Community-Engaged Interprofessional Education

Integrated Analysis of Pedagogical Strategies Pivotal to Interprofessional Socialization

by

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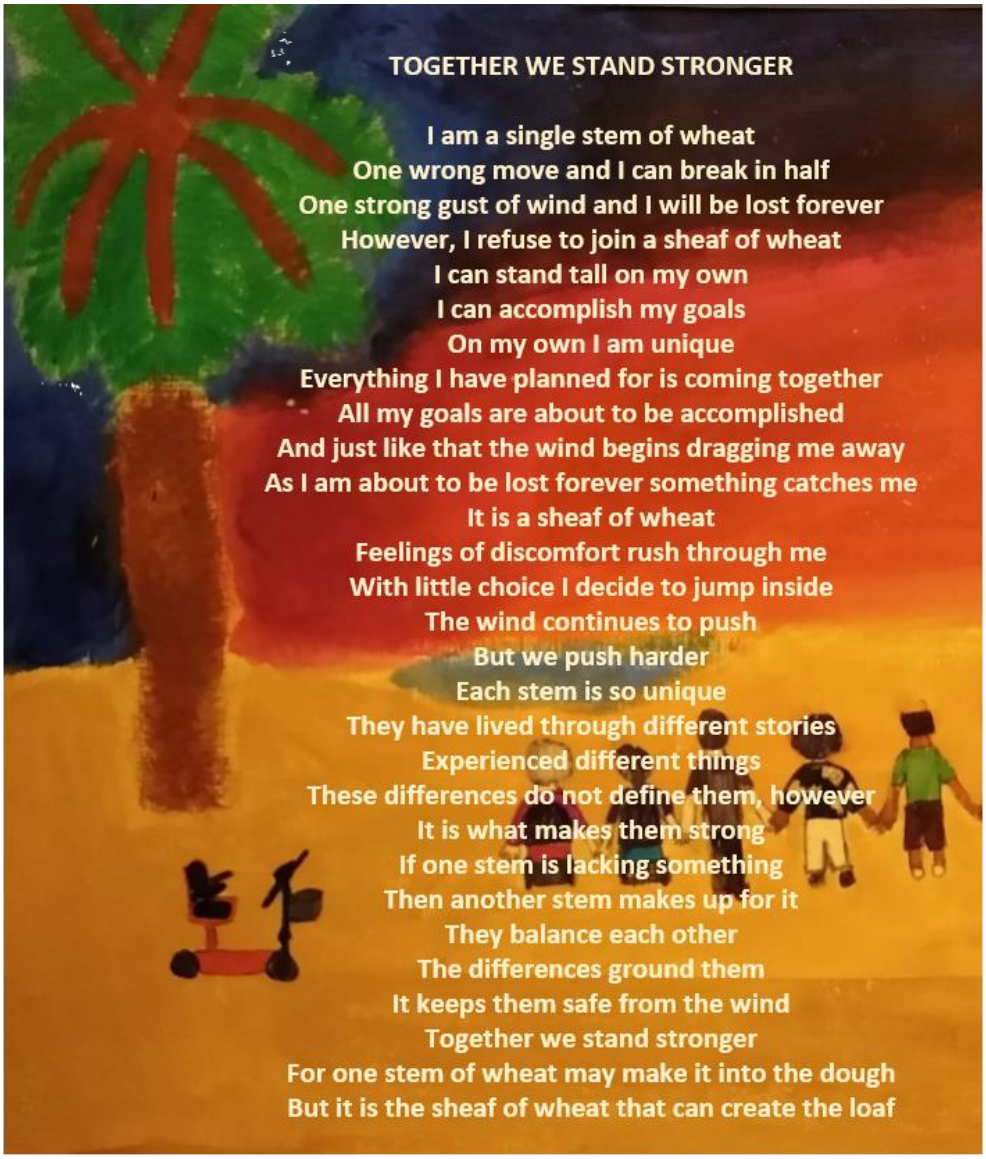
ABSTRACT

Interprofessional educators increasingly recognize the importance of establishing graduated interprofessional learning strategies to socialize and prepare learners to work in collaborative care environments. Interprofessional socialization (IPS) is the process of bringing students together from different disciplines to learn from, with, and about each other. However, education programs struggle to systematically integrate evidence-based interprofessional learning. Community-engaged learning, a pedagogical tool adaptable to diverse circumstances, offers an opportunity to expand IPS. The purpose of this mixed methods action research dissertation study was to explore the factors that contribute to IPS through participation in a community-engaged learning course and how IPS evolves among early learners. In this study, I explored several factors, including theoretically-grounded and contextually relevant teaching and learning strategies pivotal to IPS. Specifically, I created and facilitated an innovative pilot Interprofessional Education and Community Health course, guided by experiential learning theory, asset-based and critical pedagogy and flow theory. I found that these theoretically guided instructional techniques nurtured the benefits of team-based experiential learning, inspired a community of confident learners through praxis, and promoted optimal engagement in challenging and meaningful health promotion activities. The learner's diverse backgrounds, meaningful community-engagement, and challenging collaborative assignments contributed to IPS. The shared novel real-world experiences ignited emotional reactions that nurtured their relationships; facilitating their ability to address conflicts. They sustained motivation to participate in community-engaged learning and

maintained a consistent strong belief in the importance of working as a team. Whereas, their understanding of interprofessional teamwork, comfort and preference working on interprofessional teams grew over time. Four pedagogical strategies pivotal to interprofessional socialization emerged for use with community-engaged interprofessional education: 1) purposeful community partnerships, 2) structured collaborative written assignments, 3) intentional conversations, and 4) welcoming cultural assets.

