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Allied Health Faculty Members' Perspective on Interprofessional Collaborative Practice: A Hermeneutic Phenomenological Study

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ABSTRACT

A framework for interprofessional collaborative practice (IPCP) was developed by the World Health Organization (WHO) (WHO, 2010) in response to the need to address the complicated conditions that exist in today's health systems. Much of the focus of today's health service delivery is predicated on the social determinants of health (Barzansky et al., 2019), which refer to the environmental conditions associated with where people are born, live, go to school, work, play, age, and worship that have an impact on health, function, quality of life, and risks (Healthy People 2030, n.d.). IPCP is thought to be the only approach effective enough to address these complicated systems associated with health (Bosch & Mansell, 2015). This co-authored dissertation explores what may impact the development of IPCP skills in allied health professionals.

This study focused on the lived experiences associated with IPCP of four allied health providers at three points along their professional paths—as students, clinicians, and faculty members. A hermeneutic phenomenological approach included the use of semi-structured interviews to gather information associated with IPCP at these three points. The codes that emerged from the interviews of participants as students were consolidated into two themes: student professional development and student collaboration. Codes from interviews of participants as clinicians were examined and the following two themes emerged: effect of practice on client care and work environment. Lastly, the codes from the interviews of participants as faculty members were organized into the following two themes: learning activities for IPCP development and factors associated with IPE delivery.

The overall results of this study indicate that IPCP education, exposure, and application varied among the participants. Two of the four participants appear to have had more experience with IPCP, which has implications for patient and client interventions and professional education programs in allied health. Future research is indicated to further examine these implications.

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Thank you, Philip Beckley, for your encouragement, kindness, and sense of humor throughout this project.

- *Margaret Newsham Beckley*

Deep gratitude for the cherished memory of my mother, Jean C. Geders, who taught me that an education was important for all of her children. She pointed me on my career path and encouraged me to follow all of my dreams.

-*Mary Geders Falcetti*

It has taken a village to help me reach the peak of this doctoral journey. Firstly, I want to begin by thanking God for giving me the strength to keep going with a positive attitude. My husband Amit and daughters Radha and Shreeya have been my cheerleaders from day 1 and I owe them a heartfelt thank you for their motivation and unfailing support. I want to thank my parents and in-laws who although live 8,000 miles away have been a source of encouragement during our daily phone calls. Their prayers and blessings were especially important during COVID-19 when we could not see each other in person for 2 years. I want to thank my friends and coworkers for helping me when needed.

Finally, this journey would have been impossible without my wonderful teammates Mary and Peggy. Our bond has developed into a beautiful friendship that I will cherish forever. I am so glad we teamed up!

-*Prajakta Khare-Ranade*

DEDICATION

We dedicate this dissertation to our co-author, Mary Geders Falcetti. Her unwavering spirit and strength in the face of significant challenges are a true inspiration and a testament to her resilience.

— *Margaret Newsham Beckley and Prajakta Khare-Ranade*

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CHAPTER 1: INTRODUCTION

In today's health care settings, patients who are being examined for a specific health problem often have several other underlying chronic health conditions, the impact of which complicates the treatment of the primary health problem. In 2008, the Institute for Healthcare Improvement identified the needs for complicated patient care: improved care and outcomes for the client, better health for the population, and lower per-capita costs. This approach is similar to that of the Affordable Care Act of 2010. Being able to manage the challenges associated with complicated medical care requires a comprehensive and coordinated approach. Interprofessional collaborative practice (IPCP) in health care has been suggested to be the most effective and efficient way to treat complicated patient cases by providing a coordinated and comprehensive evidence-based intervention process (Bosch & Mansell, 2015).

Background

Team-based health care service delivery, which is the provision of patient care by a group of various health care professionals, has been available in the United States for decades (Mitchell et al., 2012). With more recent advances in medicine, it was necessary that the early team-based service delivery models make way for a highly coordinated and improved health care delivery model. In addition, shortages in the number of health care providers and continued implementation of cost-saving strategies led to a shift from hospital-based health care delivery to more primary care, prevention programs, and community-based care – such as neighborhood health clinics and home health care (Sakurada & Graffunder, 2016). As a result, a framework for interprofessional collaborative practice was developed by the World Health Organization (WHO; WHO,

2010). Much of the focus of today's health service delivery is predicated on the social determinants of health (Barzansky et al., 2019), which refer to the environmental conditions associated with where people are born, live, go to school, work, play, age, and worship that have an impact on health, function, quality of life, and risks (Healthy People 2030, n.d.). IPCP is thought to be the only approach effective enough to address these complicated systems associated with health (Bosch & Mansell, 2015).

IPCP in health care delivery "occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, caregivers and communities to deliver the highest quality of care across settings" (WHO, 2010, p. 7). Today, the need for healthcare professionals to work together in order to improve health care access and outcomes is not only recognized by the WHO, but members of the Association of Schools of Allied Health Professions, the Accreditation Council for Occupational Therapy Education, the Accreditation Council for Education in Nutrition and Dietetics, the American Council on Academic Physical Therapy, and the Council on Social Work Education, to name a few (IPEC, 2016). The need for promoting IPCP begins in health care professional education programs and is illustrated in the professional accreditation standards and guidelines.

While accreditation bodies of health care professional education programs have standards and guidelines relating to interprofessional education and collaborative practice, each academic program can meet those standards in any manner they see fit. The same is true for health care providers who work in a collaborative practice model for health care service delivery. These models are unique to the healthcare setting and consist of two or more health professionals working together in the treatment of patients or

clients. These coordinated and collaborative approaches are considered to be those that will produce the best outcomes (WHO, 2010).

Academic and professional standards and guidelines must be met in the areas of collaborative education and practice, yet the manner is not dictated (*CAAHEP | Governing Documents*, 2023, pp. 22–23). It is possible that education experiences and health care delivery practices that meet required standards may not necessarily have the same outcomes (Lehane et al., 2019). While IPCP has been considered to be the most effective and efficient intervention process in health care settings when it comes to treating patients with complicated health conditions, the capacity to do so varies from health setting to health setting (LaMothe et al., 2021). Examining interprofessional education (IPE) and IPCP experiences of subjects as health care students, health care practitioners, and health care faculty members may provide insight as to how and why capacity to provide IPCP services varies between health settings.

A review of the literature and examination of experiences of those completing professional health education programs, professional health care providers, and now faculty members of professional health education programs may provide insight into the effectiveness of IPE and collaboration practices.

Problem Statement

In order to effectively manage complicated health care cases often seen in today's health care system, multiple health care providers need to be called upon to contribute to an appropriate intervention. The health care providers cannot work in isolation; rather, their contribution to an appropriate intervention needs to coordinate with the patient's

needs and the other health care providers' plan of action. This coordination of care is referred to as the IPCP approach (WHO, 2010).

As literature shows, IPCP is the approach which typically results in the best health outcome for patients (Guck et al., 2019). However, IPCP is not a consistent approach across health care practice settings (Davidson et al., 2022). Inconsistency in the delivery of healthcare can negatively impact health outcomes (Lehane et al., 2019). Since IPCP has been identified as a method to mitigate new challenges in today's health care environment (WHO, 2010), it is important for allied health providers to apply it appropriately. There are limited studies examining lived experiences of allied health professionals using IPCP at different points in their career. Therefore, there is not a thorough understanding as to how the inconsistency in the use of IPCP develops in allied health settings.

Purpose Statement

In practice, IPCP approaches are often applied inconsistently (WHO, 2010). The purpose of this study is to examine lived IPCP experiences of allied health faculty members at three points along their professional development path. The first point is as an allied health student, the second point is as an allied health practitioner, and the third point is as an allied health faculty member. In doing so, we expect to gain insight into the development of IPCP skills and their application in practice. And, more importantly, identify possible indicators as to why IPCP is not consistently used as an intervention approach across health care settings.

Research Questions

The research questions addressed in this study were:

1. What were participants' lived experiences of IPE as students?
2. What were participants' lived experience of IPCP as clinicians?
3. How does experiencing IPE and IPCP impact the participants' course development and instruction?

The research questions were answered through a series of three interviews of allied health faculty members regarding their lived experiences associated with IPCP using a hermeneutic phenomenological approach.

Significance of the Study

The results will add to the allied health literature related to the most effective and efficient strategies for allied health professionals to apply IPCP across practice settings. Consistently applying IPCP in all settings would ultimately improve patient outcomes. Those who could benefit from the findings of this study include, but are not limited to, professionals in the following fields: Adult Education, Nutrition and Dietetics, Occupational Therapy, Physical Therapy, and Social Work. These professionals in academic settings could apply strategies and concepts identified from the study to improve learning activities and knowledge development for pre-allied health providers. In turn, the professionals in clinical practice settings could incorporate study findings to enhance interprofessional collaborative design, with the ultimate goal of improving patient and client outcomes.

Theoretical Foundation

This study is based upon social constructivism and the andragogical process model for learning. The research paradigm of social constructivism is predicated on the notion that there is no universal truth (Waite, 2019). Rather, a phenomenon can have multiple realities. Researchers or teachers and participants co-construct knowledge and an emphasis is placed on their values of the setting. Social constructivism research is considered to be scientific if trustworthiness has been established and if it is contextually relevant (Hays & Singh, 2012).

Andragogy is the practice of adult education and includes the assumptions, methods, and procedures involved in teaching adult learners (Knowles et al., 2020). The term andragogy was popularized in the United States in 1968 by Malcolm Knowles (Holton et al., 2001), who is often referred to as the father of Andragogy (Knowles et al., 2020). The Andragogical Process Model (APM) is built upon the work of Malcolm Knowles and is focused on the *process* of learning as compared to other content teaching models that focus on transmitting information and skills (Knowles et al., 2020). The use of the APM is valuable in the professional development of IPCP health care service providers because it requires facilitating learning and then immediately applying the new knowledge or skill, for example, in the clinical environment (MacRae, 2017).

Delimitations

This study was conducted over a one-month period in a large metropolitan area in the US. In addition, the subjects were from a convenience sample of allied health faculty members from various public and private universities. While there are numerous allied health fields, the allied health participants are only from the professions of Nutrition and

Dietetics, Occupational Therapy, Physical Therapy, and Social Work. Furthermore, the subjects had to be at least 10 years post-graduation from a professional allied health program, have practiced in a clinical setting for a duration of five years minimum, and taught at the university level for a duration of five years minimum. Allied health professionals who have practiced in a clinical setting for a minimum of five years have the time and opportunity to develop the characteristics that define an excellent allied health professional: cognizance, cooperativity, communicative, initiative, innovative, introspective, broad perspective, and evidence driven (Paans et al., 2013). In addition, allied health faculty members who have taught at the university level for a minimum of 5 years would have had the time and potential opportunity to develop necessary relationships, been able to commit the time necessary for IPE success and have the opportunity to develop several iterations of IPE courses (Buring et al., 2009).

Assumptions

Through this study process, the researchers made three assumptions. First, the subjects answered the interview questions honestly. Secondly, subjects could remember IPCP experiences, and third, potential interviewer bias was minimized.

Definition of Terms

Allied Health Providers – health professionals separate from physicians and nurses

Dietitian Nutritionist (RDN) – an allied health professional with expertise in food and nutrition who assesses and supports recovery of nutritional deficits and/or nutritional needs to promote optimal health of clients

Hermeneutic Phenomenology – an understanding that can be justified through the report of lived experience

Interprofessional Collaborative Practice (IPCP) – the use of multiple practitioners working together to provide a comprehensive intervention

Interprofessional Education (IPE) – learning activities and experiences of students from multiple disciplines working together to find a solution for a complex issue

Occupational Therapist (OT) – an allied health professional who provides therapeutic support and adaptations to clients across the lifespan for them to overcome barriers due to illness, injury, or developmental delays and be able to engage in meaningful activities and life roles

Physical Therapy/Therapist (PT) – an allied health professional who helps clients with injury or illness move their body and limit their pain and provides preventative intervention to reduce risk of physical injury or decline.

Social Constructivism – a learning theory that involves the use of social groupings that come together to contribute to the development of learning and knowledge

Social Worker (SW) – an allied health professional who helps clients cope and/or mitigate symptoms associated with illnesses through assessments, diagnoses, and counseling.

Organization of the Study

This dissertation is organized into five chapters. Chapter 1 is the introduction to our process and study. Chapter 2 is a review of the literature associated with interprofessional collaborative practice trends and outcomes. Chapter 3 is the methodology for this study. Chapter 4 will present the results of the data analysis. Chapter 5 is the study summary, conclusions, and recommendations. In addition, there are references and appendices, including the study interview questions.

Summary

This chapter introduced the idea for our study, the conceptual frameworks that were considered in the process, the concepts associated with IPCP in health care, and terms being used throughout the course of this study. We examined lived experiences associated with IPE and IPCP of four allied health faculty members as a mechanism to identify challenges or advancement of IPCP application. Promoting the application and use of IPCP across health care settings should ultimately improve outcomes for patients with complex health issues.

CHAPTER 2: LITERATURE REVIEW

A look at the literature on interprofessional collaborative practice (IPCP) may provide insight into the effectiveness of IPCP improvements of patient/client outcomes. The World Health Organization (WHO) has recognized the need for IPCP as an important strategy in mitigating global health crises (WHO, 2010). IPCP allows multiple health care workers to work together with patients, families, caregivers, and communities to deliver the highest quality of care (Morgan et al., 2015; WHO, 2010). This literature review addresses successes and barriers to interprofessional collaboration practice, and professional initiatives to improve outcome values for consumers of healthcare. The guiding theories and models for this study are explored and discussed in the subsequent sections.

Theories and Models

The qualitative research interests of this study align most closely with social constructivism. In the areas of practice, the authors believe that it is not possible to arrive at a "universal truth" while studying the allied health faculty members' perspectives on interprofessional collaborative practice (IPCP) complexity of the interplaying factors. Social constructivism and the andragogical model of adult learning may help provide a deeper understanding of challenges surrounding interprofessional education (IPE) and IPCP and could help in recommending specific workable strategies because of the involvement of faculty members' feedback.

Constructivism

This literature review reveals many qualifiers of constructivism by different authors that include *metaphysical constructivism, epistemological constructivism,*

semantic constructivism, and *cognitive constructivism* (André Kukla, 2000; Clark, 2018; Liu & Matthews, 2005; Scheurman, 1995), as well as *personal constructivism, social constructivism, radical constructivism,* and *realist constructivism* (Liu & Matthews, 2005).

Constructivism by some educators (Wertsch & Tulviste, 1992) is considered a form of cognitivism – a learning theory that focuses on how the mind receives, processes, stores, and retrieves information. Believers in constructivism feel learners are best to 'construct' their own meaning when encountering new information (Clark, 2018). Learners may then integrate the meaning of new information through a lens of prior experiences, attitudes, beliefs, and existing knowledge. Constructivism has been linked to knowledge acquisition and shared decision-making in several domains: mathematical/scientific, (child and adult) educational, and psychological (Clark, 2018; Cottone, 2001; Nuthall, 1997; K. Powell & Kalina, 2009; Scheurman, 1995). No one definition will suffice for the multitude of *paradigms, theories* or *frameworks* referenced when speaking of constructivism and social constructivism. For the purposes of this study, we identify constructivism by the associated five main principles as indicated by Thampinathan, (2022):

- "The construction of knowledge occurs on already existing knowledge" (p. 27)
- "Learning occurs in an active process." (p. 27)
- "Acquiring knowledge is fundamentally a social construct" (p. 27).
- "Value everyone's perspective and that every learner has a different point of view" (p. 27).

- "Constructivism theory involves the mental model of learning and that individuals are constantly evolving" (p. 27).

Social Constructivism

This study focuses on *social constructivism* because the authors deem it most relevant when looking at allied health teams and decision-making regarding patient/client care outcomes. Defining social constructivism can prove difficult due to the many lenses it has been viewed through and attributions associated with it. A very simplistic view defines social constructivism as – ideas that are constructed through interaction with others (Powell & Kalina, 2009). Vygotsky's (1965) version of social constructivism emphasizes the social aspect as being most important, which integrates well with shared decision-making recommended in healthcare settings. Some basic beliefs in Vygotsky's social constructivism include but not limited to:

- Social interaction and culturally organized activities are necessary for proper psychological development.
- Language precedes knowledge, and the process of social interaction uses language to help individuals learn (Powell & Kalina, 2009).
- A social constructivists' environment includes activities where persons experience their level of understanding and seek assistance to get to the next level– from persons with greater or additional knowledge (Powell & Kalina, 2009).
- Social constructivism allows persons participation in activities to create relationships that will directly affect what they learn (Powell & Kalina, 2009).

