office following this orientation if you know you are willing to help, want to turn in your consent form and want to sign up for an interview now. Thank you for your time and thank you in advance for your willingness to participate."

Appendix C – Data Gathering Materials

The questions for the first round interviews were as follows:

1. What is your id number?

2. In your experience, who is a/an (insert each of the disciplines listed below) typically? Feel free to describe personalities, intentions, workloads, etc.
   A). Pharmacy Students
   B). Medical Students
   C). Nursing Students
   D). Social Work Students
   E). Physical Therapy Students
   F). Occupational Therapy Students
   G). Physicians Assistants Students

3. What role do you think the following play in the health sciences fields?
   A). Pharmacists
   B). Doctors
   C). Nurses
   D). Social Workers
   E). Physical Therapists
   F). Occupational Therapists
   G). Physicians Assistants

4. In your opinion, what does optimal patient care look like?

5. In general, how would you define interprofessionalism?

6. In your opinion, what should professional interactions across the health sciences field look like?

The interview questions for the second round interviews were as follows:

1. What is your id number?

2. At this time, how would you define interprofessionalism?

3. Where do you feel pharmacists fit in the scope of the health sciences field?

4. In your opinion, what does optimal patient care look like?

The questions for the third round interviews were as follows:

1. What is your id number?

2. Were the following student groups represented in your specific small group? If yes, how many?

A). Pharmacy Students
B). Medical Students
C). Nursing Students
D). Social Work Students
E). Physical Therapy Students
F). Occupational Therapy Students
G). Physicians Assistants Students

3. In your experience, who is a/an (insert each of the disciplines listed below) typically? Feel free to describe personalities, intentions, workloads, etc.

A). Pharmacy Students
B). Medical Students
C). Nursing Students
D). Social Work Students
E). Physical Therapy Students
F). Occupational Therapy Students
G). Physicians Assistants Students

4. What role do you think the following play in the health sciences fields?

A). Pharmacists
B). Doctors
C). Nurses
D). Social Workers
E). Physical Therapists
F). Occupational Therapists
G). Physicians Assistants

5. In your opinion, what does optimal patient care look like?

6. In general, how would you define interprofessionalism?

7. In your opinion, what should professional interactions across the health sciences field look like?

8. How has your opinion of what professional interactions across the health sciences field should look like changed over the course of the academic year? Or, in the instance that it has not changed, what have you learned to confirm your opinion?

Vitae

Erika Michalski has been working in higher education as a student affairs professional for nearly 10 years. During this time she has trained student leaders, provided career development services and coordinated support of fraternity and sorority chapters across North America. Erika is currently the Director, Continuing Professional Development for St. Louis College of Pharmacy, a private, free-standing institution granting only pharmacy doctorate degrees. Along with a variety of other responsibilities, Erika recently partnered with administrators at St. Louis College of Pharmacy to develop and facilitate orientation curriculum for the institution's first-year students as well as curriculum for the development of the third-, fourth-, fifth- and sixth-year students designed to help them understand how to maximize their experiences on campus. Her work in pharmacy education has been recognized both by the Accreditation Council for Pharmacy Education and the Alliance for Continuing Education in the Health Professions. Erika has presented multiple workshops for healthcare educators related to engaging adult learners; additionally, she has developed and facilitated programming designed to meet the needs of pharmacy-specific residency programs across the Midwest.

Erika's educational studies have resulted in the anticipation of an Educational Doctorate degree awarded upon graduation in December 2015 from Lindenwood University. A Master's of Education degree was earned in 2007 as well as a Bachelor's of Science degree in human and environmental sciences in 2005 from the University of Missouri – Columbia.