DEDICATION

I dedicate this work to youth who are making a difference in this world, and who continuously challenge themselves to learn, unlearn, and relearn; knowing that good things happen when change is sparked by passion, driven by hope, and gifted through unity. Learners inspire me through their thoughtful and creative expressions of interprofessional socialization.



Note. Adapted artwork by Viloria (2020) and poem by Webber (2020).

ACKNOWLEDGEMENTS

I began earning the Doctor of Education in Leadership and Innovation at Arizona State University believing it was going to be a personal journey to advance my teaching practices. I learned along the way that it involved a complex iterative intellectual process with the intensity of a tornado's whirlwind. Through it all I came to a deeper understanding how education was preparing me with skills to improve practices, and transforming my passions of lighting the path for doing Good work. I am forever grateful to the people in my life who have been by my side creating opportunities, helping me navigate struggles, and celebrating accomplishments. First, the ethos of Arizona State University has been foundational to my research, illuminating possibility and encouraging creativity in me. The relationships I have formed with colleagues, students and classmates have collectively helped me establish meaningful networks committed to collaborative community development. Second, the core value of principled innovation that inspires pursuits at Mary Lou Fulton's Teacher College created the space and opened the skies for me to explore new ways of shaping environments to prepare learners to thrive as caring citizens committed to public good. Third, I attribute my ideas to the expansive discoveries of scholars before me who planted various seeds of knowledge which bore fruit in my own innovations. Fourth, the three inspirational women on my committee attended to me like the sun, moon and stars with their inexhaustible and faithful guidance. Together they guided me through each phase, nurturing me to become a scholarly and influential practitioner. I am grateful for their gentle way of redirecting my incessant need to jump down rabbit holes, and teaching me how to communicate

ideas using concise strategies and active language. For the sake of my students, family and friends, I hope I can transfer these skills beyond this written document. Fifth, my family has encircled me with support, each one of them caring for me in their own special way, showing me how to live through the Spirit with love, joy, peace, forbearance, kindness, goodness and faithfulness. Sixth, my precious friends opened my eyes to see things I could not see in myself and encouraged me to persevere. Words of encouragement, funny text messages, and running alongside me when I was nearly out of steam reignited my resolve to deeply engage in action research with the truest part of myself. Seventh, I reflect on the creation of this work with a glad heart resting in hope knowing our unifying gifts equip us with all we need to do Good with the people in our communities.

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CHAPTER 1

INTRODUCTION AND PURPOSE OF THE STUDY

"For better or worse, our future will be determined in large part by our dreams and by the struggle to make them real."

Mihaly Csíkszentmihályi

Interprofessional education and practice has the capacity to positively impact the Triple Aim in healthcare: improve population health, patient experience, and cost (Berwick et al., 2008). Higher education can contribute to a team-based approach to health system change by preparing a collaborative workforce. A lack of teamwork, cooperation, and communication among providers can result in adverse patient and health outcomes (Greiner & Knebel, 2003). Healthcare leaders report allied health graduates are technically competent, but still need to enhance competency in health promotion, disease prevention, interdisciplinary collaboration, critical thinking and cultural competency to respond to the growth in chronic health conditions (Commission on Community-Engaged Scholarship in the Health Professions, 2005; Committee on Quality of Health Care, 2001). The World Health Organization (WHO) has identified interprofessional education (IPE) as an essential step in preparing professionals to work collaboratively (Gilbert et al., 2010). Interprofessional socialization (IPS) is "the process of bringing learners from across different professional programs together to learn with, from, and about each other" (Khalili et al., 2013, p. 449).

Following decades of research, The National Academy of Medicine, professional academic associations and federal legislation supported the development of the National Center for Interprofessional Practice and Education (NEXUS)(Wang & Zorek, 2016).

NEXUS, the UK Centre for the Advancement of Interprofessional Education (CAIPE) and the Centre for Interprofessional Education are among the international institutions established to inform, engage and connect scholars in a collective commitment to understand and implement best practices in IPE. The Health Professions Accreditors Collaborative (HPAC) was established in 2014 to support the preparation of a collaborative practice-ready workforce (Department of Health, 2004; World Health Organization, 2013). HPAC guidance is timely as accreditation agencies representing health professions expect education programs to prepare students for team-based care through IPE (Interprofessional Education Collaborative Expert Panel, 2011). In a quest to respond to the mandate, academic programs aim to provide quality IPE, but there is a lack of evidence-based, theoretically supported and contextually relevant strategies to facilitate high-quality IPE (Lestari & Yuliyanti, 2018; Priest et al., 2008; Ross & Harris, 2005).

A public research university, known for its innovation, is an ideal setting to explore education and training strategies to address both the structural and sociocultural problems associated with interprofessional optimization (Brandt et al., 2018). My role as a clinical professor and coordinator of the recreational therapy program allows me to advance IPE by capitalizing on my expertise with activity-based therapeutic interventions and my relationships with community partners. A theoretically-grounded interprofessional and community-engaged course gathers together students from different professional degree programs to plan and implement health promotion therapeutic activities with vulnerable populations in our community. As such, this action research

study took place in the real-world (Creswell, 2015; Ivankova, 2015) to search closely for a better understanding and interpretation of a system of interdependent processes between students at the foundational stage of their professional education (early learners) and a community-based learning environment. The purpose of this study was to explore how community-engaged learning contributes to IPS among early learners in allied health academic programs. I employed action research methods to uncover the deeper situational factors associated with designing and delivering sustainable IPE experiences within this learning environment (Mertler, 2016).