- Vygotsky's best-known concept is the *zone of personal development* or *Z*PD. It is defined as, "the distance between the actual level of understanding and the more advanced level of potential development possible in social interactions with other individuals" (Clark, 2018, p. 181).

As a theory of learning and knowledge for use in allied healthcare professionals, social constructivism can be transformative on how individuals and groups use new information, determine its relevance, and integrate it into existing practice. Lev Vygotsky (1962) is considered the father of social constructivism contending that language and culture are both frameworks for human experience, communication, and understanding reality, (Powell & Kalina, 2009).

Building on Vygotsky's ZPD theory, Bruner, (1973) introduced the idea of *scaffolding* – building on knowledge through self-discovery and interaction with others (as cited by Miranda Jr., 2011) the idea of scaffolding —building on knowledge through self-discovery and interaction with others. The process that healthcare professionals use for knowledge acquisition and integrating it into practice is by utilizing classroom learning (private: in-your-head), integrating it within the classroom community (semi-private: student-to-student), and refining it into practice when deemed relevant (public: guided teacher/mentor-student) (Nuthall, 1997).

Gergen (as cited in Cottone, 2001) said: "Knowledge is not something people possess somewhere in their heads, but rather, something people do together", (p. 40). Furthermore, Cottone, (2001) surmised that ethical decision-making for helping professions was a consensualizing and negotiating process of a social constructivism

group decision-making that happens in a social context instead of an individual's reality (pp. 44-45). Gergen's (1985, 1991, 1994) assumptions support Vygotsky's (1965) original work on social constructivism.

Critique of Social Constructivism

Ameri, (2020) – in contrast to Vygotsky's (1965) sociocultural theory of mind developing and contending that language and social relevance are on separate tracts– feels language and concept relevance are on parallel tracts of development. Vygotsky contended that social context and communication are symbiotic with the most important of these two being social context. In an adult learning situation, this means communication is contingent upon social context, yet Ameri (2020) disagrees, believing that communication and context are equally important and on *parallel tracks*. For professional (adult) learning to develop, both –communication and context– should have equal importance, especially in the case of healthcare professionals as patient /client lives may depend upon it. The next sections will discuss the andragogical model of adult learning or Andragogical Practice Model (APM).

Andragogical Model of Adult Learning

The education of adults has been around for a very long time. Great teachers and philosophers of the Romans, Greeks, Hebrews, and Chinese are identified in history as educators of adult men. However, the process of adult *learning* only started to emerge in the United States and Europe after World War I (WWI) (Knowles, 1978). Until this time, education of adults fell under practices of pedagogy, which is the art and science of teaching children. It was not until the 1960s that adult learning *theory* was developed (Knowles, 1978).

Following WWI, two streams surrounding adult education began to emerge: a scientific stream and an artistic stream (Knowles, 1978). The scientific stream started with the publication of *Adult Learning* by Edward Thorndike in 1928, followed by his second publication *Adult Interests* in 1935, and *Adult Abilities*, by Herbert Sorenson in 1938. All of this provided evidence that adults' interests, learning, and abilities differ from children. Co-currently, an artistic stream was emerging that examined the discovery of new knowledge about adult learning via intuition and analysis of experience. This stream was initially supported by the work of Eduard Lindeman's *The Meaning of Adult Education* in 1926. In general, the ideas put forth by Lindeman's work support the idea that rather than the student fitting him/herself around an established curriculum, adult education should be built around the interests, needs, and desires of the adult learner. These ideas were further developed in the *Journal of Adult Education*, started in 1929. Ideas coming out of the industrial revolution and universities included the need to develop adult education, usually with the student moving forward in the experience, while the teacher took a place in the background (Knowles, 1978).

Many discoveries about adult education and learning were available in the 1940s and 1950s. These ideas were refined with work from multiple disciplines including psychotherapy, developmental psychology, sociology, and social psychology. Educational research continued to develop, Gibb had his chapter "Learning Theory in Adult Education" in the *Handbook of Adult Education in the U.S.* published in 1960, and Miller's work *Teaching and Learning in Adult Education* was published in 1964 (Knowles, 1978).

Concurrently, adult learning concepts were evolving, and the body of theoretical work came to be known as andragogy, distinguished from pedagogy. Upon further research, a form of the term andragogy was found by a Dutch adult educator, reporting that it first appeared in the work of Alexander Kapp, a German grammar teacher, in 1833 (Loeng, 2017). The term was popularized in the U.S. in 1968 by author, Malcolm Knowles. Adult learning theory was further refined and integrated since the first works of Gibb (1960) and Miller (1964) under the term andragogy. The concept of lifelong learning was also attached to adult learning theory (Knowles, 1978).

Andragogy embodies a set of ideas on adults' acquisition of new skills or information. This concept of andragogy focused on the idea that adults learn best when they talk to others about their life experiences and relate these experiences to the learning process. The basis of the theoretical model, along with its principles (listed below), is relevant in the delivery of andragogy for students in allied health professional education programs. Respecting the experience and needs of adult learners, andragogy promotes the relevance of instruction and independent learning – both important for lifelong learners – through self-directed learning, often outside of the classroom (Knowles et al., 2020). Allied health students must become lifelong learners as a professional practice to stay current in their respective fields. The Andragogical Process Model (APM), built upon the work of Malcolm Knowles (1978), is focused on the *process* of learning as compared to other content teaching models that focus on transmitting information and skills (Knowles, et al. 2020) and provides helpful guidance to interprofessional education practices. Knowles' (1978) four principles of andragogy, later expanded to six, are key to effective adult learning. The principles include:

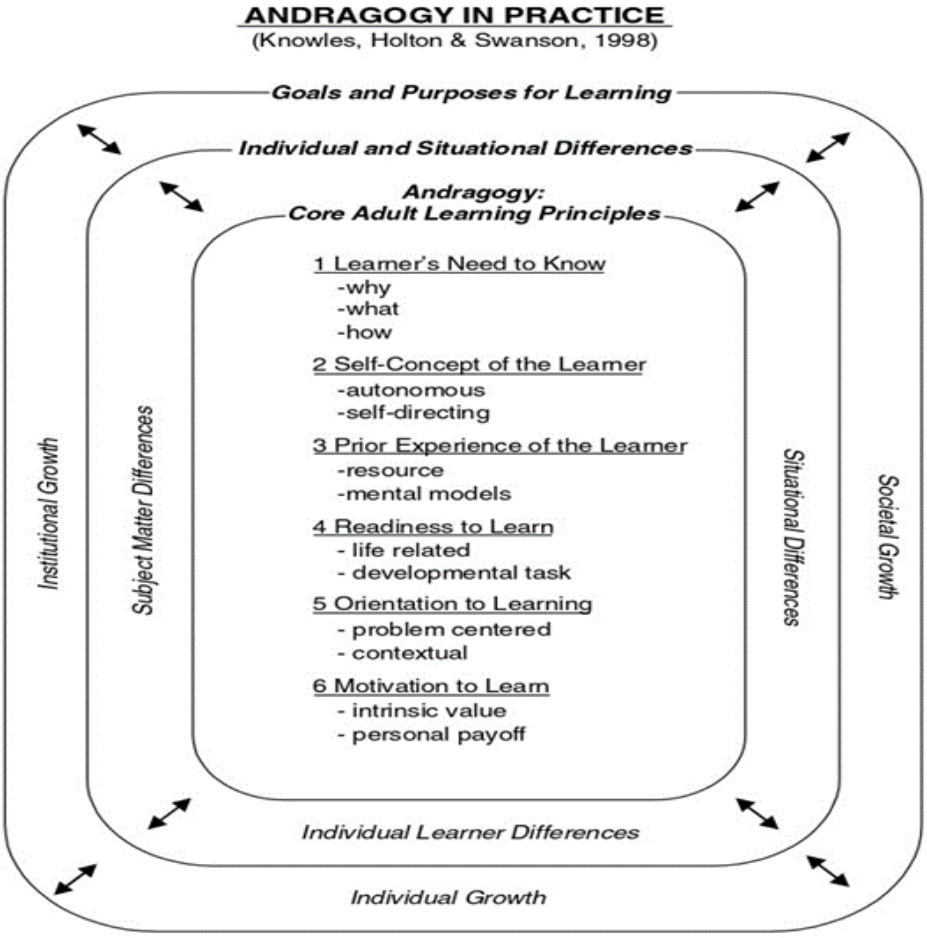
- students needing to know why they are learning something before they learn it
- students moving toward being self-directed
- prior experiences inform their learning
- the need to learn occurs with life experiences
- the orientation to learning is out of the need to develop competencies
- the motivation to learn is internal rather than external (Holton et al., 2001)

Figure 2.1 summarizes the relationship between theory and practice in the application of APM. The outer ring includes considerations of goals and purposes for learning, which influence the three types of possible growth, depending upon the location of activity. The middle ring includes individual and situational differences and considers these influences on the learning process. Lastly, the inner ring includes the core adult learning principles which provide the basis for planning learning activities and experiences in addition to providing ideas for measuring learning outcomes. Understanding these individual differences in the APM makes the model more effective in practice (Knowles et al., 2020).

There has been criticism of Knowles' model of andragogy over the years. One is that it is not a theory as it cannot be tested (Rachal, 2002). Some believe it is one model that leaves others' ideas on adult learning less explored (Henschke, 2011). Others have found the lack of measures to assess the impact of the model over the years indicative of problems with the content development of the model (Taylor & Kroth, 2009). In addition, while the model promotes students being self-directed, there is still some degree of need for instruction and topic selection by the faculty member (Sutherland, 1998) – this is especially true in the education of allied health professionals.

Figure 2.1

Andragogy in Practice



As a supporter of APM, Henschke (1995) identified how the andragogical process design prepares and supports students in the learning process, including carrying out the design and execution of learning plans, and evaluating their learning. He is an advocate for the use of learning contracts, which include these processes and procedures. Henschke's approach can be viewed as an application of the APM shown in Figure 2.1, incorporating, and considering the components in each ring in the education of adult learners.

The development of the principles of the APM provides relevance in the teaching of allied health students and can become a catalyst for course development and teaching style. The application of knowledge and practice skills needed in healthcare can be greatly enhanced through the Knowles' andragogical principles.

Allied Health Professions and Education

The Association of Schools Advancing Health Professions defines allied health as "those health professions that are distinct from medicine and nursing (*What Is Allied Health?* n.d., para. 2). The allied health professionals are involved in delivering health and related services in identification, evaluation, treatment and prevention of diseases and disorders, dietary and nutrition services, rehabilitation, health systems management and others. These allied health professionals work collaboratively with physicians and nurses to provide comprehensive patient centered care and improved patient outcomes (Paans et al., 2013; WHO, 2010). Allied health professionals such as occupational therapists, physical therapists, registered dietitian nutritionists and medical social workers can help provide unique insights to help address patient needs leading to a more patient-responsive health care system. Although over 50 health occupations are considered as allied health occupations, we selected the four professions described in Table 2.1 for our research (*Texas Allied Health Labor Force Analysis*, 2021). In addition to dietetics and occupational therapy which are the authors' areas of practice, this study includes physical therapy and social work because of perceived synergies of roles among the four professions in the health care system. These professions are naturally occurring in teams in many healthcare systems with the potential to work closely to help improve patient outcomes.

The coursework involved is unique to each of these allied health professions and that makes the allied health professional experts in their respective areas. The allied health curricula include classroom learning and work integrated learning through fieldwork experiences to enhance student learning experiences (Nagarajan & McAllister, 2015). Although there are several allied health professions, the coursework aligns with Billett's framework of integrating practice experiences with academic experiences (Billett, 2009). Billett's framework includes three concepts:

- Occupation specific conceptual knowledge which includes allied health occupation specific knowledge which the student obtains through classroom learning. For example, coursework involved in becoming a registered dietitian nutritionist (RDN) involves studying subjects such as food and nutrition sciences, biochemistry, physiology, microbiology, anatomy, chemistry, foodservice systems, business, pharmacology, culinary art, behavioral social sciences, and communication (Academy of Nutrition and Dietetics, 2018).
- Occupation specific procedural knowledge included the knowledge obtained while working in the health practice setting. For example, the level 1 foundational fieldwork and more hands-on level 2 fieldwork experiences for occupational therapy students (Table 2.1).
- Dispositional knowledge is based on individual students' knowledge and beliefs obtained while learning in the classroom and fieldwork. This knowledge helps allied health students learn through their experiences and become an allied health professional (Nagarajan & McAllister, 2015).

Table 2.1

Requirements for Allied Health Students

Allied Health Profession	Role in Health Care	Minimum Education requirement	Required Fieldwork/ Internship experience	Professional Certification/ Examination
Nutrition and Dietetics	Registered dietitian nutritionists are the food and nutrition experts who can translate the science of nutrition into practical solutions for healthy living.	Currently Bachelor's degree and changing to master's degree starting 1/1/2024	Min 1,000 hrs. of experiential learning during dietetic internship	Pass the Commission on Dietetic Registration's (CDR) dietetic registration exam. Gain licensure in state of practice
Occupational Therapy	Occupational therapists help people across the lifespan to do the things they want and need to do through the therapeutic use of daily activities (occupations)	Master's degree in Occupational Therapy	Level 1 (foundational): 120 hrs. Level 2 (hands-on): 40 hrs./week for 24 weeks. Total 960 hrs. Combo total = 1080 hrs.	Pass National Board of Certification in Occupational Therapy (NBCOT®) exam. Gain licensure in state of practice

Physical Therapy	Physical therapists help people improve quality of life through prescribed exercise, hands-on care and patient education	Doctor of Physical Therapy (DPT)	20% of DPT curriculum is clinical education and PT students spend 27.5 weeks in their final clinical experience	Pass a state licensure exam.
Social Work	Social workers help people prevent and cope with problems in their everyday lives	Bachelor's degree or Master's degree (varies with state)	Bachelor's degree: 400 hrs. Master's degree: 900 hrs.	Council for Social Work Education Accredited program and state licensure

Note. Compiled from Academy of Nutrition and Dietetics, 2018 https://www.eatrightpro.org/acend/students-and-advancing-education/information-for-students/registered-dietitian-nutritionist-fact-sheet , 2018 Accreditation Council for Occupational Therapy Education (ACOTE®) Standards and Interpretive Guide, n.d. https://www.aota.org/career/become-an-ot-ota, American Physical Therapy Association, n.d. https://www.aota.org/career/become-an-ot-ota, Council on Social Work Education, 2022 https://www.cswe.org/accreditation/

Role of Interprofessional Education in Professional Allied Health Preparation

Interprofessional education (IPE) occurs in allied health education when two or more allied health professions learn with, from, and about each other (WHO, 2010) to improve the ability to collaborate and improve outcomes for patients and clients in the health care system. IPE has been shown to improve cooperation among students working together in healthcare practice (Speakman & Sicks, 2015) and has been recommended to be included in the professional education of health care providers (Buring et al., 2009; Wagner et al., 2011). IPE is necessary to develop allied health profession graduates who are work-force ready for IPCP in health care settings (*ASAHP*, 2023). In 2011, the US Interprofessional Education Collaborative (IPEC) built on the WHO's ideas on IPE by developing 38 core competencies in 4 domains of IPCP. These competencies are intended to prepare students in professional allied health programs to deliberately work with the purpose of developing a safe, client-centered, population/community-oriented healthcare system (IPEC, 2016).

Oftentimes, students in allied health professional programs that participate in IPE show an increase in knowledge, skills, and attitudes (KSA) as it relates to the concept of IPCP. Yet in a scoping review by Brandt et al. (2014), which included 496 articles, there was no evidence that these positive changes in KSA improved patient outcomes. In addition, only 12.7% of the papers were completed with higher education professional health care programs that were housed in health care settings, such as university medical centers. As such, students in these studies had easy access to clinical experiences during the didactic component of their professional education. Such a small percentage of studies that included students with access to clinical settings may explain the overall lack

of improvement in patient outcomes (Brandt et al., 2014). Findings like these could indicate that a strong preparation in client assessment, client intervention, and client problem solving are necessary for future allied health professionals' ability to support good outcomes for health care clients.