Interprofessional Education and Socialization

The World Health Organization recognizes the vital importance of preparing students with the competencies required for professionals to function collaboratively. Consequently, WHO is calling for worldwide integration of IPE, where students develop skills to work collaboratively among teams to improve health outcomes (Gilbert et al., 2010). In 2009, healthcare professionals formed the Interprofessional Education Collaborative (Interprofessional Education Collaborative, 2016). This collaborative established four Core Competencies for Collaborative Practice: 1) values/ethics, 2) roles/responsibilities, 3) communication, and 4) teams and teamwork. They feature the following desired principles:

> patient and family centered; community and population oriented; relationship focused; process oriented; linked to learning activities, educational strategies, and behavioral assessments that are developmentally appropriate for the learner; able to be integrated across the learning continuum; sensitive to the systems context

> and applicable across practice settings; applicable across professions; stated in language common and meaningful across the professions; and outcome driven (p. 10).

Interprofessional competence is essential to work in collaborative and integrated teams to deliver patient-centered, safe and effective care that meets the growing and complex population health needs (Brandt et al., 2018). A strategic learning continuum is needed that can facilitate the development of professional and interprofessional skills in education and practice. The IPE framework is intended to guide learners through the complex process of socialization and induction into both roles (Olson & Bialocerkowski, 2014).

Professional socialization refers to the processes through which individual students learn to become members of a professional occupation, whereas, IPS is a process of bringing students from different professional programs together to learn interprofessionally; creating the context for dual identity formation (Khalili et al., 2013). Historically, healthcare profession students learn in silos and establish a strong sense of professional identity prior to being introduced to interdisciplinary teamwork. This mono professional learning causes barriers to successful collaboration in practice due to limited prior experience and understanding of professional roles, and perceptions of power (Olson & Bialocerkowski, 2014). To develop trust, both within and outside of one's professional identity group and reduce biases that can hinder team collaboration, Khalili (2013) suggests integrating IPS throughout a student's education. Wenger (1998) outlines the structural characteristics of the socialization process through the notion of

communities of practice, consisting of mutual engagement, joint enterprise and shared repertoire. Consequently, for IPS to occur, students need access to learning environments where they can continuously negotiate meaning through engagement in communal activities and regular reflection.

Conceptualizing Interprofessional Community-Engaged Learning

Community engagement is a growing distinctive pedagogical tool that makes use of university-community partnerships to prepare students to work with diverse populations while improving the well-being of vulnerable populations (Bhagwan, 2017). Increasingly, universities are adopting community engagement instruction by developing mutually beneficial partnerships between the campus and community (Ramaley, 2014). Interprofessional community-engaged learning has the capacity to create a dynamic space where students develop knowledge of the self, other professions, and the community as they explore solutions to our society's greatest threats to health and well-being. The term community-engaged learning (CEL) is descriptive of the traditional service-learning model, while acknowledging the mutuality of learning between the students and community members. It is a process where learners and communities actively and genuinely collaborate to define the issues of concern; co-create learning objectives; make decisions about factors that affect lives; and act toward meaningful change.

Academic programs aim to meet accreditation guidelines by implementing a range of IPE experiences such as workshops, simulations, courses, service-learning and clinically based activities (Stetten et al., 2019). Despite the expansive use of diverse instructional methods to integrate interprofessional learning into curricula, evidence of

quality community-based interprofessional education is relatively scarce (Stubbs et al., 2017). Barriers that impact the success of IPE implementation include; scheduling, matching students of compatible levels, faculty time, and inadequate administrative support (Abu-Rish et al., 2012).

Still, CEL is an appealing learning context for students as they apply content taught in a classroom in partnership with direct care providers to improve community well-being (Comeau et al., 2019; Stetten et al., 2019). In particular, community-based IPE programs increase student awareness of social determinants of health and cultural competence (Stubbs et al., 2017). Moreover, CEL can facilitate positive interprofessional socialization as students develop new knowledge of the self, intergroup team dynamics and the complex cultural characteristics of vulnerable populations. Theoretically-grounded community-based education experiences with mutual engagement among allied health learners can have positive outcomes on interprofessional socialization.

Theoretical Resources Guiding Innovation Design

I draw on three theories to operationalize CEL toward an optimal interprofessional learning environment that enables interprofessional socialization and prepares students for work in collaborative care environments: experiential learning theory, asset-based and critical pedagogy, and flow theory. In the following subsections, I discuss the characteristics of an optimal interprofessional learning environment, followed by the theoretical elements framing CEL in this action research. I conclude with a description of the action research innovation.

Optimal Interprofessional Learning Environments

Health profession education programs recognize the need to think differently and purposefully about how to optimize learning and client care. The National Collaborative for Improving the Clinical Learning Environment (NCICLE), a forum for "organizations committed to improving the educational experience and patient care outcomes within clinical learning environments" (NCICLE, n.d.) outlines their suggestions in *Achieving the Optimal Interprofessional Clinical Learning Environment* (Weiss et al., 2019). Characteristics of an optimal learning environment include a continuum of learning, reliable communication, team-based care and shared accountability (Weiss et al., 2019). Yet, integrating these elements in unique educational contexts, particularly when there is not a one-size-fit all interprofessional education intervention is challenging and requires a process (Olson & Bialocerkowski, 2014). To address this challenge, IPE can offer a framework that systematically integrates graduated interprofessional learning experiences in sustainable, theoretically-grounded, and influential ways toward improved community well-being.