Successes and Barriers of IPCP

One cannot talk about improving patient/client outcomes and IPCP, without dealing with the social determinants of health/wellness. Adopting a global perspective on the social determinants of health, the WHO *Executive Summary* (2008), *Closing the Gap in a Generation,* the report identified three overarching principles of action:

- Improve daily living conditions (listed below)
- Tackle the inequitable distribution of power, money, and resources
- Measure and understand the problem and assess the impact of action taken to resolve the problems.

This includes simple daily needs for individuals— clean water, sanitation systems, power/electricity, access to healthy food sources, social protection for citizens, access to healthcare for all, emphasis on prevention /wellness, adequate living and working conditions— just to name a few. Chapman (2009) stated, "Globalization's impact on power, resources, labor markets, the social structure of countries, policy space, trade, and financial flows also reshape the social determinants of health, usually in a problematic direction" (p. 98). It should be obvious that the least economically secure countries will have the least amount of access to the basic human needs that determine human health. It should further follow that the most economically challenged individuals in the United

States will also have the least amount of access and influence over what the WHO characterized as the non-health inputs and social determinants of health.

Allied health providers unfortunately do not have control over circumstances of patient/client social determinants of health, even if they recognize them as causes and contributing to poor health outcomes for care recipients. Most of the above issues are under the jurisdiction of local, regional, and global governments' responsibilities.

Expectations, Strategies, and Competencies for IPCP

After the World Health Organization (WHO, 2010) published the *Framework for Action on Interprofessional Education and Collaborative Practice* documents, healthcare systems and medical professionals have been considering how best to implement these recommendations. The interprofessional education collaborative (IPEC) first adopted their core competencies in 2011 as an answer to the WHO document (2010) and updated them again in 2016. These core competencies aligned with the Centre for Advancement of Interprofessional Education (CAIPE) recommendations for improving interprofessional practice competencies that include the following four domains listed below (Ambrose-Miller & Ashcroft, 2016; Christopherson et al., 2015; Poore & Cooper, 2021; Rogers et al., 2017; Sand, 2017):

- Adopting Values/Ethics for IPCP- includes individual professional standards of practice and ethics.
- Understanding Role/Responsibilities-being familiar with specialized skill sets for each profession involved in patient/client care.

- Enhanced Interprofessional Communication- informal (remote), formal (includes face-to-face), written (hand and electronic documentation), and spoken
- Facilitating Teams /Teamwork-organizing professions into physical teams of providers (who is included or excluded), and treatment spaces to be in-person, or remote (telehealth)

The IPCP literature also includes expectations/recommendations for improving institutional strategies with an enhanced focus on improving patient-centered outcomes and population health. The *Triple Aim* –original version– is attributed to Whittington and Nolan, (2006), with updated domains in 2016 (Brandt et al., 2014; IPEC, 2016) including: quality of care, reduction of costs, and improving the patent/client experience.

The *Quadruple Aim*, an expansion of the Triple Aim that was authored by Bodenheimer and Sinsky, (2014), includes:

- Enhancing patient experience by including families, and patients in the care team decision-making process
- Improving population health—focus shift from illness to wellness and prevention (Kearney et al., 2020).
- Reducing costs by doing more to reduce resources without sacrificing care outcomes.
- Improving the work life of health care providers (fourth aim added), by avoiding stress/overworking staff, especially with certain populations, (i.e., caring for COVID-19 persons and all the stress associated with care)

These IPCP initiatives–domains that are actionable– supporting institutional improvement may be both cause for success (facilitators) as well as a barrier (inhibitors) to the delivery of good care by allied health professionals. Perceived barriers to implementing institutional initiatives include busy professional schedules and inadequate investment in training of the workforce to implement IPCP.

Previously mentioned initiatives –values/ethics, roles/responsibilities, good communication, and patient outcomes– speak to improving professional culture (personnel), and leadership (facilities). These initiatives support the Triple and Quadruple Aim plans (institutional improvement strategies) and are repeatedly touted in the literature as means of improving health care outcomes for recipients (Ambrose-Miller & Ashcroft, 2016; Brandt et al., 2014; Christopherson et al., 2015; IPEC, 2016; Kearney et al., 2020; Sand, 2017; Supper et al., 2014).

Professionals Must Model Positivity

There is an increasing trend to include collaborative practice models into healthcare systems (Ambrose-Miller & Ashcroft, 2016). Most of the literature reviewed for this study covered traditional healthcare facilities, such as hospitals, clinics, and private offices. Allied health professionals must model positive clinical relationships to position allied health students for future interprofessional collaborative practice (IPCP) and foster working relationships with their teams (O'Carroll et al., 2016). There are several terms used in the literature to refer to IPCP such as: *interprofessional working* (IPW), *health care teams* (HCT), *interprofessional healthcare teams* (IHT), *integrated care teams* (ICT), *multidisciplinary teams, interdisciplinary teams,* and *primary health*

care teams (PHC) (Kearney et al., 2020; Kotecha et al., 2015; O'Carroll et al., 2016; Sand, 2017; Silver & Leslie, 2009; Varpio & Teunissen, 2021).

Fieldwork and internships for allied health students are usually arranged by the student's educational institution. This provides professional interaction, and a social context for their learning process. The formation of a professional identity is defined as, "a complex construct of personal and social identity and relates to attitudes, behaviors, ethical values, commitment, quality awareness and competencies of the professionals," (Biehl et al., 2021, p. 1). In the study by O'Carroll, et al. (2016) on international allied healthcare professionals, mentors who exhibited a good professional identity and culture, were perceived by their students to model better IPCP. This point emphasizes how important developing social context and good communication (language) is for allied healthcare practitioners' training.

The care teams can consist of any combination of healthcare professionals that are assembled by the institution or physician(s) in charge—pharmacists, radiologists, nurses, physicians, lab technicians, therapists, and psychologists– to name a few. Some authors, (Sand, 2017; Teixeira Fumagalli et al., 2021) warn not to conflate the terms *multi-* and *interdisciplinary*, because they are not the same. The former denotes different specialty areas of practice within a singular profession and the latter relates to totally separate professions. Nurses and physicians are not included under the umbrella term of allied health professions.

Attitudes and Behaviors Matter in IPCP

Some international groups of allied health student internships —also called fieldwork, and residencies —were examined in the literature review. Most of the articles

concluded that allied health professional students must have good care, attitudes, and behaviors modeled for them in the field (Fusco et al., 2019; O'Carroll et al., 2016). Fusco et al. (2019) questioned whether positive attitudes can be sustained once a student begins to practice. IPCP can be facilitated or inhibited by overt or covert power differentials among the team members (Ambrose-Miller & Ashcroft, 2016; Rubin et al., 2018). Understanding of professional roles and responsibilities besides how their skill sets benefit patient/client outcomes will be discussed in a later section.

A power imbalance among allied health team members is perceived as a barrier. Fox et al., (2021) advocated for a flattening of the professional hierarchy- meaning all disciplines should be equal in voice- subsequently reducing the place of the physician. The IPE historian Baldwin (2007) asserted that, "the task of teaching cooperation and collaboration in healthcare is not easy" (p. 32). Baldwin coined the term *disciplinary territoriality* referring to a potentially destructive concept– of one discipline 'owning' certain aspects of patient/client care– and needs to be investigated when designing health care teams. The term *clinical democracy* was coined by Long et al. (2006) and implies all team members have equal voice and input into the plan of care for the patients/clients (Fox et al., 2021). Fox et al., (2021) claims this position is naive for professional teams to assume all members are equal when the ultimate legal responsibility for outcomes clearly belongs to the physician. As a result, some physicians are perceived to be the least likely team members to value true collaboration since they consider themselves the top of the decision-making hierarchy (Kotecha et al., 2015; Ward et al., 2018) with physicians possessing the most power. Physicians tend to have structured and rigid institutional perspectives on IPCP, (Kassutto et al., 2020).

Shared Decision-making and Communication styles in IPCP

One of the successes to further IPCP is a focus on communication between team members and shared decision-making in the last two decades. Communication has been described as both *formal*— and *informal collaborative practice* (Fox et al., 2021). *Formal* communication implies written, not in-person, versus *informal* which is characterized as face-to-face requiring persons to be in the same workspace. There is value in both types of communication.

Good communication would logically need to support other professional competencies and institutional strategies —facilitating teamwork, understanding roles/responsibilities, collaborative decision-making — to improve patient/client outcomes and contain costs. There are times where *medical jargon* — which are medical terms or abbreviations specific to one allied health profession — can impede allied health teams from good communication among team members (Kotecha, et al., 2015). Therefore, face-to-face communication may provide an added layer of benefit to elaborate on written documentation (Fox et al., 2021) stated there are three types of communication actions:

- Coordinated sequential efforts-where professionals independently see the patient but share information for others to understand what they have done (p.130)
- Assisting others in sense-making–where medical professionals use referral and consultations (informal case discussions) to improve shared understanding of complex cases, and by providing background information/insight (p. 131)

- Working to understand together (shared decision-making)- where professionals seek a verbal consult with other professions to put their heads together to come up with an appropriate course of action (i.e., brainstorming together) (p.132)

In-person communication would seem to afford the best method for a quick information exchange regarding shared decision-making for the team and client input. Therefore, the physical location of team members to facilitate informal communication among team members would seem very important.

The Quadruple Aim also included better communication with the patient/clients and including them in the decision-making and goal planning process. The issue of *health literacy*—an individual's ability to obtain, understand, and process health-related information in order to make health decisions— must be communicated to patients /clients at a level of understanding –perhaps devoid of medical lexicon– to engage them in decisions regarding care (Berkman et al., 2010). Good communication is also necessary for health care receivers to understand their options for care and treatment (Davidson et al., 2022; Ward et al., 2018).

The above communication actions are best accomplished by the in-person type, not discounting the telehealth trend introduced by COVID-19 era care. Besides having good communication modeled for allied health practitioners and students, they must understand the roles and responsibilities of the other team members to succeed in providing excellent care of patients/clients.

Understanding Roles and Responsibilities

Building trust and understanding of other professional roles and responsibilities was an important repeated theme for most literature reviewed (Ambrose-Miller & Ashcroft, 2016; Christopherson et al., 2015; Cordes, 2022; Karnish & Shustack, 2019; Kotecha et al., 2015; Poore & Cooper, 2021; Rubin et al., 2018; Sand, 2017; Supper et al., 2014; Teixeira Fumagalli et al., 2021; Ward et al., 2018)—all stemming from the published IPEC core competencies originally in 2011 and updated in 2016. Primary care practices (PCP) and some institutional systems allow for formal and informal allied health team contact throughout a workday. One barrier noted by Davison, et al., (2022) was off-site allied health professional services—limiting informal communication— a lack of formal team structures, poorly defined roles, and absence of leadership.

Lack of *health professions literacy*— meaning to understand roles and responsibilities of other professions—at the undergraduate level can be a barrier to appreciation and integration of other professional skill sets and abilities to contribute to an allied health team (Rogers, et al., 2017).

Link Between IPCP-IPE and Barriers

WHO (2010) made a strong case for the link between practice and professional education /training in their framework of 2010. Years later, allied health curricula are still struggling with how best to implement that concept— linking IPCP with IPE. Sand, (2017) stated that results of her study indicated that interprofessional education at the undergraduate level needs to happen to prepare students to graduate ready to practice IPCP and develop professionally. A recommendation is to assess high-quality interprofessional learning settings and enact them in educational settings to enable

educators to ensure the graduates of allied health programs function at an acceptable level of IPCP, (Katoue et al., 2021; Rogers et al., 2017).

A barrier to educational programs at the undergraduate level is they lack the 'space' to include meaningful IPE coursework in an already packed curriculum, (Katoue, et al., 2021). Recommendations have been made for use of 'real' or practice simulation for training, whether as continuing education for current interprofessional practitioners or undergraduate students in training (Minniti et al., 2019). Poore and Cooper (2021) have stated "that to do simulation and IPE are both costly and resource intensive" (p.107). Therefore, universities have the financial barrier to overcome as well as finding the space in several professional curricula and coordinating the times to execute such training.

Azzam et al. (2021) established that many common allied health professions do not have common IPE language within their accreditation standards. They looked at 13 national professional organizations and their IPE standards. The organizations represented the following fields/professions: chiropractors, dentistry, dietetics, family medicine, nursing (registered), occupational therapy, optometry, pharmacy, physiotherapy, psychology, social work, specialty medicine, and undergraduate medicine. Some professions had an absence of IPE language within their standards altogether. Azzam et al., (2021) further divided the accountability statements– consisting of accreditation standards and supporting documents–into four domains: faculty, student, educational, and organizational. Only one profession— pharmacy—was identified to have addressed inclusive IPE-relevant language in all four domains within their accreditation standards. This study makes evident that many medical professional IPE standards lack a written commitment to inclusion of IPCP in their curricula.

Faculty development towards IPCP is just as important as attention to student learning, quality of educational experiences, and organizational buy-in for faculty is key. Supper, et al., (2017) suggests beginning with the original IPEC domains: values/ethics, roles /responsibilities, teams/teamwork, and enhanced interprofessional communication. Faculty are the primary facilitators of the interprofessional learning experiences and *what* is taught is just as important as *how* it is taught, (Konrad & Browning, 2012). Silver & Leslie (2009) advocated for faculty personal development activities through: how to teach team building, updating disease management knowledge, use of interactive learning tools (i.e., case-based workshops), discussing best practice training, and teaching professional roles and responsibilities to enhance IPCP and IPE. Rogers, et al. (2017) also identified themes for improving faculty teaching of IPCP using: better understanding of professional roles on health care teams, teaching interprofessional types of communication, and methods of collaboration and coordinated decision-making. By advancing faculty interprofessional learning experiences it may enable educators to ensure their graduates of higher quality IPCP (Rogers et al., 2017)

Impact of Interprofessional Collaborative Practice on Patient Outcomes

American healthcare has undergone several changes over the years with the focus of improving population health in recent times. With the passage of the Affordable Care Act (ACA) in 2010, there have been discussions around reforming the traditional doctor-patient relationship (Franz et al., 2016). The need for an interprofessional workforce has been recognized to help improve patient outcomes. “The importance of collaborative work in delivering quality of care to patients or clients is widely accepted” (Jorm et al., 2016, p. 2). Research has also suggested that IPCP has the potential of providing a

learning forum for practitioners who are not ordinarily offered a structured framework to learn with, from and about one another profession, and to build professional relationships (Eliot et al., 2021; Guraya & Barr, 2018). Although the importance of IPCP is well established through the WHO framework and research studies, there are several challenges related to its application such as busy schedules and inadequate training of workforce to implement IPCP (Eliot et al., 2021; Green & Johnson, 2015; R. E. Powell et al., 2016; Reeves et al., 2008; WHO, 2010). These challenges are thought to be associated with inadequate training of the health care staff and systems that do not support collaborative practice (Eliot et al., 2021). In order to overcome these challenges, the Institute for Healthcare Improvement has provided a "Triple Aim" framework, which includes improvement of patient experience of care, population health and reducing healthcare costs (*The IHI Triple Aim | IHI - Institute for Healthcare Improvement*, n.d.). Later Bodenheimer and Sinsky (2014) suggested inclusion of a fourth aim, which calls for improving the work life of clinicians and staff. This "Quadruple Aim" promotes collaboration between health care teams to reduce physician and staff burnout (Bodenheimer & Sinsky, 2014).

Role of collaboration in healthcare workforce

The original works on the topic of IPE largely evaluated the need for IPE and IPCP with the help of limited studies. Previous studies have reported that IPCP led to increased job satisfaction among emergency department nurses and physicians. IPCP has helped the primary healthcare practitioners in their approach to resolve complex health issues with clients and their ability to utilize other resources and has been instrumental in dispelling stereotypes related to preconceived notions about job hierarchy among

healthcare professionals (Reeves et al., 2008, 2016; WHO, 2010). Reeves et al. (2016) conducted a systematic review on IPE. The aim of their study was to provide an update on the evolving nature of IPE in healthcare since their seminal work in 2008. The authors searched four electronic databases and hand searched for papers published in English and French during May 2005 to June 2014. The researchers defined IPE as "occasions when two or more health/social care professions learn with, from and about each other to improve collaboration and the quality of care" (Barr et al., 2002, p. 6). The search for IPE research generated 3387 abstracts and out of which 25 relevant research papers which included qualitative and quantitative analysis were selected for review. Although the researchers noted that there was an increase in the number of studies since 2007, it was not possible to conduct meta-analysis due to heterogeneity of IPE interventions and study designs. In the original review, due to a small number of studies on this topic, the authors concluded that it was difficult to be certain about the role of IPE in healthcare processes and patient outcomes (Reeves et al., 2008).

In this more recent systematic review, the authors identified factors affecting delivery of IPE such as national policy calls to allow collaborative working, organizational support from local leaders and management and need for funding to support IPE activities. The researchers identified the need for facilitator expertise as a key factor in students' IPE experience. The researchers used the Biggs 3P model (presage-process-product) which helped understand IPE research in relation to students' prior knowledge, preferred way of learning, teaching methods (presage), approaches to learning (process) and outcomes of learning (product) and found that key context (presage) and process factors continued to demonstrate effectiveness on the delivery of

IPE (Biggs, 1993; Reeves et al., 2016). The researchers identified the need for faculty development in order to prepare and support effective IPE.

Guraya and Barr (2018) conducted a systematic review and a meta-analysis research which was recommended by previous studies (Reeves et al., 2008, 2016). The aim of this review was to objectively determine the effectiveness of IPE in terms of improvement of students' knowledge, skills, and attitudes. The authors of this study used electronic databases to gather research papers published during 2000-2016 on IPE that used pre-post design criteria in exploring the impact of IPE in the healthcare system with reported average and standard deviation. This resulted in 8453 citations; 12 studies which met the inclusion criteria were selected for meta-analysis.

The authors noted that although there were limited reports in literature that have elaborated the effectiveness of IPE teaching in pre-post status of various healthcare disciplines, this systematic review and meta-analysis objectively analyzed the effectiveness and impact of teaching and developing IPE modules in healthcare. The original works on the topic of IPE largely evaluated the need for IPE with the help of limited studies. This research added to the existing research by objectively determining the effectiveness of IPE in terms of improvement in students' knowledge, skills, and attitudes with the goal to provide insightful stimulus to educators for development and incorporation of IPE in the healthcare system. The findings of this systematic review and meta- analysis suggest significant improvements in pre- and post- status scores after embedding IPE modules in various medical fields as determined by enhanced acquisition of knowledge, skills, and attitudes of learners. This systematic review emphasized the benefit of IPE at undergraduate level as a way to train students to learn with, from and

about several professions from the start of their studies and thus foster their understanding about the value and significance of other professions.

Researchers suggested that IPE has the potential of providing a learning forum for practitioners who are not ordinarily offered a structured framework to learn with, from and about one another profession, and to build professional relationships. Guraya and Barr (2018) noted that in the meta-analysis of the total of 518 professionals from 20 disciplines, pre-post paired *t*-tests showed significant improvements by all workshops on IPE ($p \leq 0.05$) and as many as 87% physicians showed positive changes in their patients' responses. As a result of these favorable findings, the investigators have urged the need to support facilitators by the institutional administration during the implementation and sustainability of the IPE program.

Considering health care professionals' experiences with IPE and collaborating practitioners, O'Carroll et al. (2016) conducted a literature review of 59 articles from nine countries, spanning 2000-2014 to examine attitudes, strengths, and limitations of studies, dealing with interprofessional work (IPW) and IPE. They defined IPW as pre-enrollment program observations in work settings and IPE as teachings in a program. Results suggest improved integration of health services affects safety of care, cost of care, efficiency of care-delivery, and staff leading-by-example to model collaboration. Two studies cited missed opportunities to investigate attitudes, work relationships of IPW and values of IPE (qualitative techniques) by using only quantitative data. Themes included one's professional discipline and prior experience with IPE, as primary determinants of attitudes for collaboration. A limitation was documenting primarily staff instead of student voices.

In another study, Sand (2017) examined educational and professional collaboration experiences focused on the practice experiences of four health care professionals. Using a phenomenological approach with the health care providers, a series of three interviews produced the following themes: (a) identification of roles and responsibilities: developing a professional identity through a variety of experiences, (b) being a member of a team: the importance of interdependent relationships, group dynamics, power, and individual attributes, and (c) focus on patient-centricity: a common goal for satisfaction, empathy, environment, empowerment, and outcomes. Overall, subjects reported they learned about IPCP on the job. On average, the subjects recalled two IPE experiences in their professional education programs. The findings are helpful for consideration in health care education design, yet context may play a bigger role in the development of IPCP, that is, on-the-job experience. With a focus on professional practice, an exploratory study (Verhaegh et al., 2017) examined the process of interprofessional clinical rounds in a large university teaching hospital in the Netherlands. The purpose was to identify health care providers' perception of "ideal" interprofessional clinical rounds strategies that would improve patient safety and care. Subjects (n=48) who participated in one of three focus groups had a minimum of five years' experience.

Using a descriptive method of content analysis, findings indicated the structure of clinical rounds would increase the effectiveness of communication and collaboration, physicians and nurses were the often the decision-makers yet disagreed on what was needed in the care plan, and there was a lack of agreement on the role of the patient in the clinical rounds. Overall, the findings raised issues about operating procedures and the

subjects were not representative of health care providers who are typically involved in patient care.

In a related study, Légaré et al. (2013) looked at the interprofessional approach to a shared decision-making (IP-SDM) model in a home care setting. The objectives of the study were to evaluate healthcare providers' intentions to engage in IP-SDM and to identify factors associated with their intentions. The study looked at IP-SDM in home health care and identified the behavior-intention gap in its implementation across various healthcare professions. The investigators conducted a sequential explanatory mixed methods study that involved (a) a theory-based survey of all healthcare providers involved in the home care programs of a large primary care organization; (b) a focus group with the healthcare team dedicated to the frail elderly and (c) individual interviews with managers representing the diverse levels of the primary care organization. It was noted that the factors influencing the intention varied across types of providers. Barriers to engaging in IP-SDM were lack of time, poor team cohesion and high staff turnover.

IPE in Health Care Didactics

Dennis et al. (2019) examined student attitudes while learning in interprofessional didactic (n=865) and clinical (n=76) settings at an academic health center. The interprofessional group consisted of medicine, nursing, pharmacy, physical assistant, public health, and allied health programs. In this randomized parallel cohort study two validated survey instruments were deployed prior to and after didactic interactive small group and clinical cohort learning experiences to measure the students' perceptions according to their learning modality and assigned assessment instrument. The two survey instruments were Interprofessional Attitudes Scale (IPAS) and Collaborative Healthcare

Interdisciplinary Relationship Planning (CHIRP). The IPAS instrument is designed to capture students' self-reported attitudes and beliefs towards IPE and IPCP and the CHIRP survey helps measure healthcare students' attitudes towards interdisciplinary teamwork. The results of this study showed that although purely didactic active learning activities help provide foundational principles of interprofessional practice, the application in the context of actual patient care may help provide more measurable changes in student perceptions.

In a related article by Nemec et al. (2021), occupational therapy (OT) and physician assistant (PA) students completed a multi-pronged research design for the IPE study. The design combined three different adult learning techniques which included team-based learning, "jigsaw" technique to help familiarize medical students with various healthcare professions and simulated learning to develop interprofessional education competencies (IPEC). The post surveys overwhelmingly agreed IPEC events were beneficial, revealing positive and negative attitudes about interdisciplinary differences contributing to IPE collaboration. Pre-surveys were taken 2 weeks prior and post-surveys 1 week following the experience, with two additional open-ended questions regarding teamwork and roles/responsibilities added. They used a thematic analysis for the two open-ended questions to capture attitudes. The authors determined this experience successful, despite gender and attitude differences between the OT/PA students as well as negatively impacting perceptions of disciplines regarding mutual respect, trust, communication, and collaboration, interfering with IPE. Nemec et al. quoted Howell's grounded theory (2009) as rationale to create a culture of interdisciplinary respect in enhancing interprofessional education.

Summary

Although IPCP has shown to be an effective strategy in delivering quality patient care, improvement of health outcomes, patient satisfaction, employee job satisfaction and reduction in healthcare costs, there is lack of consistency in its implementation in health care settings (Green & Johnson, 2015; Morgan et al., 2015; Powell et al., 2016). This chapter introduced the concepts of constructivism, social constructivism, and the Andragogical Process Model (APM) of adult learning theory, which are the conceptual frameworks considered to guide this research. Through this literature review, the link of IPCP and IPE was explored as introduced by the WHO, (2010), successes and barriers to the concepts associated with IPCP in health care were examined, and key findings regarding IPE were enumerated. Successes and barriers of IPCP in allied health professions practicing together in various settings were outlined, and additional terms being used throughout the course of this study were further defined. This literature review identifies IPCP and improvements for student/ faculty/mentor development as a means for future success.

CHAPTER 3: METHODOLOGY

The methodology for this study is presented as follows: Research Design, Study Population, Instrumentation, Data Collection, Analysis, Limitations, and Trustworthiness. The Demographic Information Sheet we used is available in Appendix A. and the Allied Health Faculty Interview Questionnaire (AHFIQ) is available in Appendix B.

Research Design

This qualitative research study used hermeneutic phenomenological (HP) format to guide the research analysis. Diekelmann and Ironside (2005) described the key components of this style of research as including open-ended questions in semi-structured interviews, consensus building, and at least one reviewer to evaluate the research.

This study used a survey to obtain relevant demographic information to characterize the study population (Appendix A). The data collection involved interviewing subjects on their lived experiences as allied health students, allied health practitioners, and allied health faculty members. The research questions were answered through a series of interviews designed by the researchers to collect subjects' lived experiences associated with Interprofessional Collaborative Practice (IPCP). The research questions for the study were:

1. What were participants' lived experiences of Interprofessional Education (IPE) as students?
2. What were participants' lived experiences of IPCP as clinicians?
3. How does experiencing IPE and IPCP impact the participants' course development and instruction?

Study Population

There were seven allied health faculty members that received invitations to participate in the research. The faculty members were a convenience sample, contacted through personal and professional relationships. The intention was to have four allied health faculty members. Three invitations to participate in the interviews were declined.

The population for this study was allied health faculty members, one from each of the following allied healthcare professional education programs: occupational therapy (OT), physical therapy (PT), registered dietitian nutrition (RDN), and social work (SW). To participate in the study, participants had to have earned a doctorate, needed to have been a full-time allied health faculty member for a minimum of five years, had graduated from their allied health professional education program at least 10 years prior and with at least five years of clinical practice before becoming a full-time academic. We recruited a convenience sample of four allied health faculty members through personal or university professional relationships.

We used a script (Appendix C) in our recruitment calls and emails to the subjects to ensure that their participation is voluntary throughout the process. The script also included information on the purpose of our study, participant inclusion criteria, a description of the study, the role of participants in the study, including the time commitment, and the contact information of our dissertation chair and University of Missouri Institutional Review Board (UMSL IRB) when the subjects agreed to participate in the study (Appendix D). The subjects were given the option to have the information included in the script to be emailed to them if they wanted the information in writing.

Data Collection Procedures

A consent form was sent to the four faculty members requesting voluntary participation in the study via electronic mail (Appendix D). After completion of the consent process, a demographic form (Appendix A) was sent to the four faculty members via electronic mail. The form included general information such as age, gender, race, graduation year from professional program, doctoral degree subjects received, academic rank, total years of working full-time in academics, and type of doctoral degree. A separate electronic mail was sent to the four faculty members to schedule the three interviews (See Appendix E). Faculty members were encouraged to schedule the three interviews within a two-week timeframe. A total of 12 interviews were scheduled for data collection.

AHFIQ Development

The purpose of the study was to understand the allied health faculty members' perspectives on IPCP through their lived experiences. Due to the qualitative nature of the study where the researchers planned on studying the central phenomenon of IPCP perspectives as opposed to testing a hypothesis as in quantitative research, interviewing as a data collection method was selected to allow the faculty members to articulate their lived experiences on IPCP in an uninhibited manner (Creswell & Guetterman, 2019; Hays & Singh, 2012; Ramsook, 2018).

Initially, an interview outline was developed based on the areas identified in a literature review such as, the need for IPE and IPCP in health care and need for course development to include IPE and IPCP in the college curriculum (Eliot et al., 2021; Guraya & Barr, 2018; R. E. Powell et al., 2016; WHO, 2010). The AHFIQ was

developed by the researchers and consisted of open-ended questions. A consensus was reached to split the interview questions into three semi-structured interviews to help obtain more in-depth information from the allied health faculty members. Semi-structured interviews were selected to allow interviewees to elaborate on the interview questions and also allow the interviewer to tweak the interview questions based on responses obtained (Hays & Singh, 2012). The AHFIQ consisted of the following three interviews: a) faculty members' perspectives of IPE as students, b) faculty members' perspectives of IPCP as clinicians and c) the impact of allied health faculty members' experience with IPE and IPCP on course development and instruction.

The AHFIQ was reviewed by experts, which included University of Missouri-St. Louis (UMSL) faculty members, for language, wording, and relevance (Majid et al., 2017). The process consisted of three separate reviews at three separate points in time. The interview questions were tested on two allied health professionals via an internet video conferencing service. The interview questions were further refined after an initial review of the two allied health professionals for clarity and this led to splitting of broader questions into sub-questions. For example, to understand the impact of team members on IPCP as a clinician, the interview questions were split into two questions to separate the impact of health care management from other allied health staff. The interview questions were refined and reviewed by an expert a second time. The questions were restructured to focus the responses on lived experiences at different points of the allied health professionals' careers. The questions were resubmitted for the third review by a second expert, resulting in refinement of the third interview covering the lived experience as

faculty. The refined interviews are designed to last for 60-90 minutes and were conducted via Zoom (Appendix B).

Interviews

The interviews were conducted, and video recorded electronically. The faculty members were given an option to participate in the interviews over 1-3 days to accommodate their busy schedules. A minimum of two researchers were present for each interview and one researcher assumed the role of lead interviewer. Further, care was taken to prevent an insider effect where the researcher identified herself with the study participant which in turn could risk the trustworthiness of the research (Asselin, 2003). In this study the lead researchers interviewed a faculty member from a different allied health profession than theirs. For example, the researcher who is a registered dietitian nutritionist served as the lead interviewer for the occupational therapy faculty member.

The participants were contacted via electronic mail as needed to provide clarification on certain sections of the interviews. Transcripts were also shared with the interviewees for review and clarification. After obtaining final approval from the interviewees, the transcripts were coded and analyzed for emerging themes.

Analysis of Data

The researchers followed the Hermeneutic Data Analysis Six-step Process outlined by Diekelmann and Ironside (2005). The steps are described here and are represented in Figure 3.1.

Step One

The first step was to have the interviews transcribed into text for analysis. The recorded interviews were electronically transcribed using the Zoom transcription feature

and the resulting transcripts were reviewed for errors and data clarity. This was done by replaying the recorded interviews and ensuring that the electronic transcription was free of errors. The review of the transcripts also involved removal of any identifiers such as names of the faculty members, names of places, universities, and other individuals. Necessary precautions were taken to protect the data by storing the de-identified transcripts in password protected files and anonymized interviews by de-identifying the transcripts. The transcribed data were read thoroughly by the researchers and sent to the interviewees to be checked for accuracy. This step is also called member checking (Hays & Singh, 2012). Member checking involves consultation with the participants to ensure that the information captured in the transcripts is accurate. This validation provided by the participants helps in building trustworthiness of the data and is considered as an important step in qualitative research (Hays & Singh, 2012).

Step Two

In the second step, each researcher identified common words and phrases that developed into the codes. Hays and Singh (2012) define codes as meaningful labels assigned to a specific segment of data. The code identification was done on the Google ® drive, which is a shared virtual platform. A codebook was developed to list and describe the codes (Appendix F). The criteria used for the code development was based on the phrases used in the AHFIQ (Appendix B). Once the codes were identified individually by researchers they were reviewed to reach a final consensus. It was agreed prior to coding that any disagreement in coding would be decided using a 2 of 3 consensus of agreement. In this step the research team conferred with one another to identify any discrepancies among the interpretations of the dialogue. Miles and Huberman (1994, p.

as cited by Hays & Singh, 2012) recognize that in qualitative research *consensus coding* is an important aspect of the analysis,). The researchers met frequently to arrive at consensus regarding coding the data. This was done in order to have as much triangulation as possible and increase trustworthiness (Hays & Singh, 2012).