Emerging models of healthcare, particularly those responding to the demand for chronic disease management, emphasize interprofessional socialization and collaboration (Price et al., 2014). In this system, allied health students must develop collaboration skills with diverse team members and cultural competence with complex populations. To enhance IPS in higher education, students require opportunities for socialization in a professional capacity to assimilate knowledge, social skills and organizational norms to function optimally within that environment (Stanley et al., 2016). Additionally, by

exposing early learners to IPE in social environments, students can explore careers in healthcare, encounter the benefits of collaboration to client outcomes and nurture equality and respect among different professions (Price et al., 2014). Interestingly, learning strategies that facilitate social engagement between learners are gaining in popularity as they increase understanding of professional roles and responsibilities (Price et al., 2014). Environments that are pleasurable and stretch an individual's capabilities have the potential to generate what is known as an optimal experience where learners are in the "zone" as they enjoy the moment, practice requisite skills, and increase personal complexities (Mao et al., 2016). Heutte affirms this notion and suggests "optimal learning environments are environments that support a state of flow in the process of learning" (Heutte et al., 2016, p.128). This action research dissertation employs a meta-cognitive experiential learning process that is both challenging and enjoyable to promote interprofessional socialization.

Interprofessional Education and Experiential Learning

According to Kolb (1984) "learning is a process whereby knowledge is created through the transformation of experience" (1984b, p. 38). The definition emphasizes the adaptive and transformational nature of learning that is continuously created and recreated through experience. The growing expectation of interprofessional education curriculum necessitates a theoretical approach that instills learning as a continuous process grounded in experience. Kolb's experiential learning theory (ELT) "can help learners learn how to learn. By consciously following a recursive cycle of experiencing, reflecting, thinking, and acting, they can increase their learning power" (Kolb & Kolb,

2009, p. 297). These contemporary scholars of learning theory offer experiential learning as a strategy for developing meta-cognition; recognizing socialization into a profession requires intense experience that facilitates knowledge, skills, and reorientation of one's identity. The teaching and learning strategies integrated into the innovation in this action research creates a platform for students to experience delivering activity-based interventions, reflecting on their observations, and experiment with new strategies to solve problems. However, despite the strengths of Kolb's ELT applied in this context, CEL can also benefit from a social learning theoretical approach.

Kolb's experiential learning cycle is inadequate as a singular approach because it has been criticized for its focus on individual learning and neglect for the social context (Bleakley, 2006). In fact, Rowland, (1999) argues Kolb's learning cycle is a model, not a theory because it "refuses to consider the ways in which such terms as 'reflection' and 'learning' derive their meaning for social relations of power" (p. 306). A critical cultural perspective of Kolb's theory reveals a deficiency in the cultural aspects of self-development, both individually and collectively (Mughal & Zafar, 2011). Scholars of critical pedagogy such as Freire, Ladson-Billings, Paris and Alim share perspectives guiding constructive teaching practices that empower learners through praxis, and help learners become critically conscious.

Positive Critical Pedagogy

A positive critical pedagogical approach to IPE is important because there are risks for negative socio-cultural outcomes. If IPE experiences are not thoughtfully planned and well delivered, there is potential to reinforce systemic differences, rather

than to enhance interprofessional awareness, knowledge and collaboration. For this reason, "it is crucial that evidence is sought and utilized on what works, for whom, in what way and with what effect" (Priest et al., 2008, p. 476). Ladson-Billings, (2014) suggests quality critical pedagogical practice requires theoretical grounding. The new generation of healthcare workers need to learn the cause of disparities and imagine strategies to address the limits of justice (Giroux, 2011). Additionally, educational scholars emphasize the importance of instructional strategies that emphasize hope for the future and teaches skills of well-being and achievement (Giroux, 2011; Seligman et al., 2009).

The variety of pedagogical practices relevant to IPE creates a challenge for scholars to clarify a theoretical foundation for IPE given the vast conceptual differences between disciplines. Giroux (2011) suggests learners "interrogate texts, institutions, social relations and ideologies" to understand problems in our society and become agents of change (p. 4). This is possible when faculty leading IPE initiatives gather together regularly to engage in critical dialogue themselves to illuminate differences and establish common ground. Learning environments thrive when cooperating faculty are trained together to enhance natural leadership abilities to deliver excellence in IPE (*Ehpic*^{TM} | *Centre for Interprofessional Education*, n.d.). Educators with the skills to teach collaboratively are positioned to integrate positive and critical pedagogy with interprofessional education.

First and foremost, interprofessional educators need to be empathetic and responsive to the diverse sociocultural characteristics of students in fundamentally

inequitable systems and commit to problem-posing discourse (Freire, 1970). For Freire, (1970) the foundation of critical pedagogy was dialogue in both formal and informal social groups. The dialogue Freire references involves an openness to learning from others and a faith in the collective ability to change the world we live in (Freeman & Vasconcelos, 2010). Giroux (2011) reinforces this notion and calls for critical pedagogy that creates conditions for students to "not only think critically, but act differently" (p. 125) as they develop social responsibility. Additionally, scholars of positive psychology have introduced the concept of positive education to teach learners to be realistic, flexible, and creative as they encounter problems and this has the effect of enhancing their engagement in learning, and achievement (Seligman et al., 2009). Positive and critical pedagogy can cultivate resilient learners who question the power dynamics in healthcare, and creatively explore solutions.

Meaningful Activity and Flow Theory

Students value hands-on experience, (Mullen et al., 2010; Norbye, 2016), particularly when it is in the community because it "makes learning more real and relevant" (Mullen et al., 2010, p.5). The next generation of allied health students can be agents of change through community-engaged learning; designed to be an instrumental strategy for the welfare of society. Csikszentmihalyi (1981) argues that socializing youth into meaningful experiences is crucial for our social health system. His concept of flow demonstrates the value of engagement with life activities and describes "the quality of experience as a function of the relationship between challenges and skills. Optimal experiences, or flow, occurs when both variables are high" (Csikszentmihalyi & Bar,

1990, p. 31). Conditions of flow with meaningful activities can be a motivator for learning.

Early learners need to develop a deeper understanding of their interests and skills. This can be accomplished through exposure to different healthcare delivery programs alongside other allied health professionals. Csikszentmihalyi (1981), emphasizes the importance of engaging experiences; "for a society, it is a survival requirement; in the long run, a boring system cannot last. Therefore, one of the essential parameters of any society concerns the way the opportunities for expressive experience are institutionalized" (p. 339). Community-engaged interprofessional education needs to integrate meaningful activities to make available this critical component in the continuum of learning.

Shernoff and Hoogstra (2001) elaborate and explain that enjoyment is an important component of student engagement because it is a predictor of student motivation, commitment, and overall performance. When an individual is absorbed in a task that is personally satisfying and stretches their abilities to meet difficult challenges, they are in a state of flow (Csikszentmihalyi, & Csikszentmihalyi, 1988; Csikszentmihalyi, M. 1997; Csikszentmihalyi & Csikszentmihalyi, 2006). Additionally, engagement in collaborative activities infused with optimal experience, as defined by flow, can potentially influence the development of social identification at the group level (Mao et al., 2016). Scholars of social and positive psychology indicate flow experiences may nurture group bonds; an important element of interprofessional socialization. The group's well-being lays the groundwork for better growth in learning (Seligman et al.,

2009), and Kolb's experiential learning theory can provide a framework to guide teaching strategies.

Innovation: Interprofessional Education and Community Health Course

The innovation in this study was a pilot interprofessional education course designed for early learners to collaboratively plan and deliver health promotion activity-based interventions with vulnerable populations in the community. In the spring 2019, a group of faculty and students associated with Student Health Outreach for Wellness (SHOW) came together "not only to engage in pursuing some enterprise but also to figure out how our engagement fits in the broader scheme of things" (Wenger, 1998, p. 162). The aim was to solve the administrative challenges associated with bringing students from different universities and schools together in one place and time for intensive IPE. Our community of practice was made up of diverse members with varying roles; all invested in the future of interprofessional education. Collectively, the team designed three service-learning courses for students to progressively gain competence with IPEC Core Competencies (Interprofessional Education Collaborative, 2016), social determinants of health (Office of Disease Prevention and Health Promotion, n.d.), healthcare disparities and leading interprofessionally (Saewert, 2018). The curriculum was scaffolded within three courses to gradually prepare learners to work with collaborative teams: 1) infusion, IPE and Community Health, 2) immersion, IPE and Complex Health, and 3) integration, IPE and Comprehensive Systems Health. The foundational course, Interprofessional Education and Community Health, was designed to expose learners to key concepts, practices, and principles related to community well-

being. It was designed based on a service-learning model we referred to as community-engaged learning. The CEL course integrated ELT, asset-based and critical pedagogy, and meaningful activities, to create a non-threatening, challenging, and fun learning environment for students to establish productive roles, co-create experiences, reflect on observations, develop new knowledge, and experiment with new ideas.

The course established a set meeting time one day a week for two hours and was available to all students. During the first three weeks of the class, students were oriented to each other and the course, and supplemental learning material was provided on Canvas, an online learning management system (https://www.instructure.com/canvas). The students were then divided into small groups of three to four and oriented to their assigned community partner. They collaborated with the organization to outline a plan for services, and were guided to write evidence-based protocols outlining their plans for service; drawing from their individual and collective knowledge, skills and strengths. The general outline for program delivery involved 15 minutes for set-up, 75-minutes for the health promotion activity, 15 minutes for clean-up and 15 minutes for a group huddle to discuss what went well, what didn't go well and what could have gone better. Both in-person discussions (huddles) and post-experience written reflections were integrated into the course to facilitate opportunities for students to share their thoughts and discuss ideas for future actions. These formative evaluations served as opportunities for the instructor to respond to students' learning needs immediately. At midterm, students reflected on their experiences in a large group discussion and participated in a fun social wellness activity together. The same student teams continued programming at their respective

community sites after midterm. The last day of class students were instructed to share their individual and team learning outcomes through a final synthesis paper and a creative impact project. A course schedule is displayed in Appendix A.

Pressing Problem of Practice and Research Question

Curricular strategies for interprofessional socialization need to be integrated throughout allied health curriculum and university programs need to know how to optimize learning with available resources. Community-engaged learning is a pedagogical tool known to have a positive influence on student learning outcomes, but instructors lack understanding of teaching and learning strategies to facilitate positive interprofessional socialization. To address this gap, in this study I implemented an innovation in the form of a theoretically-grounded interprofessional education and community health course to bring students from different allied health academic programs together to learn from, with and about each other. The following research questions guided this study:

RQ1a. What factors contribute to interprofessional socialization?