Step Three

In the third step the researchers examined the codes for similarities. The similarities within the codes allowed for grouping patterns together and assisted in developing overarching themes. The researchers used the same shared platform, meetings, and open discussion method to identify patterns /themes from codes. In each instance there were two to three codes that were condensed into a theme. Any codes that did not fit in the themes were labeled as "other." For example, a code in the "other" category was professional reimbursement. It was not considered a theme, as it did not relate to the focus of the study. After this the transcripts were uploaded on the qualitative data analysis software called Dedoose and were read to excerpt the content. Excerpting is a process of highlighting the content in the transcripts that represent the codes.

Step Four

Next, in the fourth step, the researchers looked for any contradictions in the coding of excerpts from the prior analysis (Step 2). In one instance a previously assigned code for an excerpt was reviewed. After discussion, a decision was then made to re-classify the excerpt under a different code. For example, an excerpt was moved from the code "student in-class IPE experience" to code "IPE through fieldwork experience" because the researchers recognized that the participant's response was more suited to her fieldwork experience rather than her classroom experience.

Steps Five and Six

In the fifth step the researchers reviewed the transcripts again and collaborated to ensure the excerpts were correctly coded and correctly grouped by themes. Lastly, in the sixth step, the researchers identified the final patterns within the themes. An example of a pattern within a theme was reporting of limited IPE among all participants. At this point the researchers had completed their selected analysis of choice to examine the data. See Figure 3.1 for a diagram of the process.

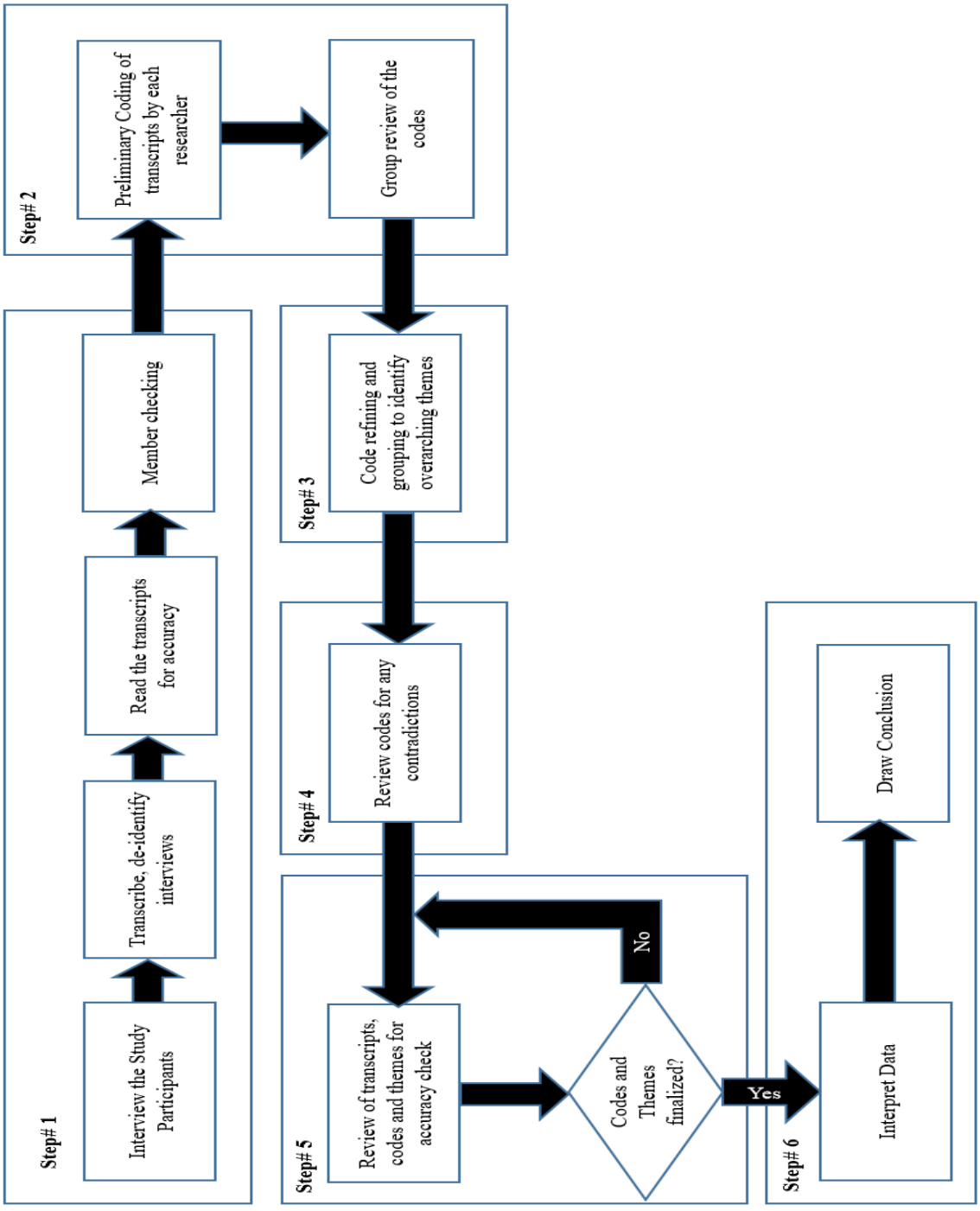
Trustworthiness

In qualitative research it is important to ensure trustworthiness of findings and conclusions by maximizing the opportunity to hear participant voices in the given context (Hays & Singh, 2012). The researchers used Guba's (1981) model of trustworthiness which identified four aspects relevant to qualitative research: a) truth value, b) applicability, c) consistency, and d) neutrality. The truth value in the present study was achieved with the use of semi-structured interviews with the allied health faculty members to help understand their perspectives on IPCP. Because the knowledge on perspectives of IPCP was constructed through the allied health faculty members' lived experiences, the semi-structured interviews offered a great opportunity to gather credible data (Krefting, 1991).

Applicability of the research referred to the ability to generalize the study sample to a larger population (Guba, 1981; Krefting, 1991). In order to ensure applicability of the present study, allied faculty members from four different professions that typically work together (dietetics, occupational therapy, physical therapy, and social work) were

Figure 3.1

Qualitative Analysis Flowchart



interviewed. However other allied health professional teams may have different lived experiences. Even so, this methodology could be used with any allied health professional teams. Consistency in qualitative research is referred to the ability to replicate the study with the same subjects or in a similar context (Guba, 1981; Krefting, 1991). The semi-structured interviews in this study consisted of open-ended questions and these interviews can be replicated with either the same subjects or in a similar context.

Neutrality is freedom from bias in research procedures and results (Sandelowski, 1986). Neutrality was achieved in the present research by ensuring that the lead interviewer was from a different allied health profession than the interviewee. "This prevented interference from the researcher during the interview" (Hays & Singh, 2012, p. 201). At every interview the presence of two researchers helped in obtaining genuine reflections from the study participants through probing and that also helped in maintaining neutrality and confirmability during interviews (Hays & Singh, 2012; Krefting, 1991).

Summary

This chapter describes the guiding principles and data analysis chosen by our team. We introduced hermeneutic phenomenology— a rigorous and trustworthy method of data analysis to explore the lived experience of our professions and provided insight into means of operationalizing interprofessional collaborative practice experiences in the professional curricula. We reflected on our interviewees first as students, secondly as clinicians and finally as faculty. The data obtained from the interview transcripts was coded and emerging themes were identified, and we will discuss the results of our study in the next chapter.

CHAPTER 4: RESULTS

In this chapter, the findings from the research study are presented. The purpose of the research was to understand the lived interprofessional collaborative practice (IPCP) experiences of allied health faculty members at three points along their professional development path. The research questions for the study were: a) What were faculty members' lived experiences of IPE (interprofessional education) as students? b) What were faculty members' lived experience of IPCP as clinicians? c) How does experiencing IPE and IPCP impact the faculty members' course development and instruction? The outcome of the research was to gain insight into the development of IPCP skills, their application in practice, and why IPCP is not used in a consistent manner.

To investigate the research questions, the Allied Health Faculty Interview Questionnaire (AHFIQ) was administered over the course of three sessions to collect data on the participants' lived experiences associated with IPCP. Demographic information was also collected as self-report by the participants. The interview transcripts were then analyzed to determine themes that could provide answers to the development, application, and use of IPCP skills.

Demographics

Table 4.1 illustrates the demographic breakdown of the participants. The participants ranged in age from 44 to 62. One participant, the occupational therapist (OT), was a professor. The other three were associate professors. Two participants held a PhD, one held an EdD, and the fourth a clinical doctorate. The OT's emphasis was higher education, the RDN's emphasis was curriculum and instruction, and the SW's was within social work. The PT holds a Doctor of Physical Therapy degree. The years of

faculty and clinical practice varied. The OT has been a faculty member for 28 years but was only in clinical practice for 9 years. On the other hand, the PT was in clinical practice for 30 years and has been a professor for 12 years.

It is noteworthy that all the participants were educated in their prospective professional programs prior to the publication of the WHO (2010) *Framework for Action on Interprofessional Education and Collaborative Practice,* and prior to the Interprofessional Education Collaborative (IPEC, 2011, 2016), and Centre for Advancement of Interprofessional Education (Barr et al., 2016) recommended core competencies for allied health professionals. Educational standards for each profession were not necessarily inclusive of IPE or IPCP concepts and practices during their first-professional education.

Data Management

The transcripts were anonymized and reviewed. The researchers agreed on the identification of codes in the transcripts to help answer the research questions. This will be discussed further in the chapter. The transcripts were uploaded on Dedoose and were read by the researchers to excerpt the content. The transcript excerpts were highlighted manually by researchers in Dedoose. The highlighted content was then tagged with a code and later examined to determine the development of any themes. The researchers also looked at frequencies of codes from the participants on individual interviews. The frequencies are mapped to the color spectrum - reds being more frequent and blues being less frequent code occurrences. In order to understand the code distribution across interviews the tally of code occurrence was obtained using the data analysis feature in Dedoose (Tables 4.2, 4.3, 4.4).

Table 4.1

Table of Demographic Information

Demographic	Profession			
	OT	PT	RDN	SW
Gender	F	F	F	F
Race	White	White	White	Black
Age in Years	62	55	44	49
Academic Rank	Professor	Associate Professor	Associate Professor	Associate Professor
Level Education Degree	BS	BS	BS	MS
Professional Doctoral Degree and Year Obtained	1986 EdD in Higher Education 2000	1991 Doctor of Physical Therapy 2009	2001 PhD in Curriculum and Instruction 2001	1996 PhD in Social Work 2013
Faculty in Practice	28	12	15	10
Clinical Practice in Years	9	30	21	12

The major codes and themes that emerged from the interview transcripts for each interview are discussed below. The interviews were designated as Student IPE Experience, Clinical IPCP Experience, and Impact of IPE and IPCP Experience on Faculty's Teaching.

Student IPE Experience

The first of the three interviews involved participants' lived experiences as allied health students. Analysis of the interview transcripts led to five codes: *student IPE in-class experience, IPE through fieldwork experience, limited IPE in coursework, student encounter other AHS* and *IPE impact on first job* (Table 4.2).

Table 4.2

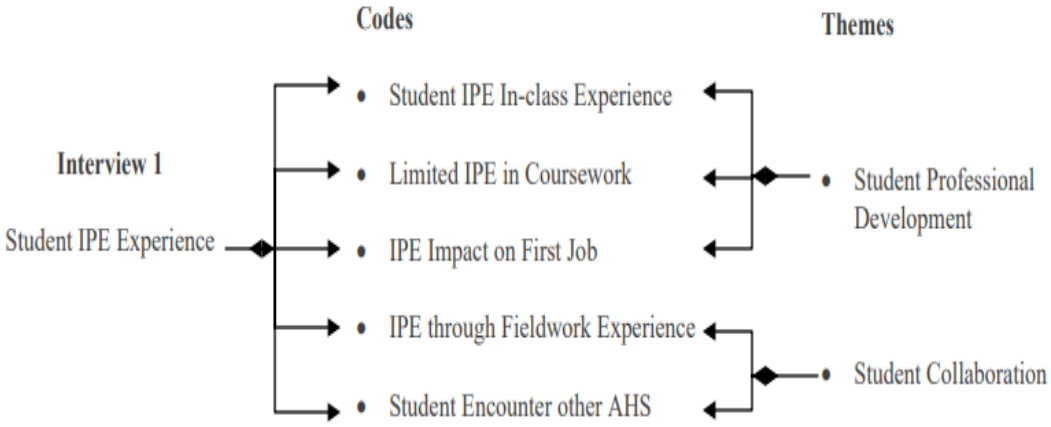
Code Frequencies of Student IPE Experience

MEDIA	CODES	1.Student IPE Experience	IPE Impact on first job	IPE through fieldwork experience	Limited IPE in coursework	Student IPE in class experience	Student encounter other AHS	TOTALS
1_OT.Transcript			2	3	1	2	1	9
1_PT Transcript			1	2	3		1	7
1_RDN.Transcript			1		3		1	5
1_ SW Transcript				1	2			3
TOTALS			4	6	9	2	3	24

After conducting analysis of the codes, the researchers discovered both similarities and differences among them. As a result, the codes were collapsed into two major themes: *student professional development* and *student collaboration* (Figure 4.1). The development of themes is discussed in detail following Figure 4.1.

Figure 4.1

Student IPE Experience Codes and Themes



Student Professional Development

The theme *student professional development* was formed after aggregating codes *student IPE in-class experience, limited IPE in coursework and IPE impact on first job.* This aggregation of codes helped understand the participants' professional development as students through their exposure to IPE during class learning activities, amount of exposure with other allied health disciplines and the impact of IPE impact on their first job. The codes are discussed in the subsequent paragraphs and can be found in the codebook in Appendix F.

Student IPE in-Class Experience

All participants indicated they had limited exposure to structured IPE experiences as students. This was evidenced by the themes that developed after coding: *student IPE in-class experience, student encounter with other AHS* and *limited IPE in coursework.*

During their classes, participants had little to no IPE exposure. Most of them reported that their instructors did not mention the topic. The classwork was solely focused on their respective field (i.e., social work, PT). For example, the SW shared, “We, we had team meetings, but they weren't necessarily inclusive of people outside of our specific team, so that at that agency that my specific role was to again kind of recruit and train foster and adoptive parents.” Also, as students, they had little to no interaction with other AHS. In some instances, this was due to physical distance from other AHS or lack of awareness. The PT said: “So really, as a student, I didn't think of other allied health, professional education, and whether I was too siloed, or we were all too siloed or where I went, we only existed.’

Limited IPE in Coursework

IPE in coursework was described by participants as generalized and from the literature or anecdotally, if it was mentioned at all. It was not interactive but rather characterized by using textbooks, personal stories, and case studies. The OT stated: “Curriculum, you know…financially when you're asking faculty members who have other courses their teaching, to come help you with other endeavors... So, there's the time issue, logistics issues, [and] expense.” The SW recounted: “I do not recall having any type of interactions with other professions, or other allied health professionals in my undergraduate program.” To further illustrate *limited IPE experience in coursework* was the PT’s verbalization: “We did everything with a patient. So as PT, my hour with the patient was spent on physical recovery, [after] the hour that was spent with the OT.”

IPE Impact on First Job

All the four participants reported interacting with other healthcare professionals in their first job but due to limited IPE during classroom and fieldwork experiences they had

to figure out themselves how they could best collaborate with the other healthcare professionals. The OT said:" It really took working with her [PT] to figure out how we would best collaborate together…. I felt like I got much more information, actually working side by side with her." The OT further mentioned that she appreciated the value of collaboration with other healthcare professionals: "I think it was a real positive experience of support of how each person brought their strength to the team, when I did get that first job."

The RDN reported that due to limited IPE in her coursework she faced challenges while interacting with other healthcare professionals in her first job. She described her experience:

> I was a clinical dietitian. I was the only dietitian on staff at a small cardiac facility here … and I lacked the confidence to interact with the rest of the health care team. I didn't really have a voice, and I didn't know how to advocate for my profession. I didn't know how to advocate for the patient. I don't know that I really ever grew those skills until I left my clinical practice and became an academic interested in IPE.

Student Collaboration

The theme *student collaboration* was formed after aggregating codes *IPE through fieldwork experience and student encounter with other allied health students (AHS).* This aggregation of codes helped the researchers understand the participants' opportunities to learn about and collaborate with other AHS during fieldwork or inter/multidisciplinary activities during coursework. The codes are discussed in the subsequent paragraphs and can be found in the codebook in Appendix F.

IPE through Fieldwork Experience

Participants reported that their IPE experiences during fieldwork were not a planned activity and the presence of other AHS at the same time was by chance in many cases. The OT stated during one of her fieldwork experiences (a combination of outpatient and school-based practice) that there were no other OTs there: "So, my mentor at the time was actually a physical therapist, because she had been at the clinic working for that company … but then my direct boss was actually a school psychologist out in the school."

It should be recognized that in-class experiences and fieldwork experiences are both part of student IPE experience. Most of the participants agreed that when there was institutional support –in the form of grants and budgeted money for IPE – it was much easier to arrange. To illustrate the OT stated: "Planned [student] opportunities, with a LEND grant,...[provides] structure of experiences that the students like to participate in. I look for different community opportunities for them."

Student Encounter with Other AHS

With all the participants, interaction with other AHS was incidental and unplanned. The SW gave an example of how her practicum did not provide any overlap of other disciplines even though her clients had a team of multidisciplinary caregivers:

> So, my graduate practicum …. included working with families who are involved for a myriad of reasons but involved child protective services. So as a student... I'm sure that my clients had other people involved, but I don't [think], there wasn't overlap within at the time.

Clinical IPCP Experience

The second interview related to participants' lived experiences as allied health practitioners in clinical environments that included outpatient/in-patient settings, school systems and community agencies. Analysis of the interview transcripts led to six codes: *IPCP in the clinical environment*, *IPCP impact on client outcomes*, *IPCP impact by other AHP*, *IPCP impact on health equity*, *degree of management support of IPCP* and *limited IPCP* (Table 4.3).

Table 4.3

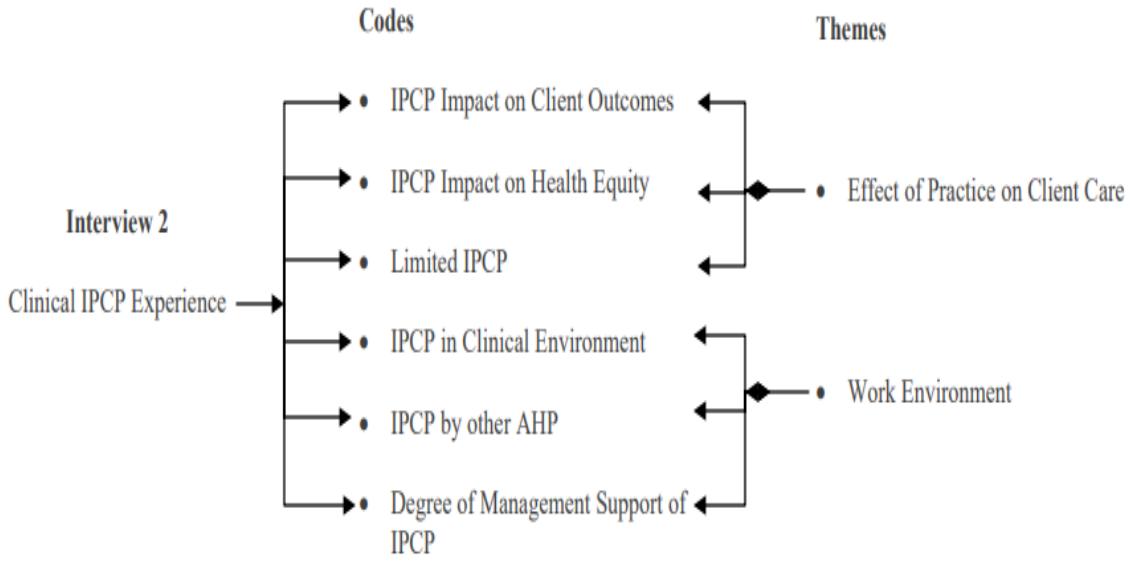
Code Frequencies of Clinical IPCP Experience

MEDIA	CODES	2. Clinical IPCP Experience	IPCP impact by other AHP	IPCP impact on client Outcomes	IPCP impact on health equity	IPCP in clinical environment	Limited IPCP	Management support of IPCP	TOTALS
2_OT Transcript			1	1	2	3	2	3	12
2_PT Transcript						1	6	2	9
2_RDNTranscript				1	1	1	3	1	7
2_SW Transcript			1	1	1	3	3	1	10
TOTALS			2	3	4	8	14	7	38

After conducting analysis of the codes, the researchers discovered both similarities and differences among them. As a result, the codes were collapsed into two major themes: *effect of practice on client care* and *work environment* (Figure 4.2).

Figure 4.2

Clinical IPCP Experience Codes and Themes



Effect of Practice on Client Care

The theme *effect of practice on client care* was formed after aggregating codes *IPCP impact on client outcomes, IPCP impact on health equity, and limited IPCP*. This aggregation of codes helped understand the role of IPCP through participants' ability to improve client care, their ability to provide minimum standard of care to the minority populations and challenges faced related to IPCP in their role as clinicians. The codes are discussed in the subsequent paragraphs.

IPCP Impact on Client Outcomes

The participants acknowledged that IPCP had or could have had a positive impact on client outcomes. The SW highlighted the value of IPCP:

> You wanna do what's best for the client, and if there is overlap or ways that we can work together for them to be successful, then that's awesome, especially so that they don't get misinformation. Oh, so and so say, do this! Oh, but now you're saying, do this, so we're all on the same page. Then that's going to, you know, ultimately help the clients, [and]that is one of the better ways to engage with clients, and then also to keep up with that documentation.

The RDN pointed out that in her work setting the healthcare professionals worked in silos and as a result there was a greater risk of misinformation which led to inefficient patient care. The RDN emphasized her point by stating:

> I think it [IPCP] would increase the patient's confidence in the information they're receiving ... because the physician and the dietitian and the physical therapist are triangulating that health message to them that increases their confidence. If they are [not given] competing, messages.

IPCP Impact on Health Equity

Participants stated that IPCP could have a positive *impact on health equity* and client outcomes but due to *limited IPCP* experience it was difficult to provide examples of the nature of the positive impact. The RDN explained the *impact of IPCP on health equity and client outcomes* by providing an analogy:

> I use an analogy often in my talks about the difference between a parfait and a smoothie. A smoothie is consistent, every time you stick your spoon into your

> smoothie, you're going to get the same thing, and that is what a truly collaborative team looks like. Where, if that team is truly collaborative every time a patient goes to them, no matter what walk of life they are from, they will get that same consistent outcome because of that team's ability to collaborate.

Limited IPCP

Table 4.3 shows the frequency of reported *limited IPCP* in clinical practice by the participants. The participants reported working in silos due to lack of team-based decision-making opportunities in their work settings. To illustrate, the PT stated: “My wish would be that physicians would get on board, that they need other professions.” Additionally, the RDN shared that:

> You have to have the skills to even [learn] on the job, to be able to have the confidence, to talk and learn about, from, and with those other professions. You have to understand your own profession and what you bring to the particular case, or to the other professions. That was a big one for me as an educator, and I know that's a different conversation.

All four participants reported at some point in their professional experience that their work areas were separated from other allied health professions and as a result there were fewer opportunities to collaborate.

Work Environment

The theme *work environment* was formed after aggregating codes *IPCP in clinical environments, IPCP impact by other AHP,* and *degree of management support of IPCP*. This aggregation of codes helped understand the role IPCP processes in a health care setting, impact of other AHP in a health care setting and support from management

in allocation of resources for IPCP. The codes are discussed in the subsequent paragraphs.

IPCP in Clinical Environment

Participants reported interaction with other healthcare professionals in the clinical environment but there was limited shared decision making. The RDN reported that due to limited knowledge of other healthcare professions it was difficult to collaborate in the work environment. The RDN said:

> You have to have the skills to even on the job learning to be able to have the confidence to go and talk and learn about, from, and with those other professions and you have to also understand your own profession and what you bring to the particular case, or to the other profession that was a big one for me as an educator.

The OT described her IPCP experience as a clinician by stating: "[You] all have your own goals, and I think what was different for me in the school setting was discussing your perspective as an OT. But you didn't establish your OT goal. You had to bring everybody's perspective together."

IPCP Impact by Other AHP

The participants' reliance on their fieldwork/residencies and mentors to 'learn' how to be a clinician and function in a client delivery setting, despite any lack of classroom education activities on IPE, was evidenced by the SW's response: "My graduate practicum was … at the time in the mental health department, and …, that practicum included working with families who are involved for a myriad of reasons with child protective services and mental health."

Degree of Management Support of IPCP

The *degree of management support for IPCP* for on-the-job IPCP training and support during the time spent by employees in delivering patient care through IPCP was different. The RDN and OT had a minimal degree of support from management for engaging in IPCP while SW and PT did not participate in IPCP.

The PT pointed out possible reasons for positive or lack of management support for IPCP when working as a team. The PT gave examples of managers sometimes delegating to individual disciplines to perform certain tasks instead of letting the team members decide the best discipline to perform what needs to be completed based on skill sets. According to her, it can depend on the manager, how a person gets reimbursed and if they are "getting one lump sum." She also believes that management has "a big impact not only on the utilization but on the attitudes about utilization. I think that's where I think management really comes into play."

The RDN pointed out the limited extent of management support in her work environment: She was asked to give a presentation on basic nutrition to a group of doctors during lunch. While she presented, they ate lunch and asked a few questions. "As far as that, being collaborative, … it's a step in the right direction. But then I had one of the doctors message me and challenge one of the things that I said."

(See Appendix H for Dedoose table of frequencies)

Impact of IPE and IPCP Experience on Faculty's Teaching

The third and final interview explored participants' experiences with course development and instruction. Five codes emerged: *in-class needs determination of IPE*,

IPE classroom activities, *influence of IPE delivery by faculty*, *challenges faced in IPE delivery* and *future skills and knowledge for AHP* (Table 4.4).

Table 4.4

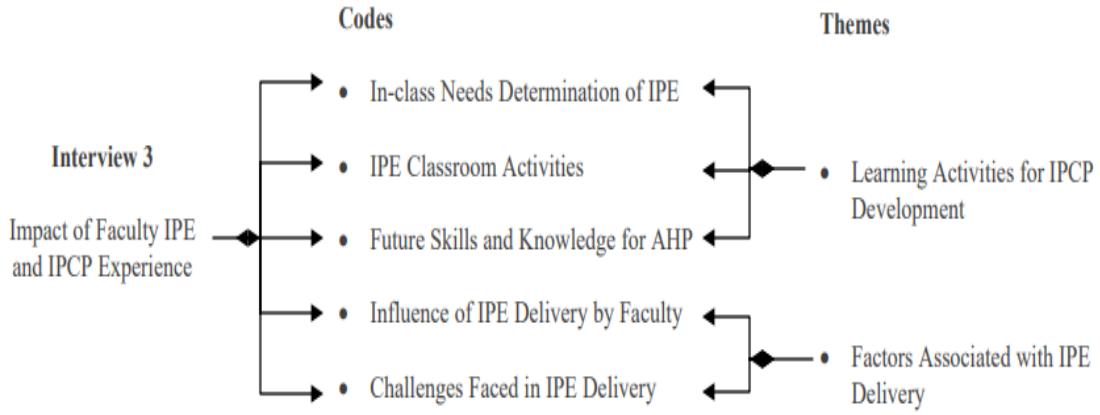
Code Frequencies of Impact on IPE and IPCP on Faculty's Teaching

MEDIA	CODES	3. Impact on Faculty's Teaching	Challenges faced in IPE delivery	Future skills and knowledge for students	IPE classroom activities	In-class determination of needs	Influence of IPE delivery by faculty	TOTALS
3_OTTranscript			3	5	5	2		15
3_PT Transcript			4	1	3	1	1	10
3_RDN Transcript			3	2	1	1	1	8
3_SW Transcript			2	2	1	3		8
TOTALS			12	10	10	7	2	41

After conducting analysis of the codes, the researchers discovered both similarities and differences among them. As a result, the codes were collapsed into two major themes: *effect of practice on client care and work environment* (Figure 4.3).

Figure 4.3

Impact of Faculty IPE and IPCP Experience Codes and Themes



Learning Activities for IPCP Development

The theme *learning activities for IPCP development* ***was*** formed after aggregating codes *in-class needs determination of IPE, IPE classroom activities and future skills and knowledge for AHP*. This aggregation of codes helped understand the participants' perspectives on determination of IPE activities for their students and the IPCP skills and knowledge required for future clinicians.

In-Class Needs Determination of IPE

Participants highlighted the importance of *in-class needs determination of IPE.* They discussed some ways in which they offer IPE experiences to their students: opportunities to work with different AHS during in-class case studies, interactive presentations by multiple disciplines, and collaborative fieldwork opportunities. The SW talked about her strategy for in-class needs determination of IPE for her class by stating:

> We meet with field instructors to do site visits for the students who are in practicum. We ask, are there things that we need to be aware of from a curriculum development standpoint? If there are things that they suggest, then, we try to incorporate them. We may highlight it more in an existing class, ... at the graduate level. If we can make it like a one credit hour course, …, we will.

The RDN reported facilitating the 'All Professions Day' which is a didactic interaction with all of the 16 allied health professions on their campus. She also reported her in-class IPE needs determination strategy. She uses informal hallway encounters with other faculty members from different colleges to set up opportunities for her students to collaborate interprofessionally in ongoing projects. She hears about "things that are going on for example, the weight bias simulation, or a collaboration with the dentistry clinic. But I think our accreditation standards will always drive [us]." Additionally, ideas for collaboration were brought forward by her students.

Some curriculums of allied health colleges will manage combined sessions during in-class time to jointly problem solve on client management based on students' professional roles/scope of practice using case studies of real-life examples of patient/client medical conditions and issues. The OT noted, "But we did not have experiences within our curriculum way back when, with like, you know, with PT. [I] remember now where I would have, how that experience would have been more in my field work experiences."

IPE Classroom Activities

The results revealed that all participants include IPE *Classroom activities* for their students in the curriculum. The RDN reported that their program acknowledges student

input while developing in-class and fieldwork experiences. The RDN's university has a 2-year program that allows their students to graduate with a Master of Arts in dietetics. During the first year, the students are exposed to the 'All Professions Day' that includes the 16 professions in their comprehensive medical campus. They get two 2-credit hours courses each semester in purely didactic interaction with all other entry-level learners on campus. Their students are required to attend 8 hours of free clinic each semester. The RDN discussed the IPE classroom activities by professions saying:

> Our office of interdisciplinary and interprofessional education offers simulations. There's a poverty simulation, a newly introduced weight-bias simulation, an LGBTQ simulation, and a 'delivering bad news' simulation. We have a bus called the Medical Explorer, [that] goes out into rural areas and does health fairs and education for students who might want to become healthcare professionals in the future. … I think everything I teach them is through an interprofessional lens.

The SW talked about a grant opportunity available for students that allows them IPE activities:

> HRSA funds [are available]. This behavioral health workforce education training and individuals who apply for this will get a stipend. The students who apply for it receive a $10,000 stipend for the course of their final year. In the MSW program, the expectation is that the practicum … will be one where they will have an opportunity to do integrated health.

The OT described activities for her students to build collaboration by designing joint assessment sessions of a child with PT students. It was interactive and a great learning experience on similarities and differences of how the professions' skill sets

integrate. The OT stated: “I …got our students together where they practiced assessing a child together and talking about it.”

The PT recounted her faculty liaison experience with her students at a pro bono clinic student staff. She voiced insights into how the COVID pandemic made the faculty pause and took the time to reexamine how to better integrate the pro bono clinics into curriculum design: “We are now reshuffling, rechanging, and changing our pro bono care to be more intertwined with the curriculum….We did a trial this fall, [and] this spring. We're integrating more this coming fall in pro bono care.”