RQ1b. Why do these factors contribute to interprofessional socialization?

RQ2. How does interprofessional socialization evolve among early learners in allied health academic programs through participation in a community-engaged learning course?

Context and Researcher Positionality

In the fall of 2016, I attended a customized professional development program for members of the Arizona Nexus, a pioneer member of the National Center for

Interprofessional Practice and Education (NCIPE) Nexus Innovations Network and a statewide collaborative of public and private universities and healthcare organizations in Arizona (Center for Advancing Interprofessional Practice, Education, n.d.). I learned essential skills for collaborative teams through my participation in ehpic™ - Educating Health Professionals in Interprofessional Care. Along with some of the most respected leaders in our community, I joined a network of champions deeply committed to improving the health of our community through interprofessional education. The experience empowered me to be a contributing member and as a result, I began conducting this action research study to explore how to improve teaching practices with interprofessional education.

Inspiration for this mixed methods action research project began at the iconic Westward Ho, a residential building in downtown Phoenix adjacent to the Arizona State University (ASU) downtown campus. In 1980, the building was converted into subsidized housing units for older adults and individuals living with disabilities. A large percentage of the 300 tenants living in the building experience the challenges associated with chronic health conditions and lack access to supportive healthcare; resulting in frequent calls to 911. Faculty and students deliver social and recreation programs to minimize emergency calls and improve quality of life through a partnership between ASU and the owners of the Westward Ho. The ASU Community Collaborative at the Westward Ho (Community Collaborative) provides students with a community-engaged interprofessional opportunity to develop skills to collaborate with the intent to improve health outcomes (Gilbert et al., 2010).

My involvement with the Community Collaborative began in 2015 when I had the opportunity to work with the initial design team charged with laying the groundwork for the innovative teaching and learning environment. The group of four faculty represented recreational therapy, social work, nursing, and nutrition. We met regularly to establish cohesive educational experiences at the Community Collaborative; integrating interprofessional and profession specific learning outcomes while supporting the needs of the tenants. The aim was to prepare students with the four Core Competencies for Collaborative Practice (Interprofessional Education Collaborative, 2016) while meaningfully engaging with the community members.

The areas of greatest concern among the tenants included a lack of quality social networks, inactive lifestyles, and limited access to healthcare and nutritious food. Committed to an interprofessional approach, the team established four Community Collaborative goals to guide the social and health services at the Westward Ho; 1) empower the individual, 2) build a sense of community, 3) encourage active lifestyles, and 4) promote healthy eating. With tenant input, we planned activity-based therapeutic programs such as art, music, physical activity, and games to establish a comprehensive schedule of therapeutic health promotion interventions.

The faculty involved in the work established methods to integrate interprofessional education experiences at the Community Collaborative through their existing course load. At this time, I was teaching a course titled, Therapeutic Recreation and Community Health, and chose to strategically integrate experiential learning within the course because the course objectives connected nicely with the programming needs at

the Community Collaborative. Similar approaches were made by other faculty, however, we struggled to navigate administrative constraints and scheduling logistics to bring different disciplines together for shared learning experiences.

Cycle 0: Qualitative Research Interviews

Cycle 0 of this action research was initiated to gain information about the understandings of interprofessional practice in the delivery of activity-based health promotion services with vulnerable populations. A structured interview was designed to gather information from students and faculty about attitudes toward leisure and perceptions of the roles and responsibilities of recreational therapy and social work with the use of activity-based interventions. Exemption was granted by the Institutional Review Board at Arizona State University for this initial study. Five interviews were conducted including one recreational therapy faculty member, two undergraduate recreational therapy students, and one graduate and one undergraduate social work student to explore their views on the importance of leisure, the roles and responsibilities of each profession, and ideas for collaboration between the two professions. The interviews were recorded, transcribed and analyzed using Strauss and Corbin's (1998) constant comparative method from grounded theory.

To answer the first cycle 0 research question, *what understandings exist about professional roles and responsibilities between recreational therapy and social work students when providing services for vulnerable populations in community health,* students with less interprofessional education experience had limited understanding of the roles and responsibilities of other professions. Interestingly, all students, despite their

level of exposure to IPE, recognized the importance of collaboration. The graduate social work student explained, “it’s really helpful to have that different perspective because we can’t know everything.” To answer the second cycle 0 research question, *what is the difference between recreational therapy and social work students in their attitudes toward community engaged interprofessional education, and activity-based interventions*, minimal differences were noted. Rather, all the participants were enthusiastic about IPE, lamenting the lack of opportunity to “actually have classes together.” They also shared beliefs about the benefits of activity-based interventions to promote quality of life, and potential for recreational therapy and social work to collaborate through leisure education and community resource connection. These results supported continued efforts to promote IPE at the Community Collaborative. However, in the fall of 2018, IPE at the Community Collaborative was suspended. Staff overseeing the daily operations said they were

> stepping back from the program’s original emphasis on IPE, at least for the time being. This is due to several factors, the largest being the conflicting schedules among the students and the different disciplines, which has not allowed for sufficient attendance at IPE sessions” (T. Reily, personal communication, August 7, 2018).

A similar scenario was happening with Student Health Outreach for Wellness, introducing the problem of practice and innovation with this action research.