Future Skills and Knowledge for AHP

With the code *future skills and knowledge for AHP* it was recommended to strengthen the knowledge base of the roles of various allied health professions among students. The participants reported that the knowledge of IPCP will help the allied health students understand the value of other healthcare professions, work as a valuable team member in the decision-making process and will help to develop ‘soft skills.’ An example of soft skills provided by the OT was inculcation of emotional intelligence, respect for other team members and recognizing the expertise each allied health team member can help improve patient outcomes. She articulated her thoughts on IPCP. She believes it: “Requires possessing strong disciplinary skills but interprofessional communication skills and ‘soft skill’ such as emotional intelligence, respect for others, recognition of others’ values was crucial.” She also believes that: “flexibility and adaptability, and …disciplinary knowledge [are] really, really important.”

The PT participant elaborated on future skills and knowledge using a twofold approach that included creating communication skills in students, including

documentation, and teaching them what their own scope of practice is. She expressed that when you encounter a client who has needs 'outside of your scope of practice' then you need an interprofessional care team. Students are exposed to interprofessional team meeting scenarios as undergraduates, bringing in collaborators, and utilizing actual other professionals.

The PT mentioned that there are department faculty meetings where each department is represented, and they discuss the projects/initiatives from each department. During these meetings allied health and some medical students present their capstone projects. Although there is some involvement of medical teams the PT emphasized the need for medical teams involving doctors, nurses, and others to be involved in the IPE/IPCP by stating:

> I wish that the School of Medicine decides interprofessional care is as important as the Allied health professions feel interprofessional care is. We work with the patients and spend time with the patients, and sometimes find needs that they will neglect to mention to an MD.

She expressed a hope that the medical school will re-examine their Interprofessional Professional Education (IPE) curriculum at this point in time and learn from some of the positive outcomes the allied health school is having with their client care.

The RDN discussed future skills by saying: "I think, speaking up, I think advocacy. I think humility. I mean humility is a weird one, because, like, you don't want to be humble when you need to advocate for your patient." She went on to say that one needs to be humble when you think about your scope of practice. Other professions embrace nutrition in their practices. Overlap of practice habits can be tricky to navigate.

The RDN spoke of other professions (nursing, medicine, PT) who also talk about nutrition and some dieticians are threatened by that. Professionals must be able to articulate their value beyond their scope of practice and recognize when another profession is beneficial. The RDN gave an example of a physician not needing to become a dietitian but does need to recognize how their patient eats, makes a huge impact on their health. She also acknowledged that 'leadership is 'too broad of a term' but it can be helpful when working on a team.

The SW also shared her perspective on future skills, mentioning telehealth issues that will face students and practitioners alike: "Talking about the virtual piece, I think the other component that students need to be mindful of is what telehealth is gonna look like." She further shared general thoughts on the need to know about other professions you will be working with on teams: "We have at least a little bit of knowledge to consider them. … I think that [is an] ongoing component of how to work in a team of varying professions."

Factors Associated with IPE Delivery

The theme, *factors associated with IPE delivery* was formed after aggregating codes, influence *of IPE delivery by faculty* and *challenges faced in IPE delivery.* This aggregation of codes helped understand the participants' perspectives of planning meaningful in-class and fieldwork experiences along with challenges faced by them in IPE delivery for their students.

Influence of IPE Delivery by Faculty

The participants recognized the value of including IPE in their coursework and reported working towards providing IPE experiences to their students. The RDN reported

taking a leadership role in her university to promote [IPE]. Her university has an Office of Interdisciplinary and Interprofessional Education. She stated:

> They have faculty who are interprofessional and interdisciplinary faculty coordinators. So, I serve as one of those, they do pay us added pay, which is incredible, that they give us money to do that. So, I basically coordinate all of our interprofessional activities for the department.

The PT faculty described some of the influences that drive IPE delivery in her university setting stating: "So, the physical therapy program was the first stakeholder in the interprofessional care at [our university]. [Our past PT department chair] was passionate about interprofessional care. So that's where it began, and the interprofessional courses at [our university]." The PT faculty relayed that their past department chair was the impetus for her exposure to interprofessional collaboration and introduction to IPE at her university. Her university has a department and resources devoted to IPCP. The PT stated: "Professional care should grow. So, [previous department chair] was there when it started. The change that I'm speaking of IPE changing courses, that's always just a logistics thing for the students to work through."

Another illustration of curriculum development was provided by the PT in her university. She claimed that her university was constantly re-evaluating coursework and eliminating redundancies, and coursework seemed siloed. She expressed there being a push for uniformity in how you're presenting coursework. This was noted to be partially driven by material integration and development redesigning of core curriculum, as well as governance by accrediting bodies.

Challenges Faced in IPE Delivery

Participants also reported the *challenges faced in IPE delivery* such as convincing. the department heads regarding the importance of incorporating IPE experiences in the curriculum, applying for funding opportunities to support IPE, and putting in extra efforts to find time and resources to collaborate with other allied health departments. An example of overcoming challenges was when the RDN stated she still faces challenges with certain professions, recognizing our value and our need to be part of their learning: "I'm constantly advocating for incorporating my profession into other IPE experiences. A challenge that is getting better, but I do still see it [resistance] in some activities.' The RDN expressed concerns regarding current students' lack of buy-in unless they are. having a positive IPE experience. She stated: "This generation of students has to have buy-in to learn, at least that's my experience."

The RDN described how faculty must be constantly innovative in content delivery. She also cautioned that since faculty has the most influence on the curriculum, they need to be attentive to buy-in from our program director and our department chair. She claims to notice challenges in other programs when you lack buy-in from your department chair or your program director. Some faculty are reluctant to try anything new or different. This was evident when the RDN stated: "Well, if it's not broke [sic], don't fix it right, because it takes more energy."

The PT mentioned the challenges faced in IPE delivery when she was trying to incorporate pain management techniques into their curriculum. She described the faculty having a face-to-face informal discussion to work it out. She recounted: "We don't have to have a pain course, but if we decide that's an important theme, we're going

to stream it through." She stated that the faculty may not have even consciously recognized the IPE thread happening because they have done it for so long. They must just be able to show an accrediting body how they met the topic across the curriculum. (See Appendix I for Dedoose table of frequencies**)**

Other

It is noteworthy to mention the "other" code. Initially the researchers had planned to drop the code related to professional reimbursement for services because this area was not the focus of this study. But while critiquing the transcripts, a decision was made to include noteworthy information that did not fall under any of the codes but was deemed important to help improve IPE/IPCP. The 'other' category consisted of funding related concerns reported by participants to help support IPE activities at college level and IPCP activities in work environments. The RDN stated: "I think [reimbursement] has a huge impact on our profession and team-based collaboration, because when it comes down to it is about the funding." She further went on to say, "It is about how people are gonna get paid? And what are RVUs [relative value units]? And things I don't really know about?

The PT participant stated:

> I wish the healthcare system and insurance system would collapse, and people would only go to the professions in which they get the most value, right? Allied health, we're gonna be busier than we've ever been, …because what we have is what people want. I became frustrated with the medical system, discharging patients. That [is] units again, what is driving healthcare right now is insurance and money, right?

The OT stated:

> Yeah, there's layers of medical necessity that you don't necessarily think about, and working with the private insurance companies in the school system that we have to do that or felt ethically compelled to do that so that our child would have access to technology during this home hours I don't think.

All participants expressed the need to offer training to the workforce to efficiently deliver IPCP at work and that IPE/IPCP should be mentioned in the organization's mission and vision statements. The PT participant stated: "Patient-first care which is in our mission to teach it, and so that I don't believe, I heard patient first in school (undergraduate)". Participants reported the need for advocacy efforts to help implement IPE/IPCP and mentioned that advocacy will also lead to acceptance of IPCP by insurance companies which will eventually affect the medical reimbursement.

Other efforts reported by the participants included supporting IPE activities for students such as, hosting a community day to allow interaction between AHS, obtaining grant funding to develop clinics for AHS to work together and developing a learning community where AHS students have classes and projects together and may be housed in close proximity in their dorms.

The RDN participant noted this in her current position:

> Our IPE office also makes it very easy for faculty. They provide training. They provide support for research. If you need to publish something you would go to our IPE office and ask what data do you have and they will give you a research assistant to help you.

Summary

This hermeneutic phenomenological study examined the lived IPCP experiences of four allied health faculty members at three points along their professional development path. The three sets of interviews conducted led to emergence of following themes:

- Student IPE Experience: *student professional development* and *student collaboration.*
- Clinical IPCP Experience: *effect of practice on client care* and *work environment.*
- Impact of Faculty IPE and IPCP Experience: *learning activities for IPCP development* and *factors associated with IPE delivery*.

Chapter 5 will complete this project with a summary of this study, a discussion of the results in context with the literature, future recommendations for research, implications of the findings, and final conclusions.

CHAPTER 5: DISCUSSION

A summary of the research study findings in relation to the literature, discussion, and conclusions are presented in this chapter. Implications and recommendations for the development, application, and use of interprofessional collaborative practice (IPCP) skills follow.

The purpose of the research was to examine lived IPCP experiences of allied health faculty members at three points along their professional development path. The following questions were investigated for this study:

1. What were participants' lived experiences of interprofessional education (IPE) as students?
2. What were participants' lived experience of IPCP as clinicians?
3. How does experiencing IPE and IPCP impact the participants' course development and instruction?

Summary of Findings

Four faculty members from the fields of dietetics and nutrition, occupational therapy, physical therapy, and social work completed three interviews during April and May of 2023. The focus of the first interview was about their experience as a student; the second interview was about their clinical IPCP experience, and the final interview was about the impact of IPE/IPCP on their teaching. Related to Student IPE experiences were the two themes, *Student Professional Development* and *Student Collaboration*. Secondly, under Clinical IPCP experiences there were also two themes: *Effect of Practice on Client Care* and *Work Environment.* Lastly, Faculty IPE and IPCP experiences that impacted

their instruction were organized into the following two themes: *Learning Activities for IPCP Development* and *Factors Associated with IPE Delivery*.

A summary of the findings produced several ideas. Those are: the limited exposure to IPCP as students in their respective professional programs, environment-dependent skill development in IPCP as clinicians, recognition of the benefit and need for IPCP to promote positive outcomes for clients and patients, and the need for academic administrator support for faculty to create strong IPCP experiences for students.

Discussion

This study is unique as it is the first of its kind to include these four allied health professions. Research on interprofessional collaboration has been conducted with various professions, but the studies have frequently involved different combinations of allied health professionals rather than including a social worker (SW), occupational therapist (OT), physical therapist (PT), and dietitian nutritionist (RDN).

Findings from the study were similar to what has been reported by WHO (2010), that is, IPCP approaches are often applied inconsistently. Based on findings, the participants in this study reported different IPCP experiences and different frequencies of those experiences. For example, the OT reported some IPCP exposure and experiences as a student and more as she worked as a clinician while the PT reported minimal exposure to IPCP as a student and less as a clinician. The differences in exposure to working with other professionals in a collaborative manner could be a cause for the inconsistency in current use of IPE as allied health faculty members (Van Diggele et al., 2020).

Two participants in this study expressed similarities in experiencing a deficiency of administrative support at their respective institutions. This lack of support could have adverse effects on the instruction of allied health faculty and hinder the development of the Interprofessional Collaborative Practice (IPCP) skills among allied health students. Moreover, those participants who had more exposure to IPCP in their work environment and received administrative support in the academic setting (OT and RDN) may demonstrate enhanced learning outcomes, both as clinician and as faculty members teaching in an allied health professional program (Green & Johnson, 2015, Wright et al., 2020).

Additional findings from this study indicated that three of the four participants had exposure to other allied health students during their IPE experiences. This is valuable for allied health students' learning and professional skill development as indicated in the systematic review by Sevenhuysen et al. (2017). Referred to as peer-assisted learning (PAL), it has the potential to improve problem-solving, feedback skills, and self-reflection and provides students more learning opportunities overall. The results of the review indicated positive outcomes reported by students and clinical educators from all 28 studies included in the review, however, there were limited findings (four studies) on how peer assisted learning was facilitated. Some advantages reported for PAL included enhanced student autonomy and learning, mutual support between peers improving confidence, and enhanced student relationships and teamwork. Some disadvantages that were reported included reduced quality of supervision, students at variable levels, and clinical educator time burden.

Each participant reported on experiences related to IPCP in the clinical setting, resulting in a total of eight instances where this code was mentioned. The experiences were positive in nature and associated with improved care of the clients and improved efficiency in the workflow. This is similar to what Gibson et al. (2018) reported in their systematic review in identifying allied health clinicians as sharing both general and specialized abilities that include "interpersonal communication, patient assessment, management, education, discharge planning, working within multidisciplinary teams, advocacy, employing evidence-based practice and integrating the science of their fields into their clinical decision making" (p. 2). The findings from the systematic review included themes from the literature that mirrored what was mentioned by the participants in this study including the provision of skillful feedback, comprehension of expectations, effective organization and planning, and fostering collaborative learning.

Findings associated with the impact of faculty members' IPE and IPCP experience on course instruction and development indicated that all four of the participants included opportunities for students to develop skills and knowledge needed to be an allied health professional. Among the four participants, this code was addressed 10 times. These educational opportunities for students are helpful and important for several reasons, none more important than professional identity. Professional identity (PI) includes the culture, values, beliefs, patterns of behavior and attitudes of each profession (Hall, 2005). Creating or cultivating PI is necessary to be effective in a collaborative and participatory capacity as a member of the allied health team (Adams et al., 2006; Hean & Dickenson, 2005). In a scoping review, Snell et al. (2020) included 96 articles from a variety of allied health-related journals including those for the four

professions included in this study: Dietetics and Nutrition, Occupational Therapy, Physical Therapy, and Social Work. The majority of these studies emphasized the necessity of PI to support allied health students and new graduates in the pursuit of job opportunities and success in their newly acquired roles.

Implications

There is limited evidence in the literature on allied health faculty members' perspectives on IPCP and the impact professional allied health preparation programs have on allied health providers (Olson & Bialocerkowski, 2014; Seaton et al., 2021). While professional allied health preparation programs are expected to offer IPE to students based on accreditation standards and guidelines, in practice, the experiences are limited in their execution (Green & Johnson, 2015). These inconsistent educational practices can be seen in the findings from this study, such as differing degrees of IPE learning activities in the classroom and interaction with other allied health students on fieldwork. Additionally, if allied health professionals are limited in exposure to IPCP skill development and application, the capacity of allied health intervention will be negatively impacted. And while the WHO (2010) indicates IPCP is considered to be the most effective and efficient intervention process in allied health settings when it comes to treating patients with complicated health conditions, LaMothe et al. (2021) report similar findings to this study — the ability to apply IPCP has been found to vary from health setting to health setting. The data from this study consisted of individual lived experiences, however, they would still be considered useful in improving interprofessional collaboration among allied health teams and any variability in the study data helped describe boundaries of the phenomenon (Krefting, 1991).

Recommendations for Research

This study found that some participants had different IPCP exposure and application as clinicians in addition to different degrees of the use of and support for IPCP preparation in allied health professional education as faculty members Future research would benefit from examining processes and procedures to ensure allied health professionals are workforce ready for employment in today's health care environments. Health care facilities must have allied health providers who are able to treat clients with a multitude of conditions, in addition to the referring diagnosis. This requires IPCP (WHO, 2010). It seems the best environment to focus on for this future research would be the clinical education settings for allied health students. These settings are where advanced allied health students are learning to become practitioners and further develop their professional identity.

Another area of research associated with this process could be the application of APM in clinical education for allied health students. Having IPCP exposure and experiences, along with backing from administration, supports the process of learning, a tenet of the Andragogical Process Model (APM) (Knowles et al., 2020). Among other tenets, the APM is learner-centered, problem-focused, experiential, and facilitated by faculty (Henschke, 2016). In addition, APM incorporates the need to know why one is learning something before they learn it and a person's orientation to learning is out of the need to develop competencies (Holton et al., 2001). As such, the use of the APM is valuable in the professional development of IPCP skills because it requires support for facilitating learning and the opportunity to immediately apply the new knowledge or skill, for example, in the classroom/clinical environment (MacRae, 2017). Examining

the efficacy of the educational process associated with APM may guide the learning and development of allied health students as it relates to IPCP.

Recommendations for Allied Health Educational Practice

Based on some of the findings and needs associated with allied health educational practice identified in this study, several recommendations to improve praxis include consistent application of guidelines, the opportunity for clinical interprofessional experiences with other allied health professional students, faculty coordination with fieldwork or internship supervisors/instructors, development of integrated courses-in-common among allied health profession students, and the utilization of APM (Knowles et al., 2020) tenets in the allied health student education and learning activities. Tenets for education and learning activities may include practices that are *learner-centered*, *problem-focused*, *experiential*, and *facilitated by faculty* (Henschke, 2016).