Situated Context and Innovation

Simultaneous to the developments with the Community Collaborative, Student Outreach for Wellness (SHOW), was also working to advance interprofessional education. It is a tri-university, interprofessional, undergraduate student run initiative dedicated to providing vulnerable populations with access to free healthcare and health education programs in downtown Phoenix. In four years of existence, SHOW engaged thirteen different disciplines, over 900 students, and provided nearly 49,000 hours of service to the community, yet also struggled to facilitate consistent interprofessional learning experiences with balanced representation of disciplines at a student run health center. The SHOW clinic was discontinued in early 2019 due to administrative challenges, however, the community-engaged programs continued. A team of faculty, including myself, gathered in the spring of 2019 to explore additional strategies to enhance community engagement. Others on the team committed to quality IPE, included representatives from Arizona State University, Northern Arizona University, and the University of Arizona in the fields of nursing, social work, medicine, pharmacy, occupational therapy, physical therapy and recreational therapy; each participating in the group at varying levels.

We decided to create a series of courses to progressively prepare students to develop interprofessional competencies, knowledge of social determinants of health and leadership. I shared the design of my Therapeutic Recreation and Community Health course as a model for educating early learners in community-engaged environments. The pedagogical strategies integrated into the course were influenced by my fifteen years of

therapeutic recreation practice working to empower marginalized populations coupled with over fifteen years teaching inclusive community development. The team received this course positively and agreed that it represented a good first course, setting the foundation for two additional courses to progressively prepare students to function cooperatively on teams. We embraced the view that learning "is best conceived of as a process, not as a product or an outcome," a perspective drawn from experiential learning theory, and social learning theory outlining the structure for collaborative learning (Clark, 2006, p. 580). Additionally, we explicitly discussed the importance of positive and critical pedagogy inherent in the sociocultural dimensions of an interprofessional learning environment (King et al., 2010). Through our mutual engagement and contributions to this emerging community of practice, the innovation in this action research study was cultivated (Wenger, 1998).

Our collaborative efforts did not come easy. I learned that it is not enough to be trained in IPE practices for faculty from a variety of disciplines to develop interprofessional curriculum. Differences in teaching philosophy can lead to conflict. It is important to be aware and have a strong understanding of one's own beliefs and simultaneously be empathetic and open to the beliefs of others. My teaching philosophy and pedagogy in the delivery of community-engaged interprofessional education is shared as an example and suggestion to others advancing IPE to openly discuss positionality.

My perspectives were initially guided by the work of John Dewey and his "recognition that knowledge is constructed in social contexts and that students need to be

active learners, not passive recipients of knowledge" ("The Sage Encyclopedia of Qualitative Research Methods," 2008, p. 117). The typical classroom environment is not always conducive to active learning and this gave rise to my interest in CEL. Education situated outside the classroom creates a space for students to participate in their own learning and develop new ways of viewing the world. This constructivist perspective, discussed previously with Kolb's ELT, recognizes the existence of a continuous cycle of learning. However, the cycle of learning varies for each student and it is influenced by personal, interpersonal and societal factors that are often hidden and insidious. My dedication to collaboration, my commitment to critical pedagogy and my faith in the next generation has driven the approach with this action research.

Philosophical Perspectives

Purposeful engagement with one's surroundings to question, explore, and nurture new ideas produces productive knowledge and commitment to continuous learning. As such, interprofessional educators need to welcome and encourage collaborative, diverse and applied educational discourse (Watson, 2016). These perspectives benefit my roles as an educator and a researcher, as I aim to illuminate the diverse aptitudes, and values of each student and guide them to share their individual capacities to collectively achieve a goal. This is accomplished through a purposeful interprofessional socialization process. Small groups of learners get to know each other, and are empowered to develop a sense of belonging. A strong social connection lays the foundation for the group to imagine a community of possibilities and ideas for changes in the community. Team experiences can ignite new insights and drive future collective actions, but we need to have a better

understanding of what learning experiences have the greatest influence on their socialization.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

"Alone, we can do so little; together, we can do so much" – Helen Keller

Helen Keller is among a list of activists who have shaped my thinking and guided my perspectives on how we learn and grow. She frequently shared messages publicly proclaiming "alone, we can do so little; together, we can do so much" (Lash, 1980, p. 489). Helen Keller's life was impacted by the support of others and active involvement in the community and this shaped her perspectives on the importance of collaborative community participation for growth. Likewise, students who participate in meaningful community-based activities, in a safe atmosphere while reflecting on interpersonal processes can be empowered to effect change (Jennings et al., 2012).

In chapter two, I operationalize the components of community-engaged learning and discuss why it is a key approach to IPE. First, I introduce interprofessional socialization as an essential process to developing collaborative skills among allied health learners and present three analytic frameworks informing the community-engaged learning innovation. Then I discuss experiential learning theory, asset-based and critical pedagogy, and introduce flow theory as a lens to explore student engagement with learning activities. Overall, these theories and past research explain how interprofessional socialization is likely to be enriched through participation in meaningful, collaborative, community-based experiential activities when educators employ an asset-based and critical pedagogy.

Community Engagement in Higher Education

Higher education equips learners with advanced skills important to the workplace and advances knowledge of the world around us. Learning occurs as a direct result of interactions with the community. The Carnegie Foundation for the Advancement of Teaching explains this dependent relationship and broadly defines community engagement as "the collaboration between institutions of higher education and their larger communities (local, regional/state, national, global) for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity" (Driscoll, 2008, p.39). Acknowledging this paradigm shift, university connections with communities have transitioned over the years to a more engaged model in which the partners co-create solutions, rather than the historical expert model of knowledge delivery (Fitzgerald et al., 2012).