Allied health profession programs that are learner-*centered* should take into consideration what a student knows and what knowledge and skills they need to develop to be work-force ready for entry-level professional practice. In addition, consideration of preferred learning styles, student autonomy, and individualized instruction need to be considered. A *problem-focused* approach is well suited for allied health professional education programs as allied health professionals are most often working to remedy medical dilemmas. Students would benefit from learning through this type of approach to develop the necessary problem-solving skills needed in professional practice.

Further recommendations for education of allied health profession students are that learning activities be *experiential*. While knowledge and concepts are a must to acquire as a student, the ability to apply that information in a meaningful way occurs

through practice. Having the opportunity for hands-on skill development in real time provides students with how to learn to *be* an allied health professional. Likewise, the use of *faculty-facilitated* learning provides students with on-the-spot support. Whether in the classroom and working through a case study or in a clinical setting with a client, faculty should provide the student with just the right amount of facilitation to promote learning and skill development.

Conclusion

Differences in education, clinical, and faculty experiences of allied health professionals can have an impact on the next generation of allied health providers as they come up through the professional preparation programs. The gap between IPE learning activities at the university level and IPCP delivery in clinical practice and the need for faculty members and clinicians to collaborate for consistency in defining and delivering IPE/IPCP was highlighted. It is important to identify how to provide consistent and adequate IPCP experiences to allied health students and providers in order to have some confidence that clients and patients are receiving the best opportunity for a good health outcome.

IPCP in allied health is the recommended approach for best outcomes. Apparent from this study is that education and clinical experiences differ widely for allied health faculty members. It is recommended to support the development of a system that provides more consistent skill development and application for allied health students and providers. This could be done with additional research that can identify the best approach to develop such a system and allied health educational practices that provide more robust and frequent learning opportunities.

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Appendix A

Demographic Form

Demographic Form

Appendix A

1. Gender

Check all that apply.

- [ ] Male
- [ ] Female
- [ ] Prefer not to say
- [ ] Other: _____

2. Age (years)

_____

3. Academic Rank

Check all that apply.

- [ ] Professor
- [ ] Associate Professor
- [ ] Assistant Professor
- [ ] Instructor
- [ ] Other: _____

4. Level of professional education (OT/PT/RDN/SW)

Mark only one oval.

- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Doctoral Degree

5. Graduation year from the professional education

_____

6. Doctoral degree and subject (e.g., PhD in Social Work)

_____

7. Please select your professional discipline from the options below

Check all that apply.

- [ ] Dietetics
- [ ] Occupational Therapy
- [ ] Physical Therapy
- [ ] Social Work

8. Please indicate years of practice as a full-time faculty member

_____

9. Pease indicate years of practice as a clinician

_____

10. Please select the category that best describes you

Mark only one oval.

- ◯ American Indian or Alaska Native
- ◯ Asian
- ◯ Black or African American
- ◯ Hispanic, Latino or Spanish Origin
- ◯ Middle Eastern or North African
- ◯ Native Hawiian or Pacific Islander
- ◯ White
- ◯ Multiethnic
- ◯ Prefer not to disclose
- ◯ Other

Appendix B

Allied Health Faculty Interview Questionnaire (AHFIQ)

Session 1 Interview Questions (experience as a student)

IQ#1. What other allied health students did you encounter during your classroom and/or fieldwork experiences?

IQ#2. What individuals supported Interprofessional education (IPE) during your experience as a student in your curriculum?

IQ#3. Describe how your experience with IPE in the classroom impacted your first job.

IQ#4. Describe how your experience with IPE in the internship/fieldwork impacted your first job.

Session 2 Interview Questions (experience as a clinician)

IQ#1: What were your interprofessional collaborative practice (IPCP) experiences as a professional in the clinical environment?

IQ#2: What impact did management have on your IPCP experiences as a clinician? (Examples: social factors: gender, race etc., teamwork, roles and responsibilities, shared decision, communication, ethical practice)

IQ#3: What impact did other allied health professionals have on your IPCP experience?

IQ#4: What were your IPCP lived experiences as a clinician with respect to patient care/outcomes? (e.g., patient satisfaction, patient outcomes, length of patient stay, rate of clinical errors etc.)

IQ#5: What are your lived experiences regarding use of IPCP by clinicians in addressing health equity? (If they have no lived experiences, then ask about perspectives)

Session 3 Interview Questions (experience as a faculty member)

IQ#1. What types of collaborative practice activities/experiences do you use in your curriculum/classes?

IQ#2. How did you determine the greatest needs for student development in delivering IPE?

IQ#3. What has influenced the development and delivery of your IPE learning activities?

IQ#4. What skills and knowledge are needed for future clinicians as members of IPCP?

IQ#5. What challenges do you face in the delivery of IPE?

Appendix C

Study Participation Email Script

You are being invited to participate in a research project titled *Allied Health Faculty Members' Perspectives on Interprofessional Collaborative Practice: A Hermeneutic Phenomenological Study*. This doctoral dissertation study is being completed by UMSL Ed.D students Peggy Beckley, Mary Falcetti, Prajakta Khare-Ranade.

The purpose of this study is to examine lived interprofessional collaborative practice (IPCP) experiences of allied health faculty members at three points along their professional development path. The first point is as an allied health student, the second point is as an allied health practitioner, and the third point is as an allied health faculty member. In doing so, we expect to gain insight into the development of IPCP skills and their application in practice. And more importantly, identify possible indicators as to why IPCP is not consistently used as an intervention approach across health care settings.

If you agree to take part in this study, you will be asked to participate in three interviews which will be conducted virtually via Zoom ™. The interview will last for approximately 60-90 minutes. An honorarium will be provided for your participation.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential and de-identified. We will minimize any risks by storing responses in password protected

files. Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question that you choose. If you have questions about this project, you may contact one of us. Kindly respond to this email and let us know your decision to participate in the study. We look forward to hearing from you.

Sincerely,

Peggy Beckley, Mary Falcetti, Prajakta Khare-Ranade.

APPENDIX D

UNIVERSITY OF MISSOURI–ST. LOUIS
INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Project Title: ***Allied Health Faculty Members' Perspectives on Interprofessional Collaborative Practice: A Hermeneutic Phenomenological Study.***

Principal Investigator: Dr. E.P. Isaac-Savage

Department Name: Professor, Adult Education

Faculty Advisor: Dr. E.P. Isaac-Savage

Sponsor/Funder: International Accreditors for Continuing Education and Training (IACET)

IRB Project Number: 2095524

Key Information About the Study

You are being asked to participate in a research study. The purpose of the research study is to examine lived interprofessional collaborative practice (IPCP) experiences of allied health faculty members at three points along their professional development path. You are being asked to examine how to gain insight into the development of IPCP skills and their application in practice. Possible benefits include identifying possible indicators as to why IPCP is not consistently used as an intervention approach across health care settings. Some possible risks may include:

- Participants lack clarity of memory for answering interview questions regarding their student experience.
- Participants may show signs of discomfort with sections of the interview questions.
- Participants are unable to devote sufficient time over several weeks to complete the three series of interview questions.

Please read this form carefully and take your time. Let us know if you have any questions before participating. The research team can explain words or information that you do not understand. Research is voluntary and you can choose not to participate. If you do not want to participate or choose to start then stop later, there will be no penalty or loss of benefits. Gift cards will be issued only at the completion of each series of interview sections. Participants may stop at any point during the interview process by stating their desire to withdraw to a member of the dissertation team. The investigators reserve the

right to terminate participation without regard to consent if any emotional discomfort becomes evident to the investigators.

The investigators believe there are no physical risks to this study. However, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential and de-identified. We will minimize any risks by storing responses in password protected files.

Purpose of the Research

You are being asked to participate in this study because you are a member of one of the professional disciplines selected for this study:

- Occupational Therapy
- Physical Therapy
- Dietician/Nutritionist
- Social Worker

The purpose of the study is to examine the lived experiences of the above professions at three points within your career paths. The first point explores you as an allied health student, the second point is as an allied health practitioner, and the third point is as an allied health faculty member. In doing so, we expect to gain insight into the development of IPCP skills, or lack thereof, and their application in practice. And most importantly, to identify possible indicators as to why IPCP is not consistently used as an intervention approach across health care settings.

Conflict of Interest may include the members of the investigation team being occupational therapists and registered dietician/nutritionist. There is no financial gain associated with this study for the investigators.

What will happen during the study?

You are being asked to take part in this study, and you will be asked to participate in three interviews which will be conducted virtually via Zoom ™. The interview will last for approximately 60-90 minutes. An honorarium will be provided for your participation at the completion of each question session.

As part of the research study, the researcher will record your image and/or voice in a videotape/audio recording via Zoom ™. The recording will not be used in a presentation

or publication about this research study. The researchers will compile, analyze, and report the results without any identifiers of the subjects. No use of the video or audio recording will be published in any form. After the researcher has taken notes from the recording, it will be destroyed to protect your identity.

_____ Yes, I can be audio/video recorded

_____ No, I don't want to be audio/video recorded.

Your participation is expected to last up to 4 to 6 weeks from the beginning of the interview process, starting in March 2023.

There will be a total of four subjects participating in this study.

What are the expected benefits of the study?

You may benefit as a result of your participation in the study. Information learned from the study may help other practitioners in the future by providing recommendations for interprofessional collaborative practice principles for professional curriculums and/or allied health practice facilities. We hope to gain insight into why or why not interprofessional collaborative practitioners in allied health programs gain exposure to interprofessional teams and discipline responsibilities before they are sent out on fieldwork assignments. Our study will include in-depth interviews of the lived experiences of four allied health professionals: a registered dietician nutritionist, social worker, occupational therapist, and physical therapist. The interviews will be asked about their experiences as first a student, then as a clinician, and finally as a faculty member. We seek to gain insight into how the prior experiences as a student and clinician shaped the methods as faculty members on the topic of interprofessional collaborative practice and need for meaningful interprofessional education.

What are the possible risks of participating in this study?

There are certain risks and discomforts that may occur if you take part in this research study. They include:

- Participants lack clarity of memory for answering interview questions regarding their student experience.
- Participants may show signs of discomfort with sections of the interview questions.

- Participants are unable to devote sufficient time over several weeks to complete the three series of interview questions.

To help lower these possible risks, we will:

- Attempt to facilitate a meaningful discussion of any negative feelings that may arise from interview discussion.
- Remain flexible in scheduling of interviews to eliminate any negative financial ramifications.

As this study involves the use of your personal experiences, the researchers assure you no identifiers are in place in order to eliminate the possibility of loss of confidentiality, as described in the "Will information about me be kept private" section. We will tell you about any new important information we learn that may affect your decision to continue to participate in this study.

What other choices do I have if I don't want to be in this study?

You are not required to be in this study. You can choose not to participate.

Will I receive compensation for taking part in this study?

You will be compensated for taking part in this study. For your time and effort, you will receive a gift card (Amazon) at the completion of each interview section.

Are there any costs for participating in this study?

You should not expect any costs from participating in this study. You should discuss any questions about costs with the researchers before agreeing to participate.

Will information about me be kept private?

The research team is committed to respecting your privacy and keeping your personal experiences/information confidential. We will make every effort to protect your information to the extent allowed by law.

When the results of this research are shared, we will remove all identifying information so it will not be known who provided the information. Your information will be kept as secure as possible to prevent your identity from being disclosed. In order to protect your information, the research team will destroy the video/audio recordings once the information has been transcribed and analyzed by the research team. Demographic information will not have any identifiers/ aliases/ or initials used. What we collected

from you as part of this research will not be used or shared for future research studies. It will only be used for purposes of this study.

What if I am injured during the study?

There is no risk of any physical injury resulting from this study and therefore there are no provisions included. It is not the policy of the University of Missouri–St. Louis to compensate human subjects in the event the research results in injury.

Who do I contact if I have questions or concerns?

If you have any questions or concerns about this research study, or if you have any problems that occur from taking part in this research study, you may call the researcher Dr E.P. Isaac-Savage at (314-516-5303 and EPIsacc@umsl.edu).

If you have questions about your rights as a research participant, please contact the University of Missouri–St. Louis Institutional Review Board (IRB) at 314-516-5972 or irb@umsl.edu. The IRB is a group of people who review research studies to make sure the rights and welfare of participants are protected.

Do I get a copy of this consent?

You will receive a copy of this consent for your records.

We appreciate your consideration to participate in this study.

Consent Signatures

Subject's Signature	**Date**

Investigator Authorized to Obtain Consent	**Date**

(This signature line should always be included)

Appendix E

Allied Health Faculty Interview Email Script

Good day,

Thank you again for agreeing to participate in our study *Allied Health Faculty Members' Perspectives on Interprofessional Collaborative Practice*.

We are writing today to schedule your individual interview sessions. As mentioned, your participation will consist of three interview sessions over Zoom. Each session will be 60 – 90 minutes. The three sessions will be scheduled within a 1–3-week period. Following the 3 sessions, transcripts of the interviews will be sent to you for review.

Please select the times you are available for interviews using the Doodle link included here. We understand that you may have a change in your availability after making your selections and these times may be amended.

We will contact you with your final sessions from those you selected within the next week. We will also include the Zoom link for the first session interview.

Thank you for your time.

Sincerely,

Peggy Beckley, Mary Falcetti, Prajakta Khare-Ranade

Appendix F

Codebook

Student IPE Experience	Interview 1
Codes	Description
Student IPE in class experience	Exposure to other Allied Health Students (AHS) during class learning activities: interactive case studies, multiple discipline presentations of roles/responsibilities and skills sets
IPE through fieldwork experience	IPE experience on faculty members' fieldwork as students: inter- or multi-disciplinary exposure to other AHS; learn what other disciplines' skills sets are
Limited IPE in coursework	Limited/absent IPE experience in professional degree program: no exposure or discussion of other allied health disciplines, anecdotal only.
Student encounter other AHS	Exposure to other Allied Health Students during fieldwork; could be same discipline or other disciplines
IPE impact on first job	IPE impact on faculty member's first job: work-ready knowledge or acceptance of other disciplines roles.
Clinical IPCP Experience	Interview 2
Codes	Description
IPCP in clinical environment	IPCP processes in a health care setting: ability to have informal /formal communication with other disciplines; understanding skill sets of other disciplines; institutional support for collaboration.
IPCP impact on client outcomes	IPCP impact on client outcomes in a health care setting: ability to improve client care through collaboration; meeting client needs for success after discharge
IPCP impact by other AHP	IPCP impact of other Allied Health Professionals in a health care setting: meeting all client needs while under AHP care to affect success for aftercare at home.
IPCP impact on health equity	IPCP impact on health equity in health care settings means providing minimum standard of care to all minority populations and groups
Degree of management support of IPCP	Management support of IPCP at a health care setting; providing resources to support collaboration among AHP.
Limited IPCP	Limited/absent IPCP experiences: willful or negligent omission of exposure to other AHS/AHP on a client care team in allied health settings.

Impact of IPE and IPCP Experience on Faculty's Teaching	Interview 3
Codes	Description
In-class needs determination of IPE	Determination of student IPE needs by faculty members: learning 'soft skills'; communication with other disciplines; exposure to other team members for their specific contributions to patient/client care.
IPE classroom activities	Collaborative practice activities in classroom; joint /interactive case studies with other disciplines; learning about other roles and responsibilities of other team members; joint assessment sessions of clients; shared decision-making
Influence of IPE delivery by faculty	Influence on determining IPE activities for students; planning meaningful in-class and fieldwork experiences that include other disciplines' roles for collaboration
Challenges faced in IPE delivery	Challenges faced by faculty members in delivering IPE for their students: curriculums are packed with core classes and no room for additional in-class time; lack of faculty commitment to IPE and IPCP; universities lack of commitment of resources for IPE/IPCP
Future skills and knowledge for AHP	Skills and knowledge needed for future Allied Health Professionals: education of faculty on the importance of IPE /IPCP to make students work-ready for fieldwork
Other	Other IPE/IPCP experiences which did not fall under any other themes: Medicare/Medicaid/insurance rules for reimbursement; students' understanding reimbursement rules to advocate for their clients' care