Innovative partnerships create ideal environments for research and professional skill development. Boyer (1996) recognized this potential and outlined what he believed to be four critical functions of academic scholarship: discovery, integration into larger context, sharing and application of knowledge. He emphasized the urgent obligation of the academy to vigorously engage in our society's most pressing social, health, civic, economic and moral problems. As a result, collaborative work between universities and communities has flourished. Academic centers committed to advancing civic engagement are prolific and national consortiums bring universities together to enhance university-community partnerships, scholarship and community capacity (Engagement Scholarship Consortium, 2020).

The term *community-engaged scholarship* expands Boyer's framework and encompasses teaching, research, community-responsive population-based care, and service (Calleson et al., 2005). Strategies to improve health profession education through community-engagement are encouraged because it connects research, teaching and service for the good of society. The Report of the Commission on Community-Engaged Scholarship in the Health Professions was published in 2005 to create a supportive culture for faculty involved in service-learning. However, faculty face numerous challenges associated with community-engaged scholarship to include; time, funding, and nature of the work. Administrative endorsement of these efforts is critical to establish and sustain community-partnerships that foster benefits for both the learner and the agency. In fact, university leadership support is among the nine recommendations made by the Commission because strategies to overcome these challenges are needed to make experiential education and specifically service-learning possible.

Evolution of Service-Learning

The growing culture of community-engaged scholarship has increased the importance of establishing fruitful learning environments through university-community partnerships. Student participation in purposefully designed community activities has been expanding in institutes of higher learning for over 20 years (Lowery et al., 2006). The traditional service-learning approach "enhances academic learning through student action, reflection, and application" and provides "exposure to real-world context with better retention and application of course content" (Chupp & Joseph, 2010, p. 192). Student learning outcomes include positive changes in attitudes toward self, attitudes

toward school and learning, civic engagement, social skills, and academic achievement (Celio et al., 2011). Holland (2001) explains quality service-learning benefits all participants, and involves shared responsibility for outcomes. Service-learning pedagogy offers an avenue for re-imagining higher education; connecting college students to real-world concerns, building capacities in the academy and in communities, and facilitating opportunities to confront critical issues through teaching and research (Weigert, 1998).

However, service-learning experiences have historically been discipline-specific with emphasis on learner benefits. Transformational change in higher education is needed to expand this perspective to a focus on the goals of both higher education and society (Fitzgerald et al., 2012). This contemporary approach "calls for renewed emphasis on the quality of the student experience; a broader definition of scholarship-based teaching, research, and service; implementation of true university-community partnerships based on reciprocity and mutual benefit" (Fitzgerald et al., 2012, p. 10). The renewed vision for service-learning coupled with the increasing university commitment to community-engaged scholarship has resulted in the emergence of new terminology to describe the broader and more inclusive initiatives. For instance, the Center for Leadership and Civic Engagement at East Carolina University clarifies its stance on community-engaged learning (CEL) by adapting a definition from the Michigan State University - Center for Service–Learning and Civic Engagement Service–Learning Toolkit: a combination of academic coursework with the application of institutional resources to address challenges facing communities through 1) engagement that addresses societal needs, 2) intentional integration of learning objectives, 3) student preparation and critical reflection, 4) clearly

articulated benefits for students, community, and campus partners and, 5) opportunities to critically examine social issues (Center for Leadership & Civic Engagement, n.d.; Engagement, 2015).

This definition outlines the complex expectations facing IPE workgroups designing strategies to facilitate constructive interprofessional socialization within the context of unique learning environments. Butin (2006) raises concern with the potential limits of service-learning, affirms its potential as a sustained pedagogical practice, and supports plurality of perspectives. CEL is presented as a worthwhile pedagogical approach to IPE.

Community-Engaged Learning

Interprofessional community-engaged learning creates a dynamic environment where students learn from, with and about each other. They have the potential to acquire professional abilities, develop self-awareness and apply critical thinking skills through interactions with diverse populations in communities (Hettinger & Gwozdek, 2015; Stetten et al., 2019). Additionally, research indicates structured learning experiences within the context of a community setting benefits interpersonal skills, leadership and communication skills (Celio et al., 2011; Connor et al., 2011; Eyler et al., 1993). To reiterate, the learning potential is appreciable with CEL, but these outcomes require significant labor and cost. Despite these challenges, scholars continue to argue the importance of experiential education as a strategy to prepare students with the essential competencies and skills to work collaboratively on teams (Wang & Zorek, 2016). However, to warrant the viability and sustainability of interprofessional CEL, evidence is

needed to substantiate pedagogical practices that generate consistent IPE outcomes (Stetten et al., 2019).

Professional and Interprofessional Socialization

Historically, allied health students learn in silos with their own discipline and socialization is primarily in isolation from other professions (Arndt et al., 2009; Morgan, 2017). Khalili (2013) explains a uniprofessional approach to socialization can cause students to view their own profession as better than others. He explains that a strong identification with one's chosen profession leads to distrust and lack of cohesion between different disciplines causing miscommunication. The potentially dangerous impact of this behavior on patient care has led to growing agreement among scholars to intentionally broaden professional identities into a dual identity. Experiential training is among the IPE methods used to teach interprofessional teamwork competencies (Fox et al., 2018). The Task Force on Intentional Interprofessional Education in Experiential Education analyzed the processes associated with deliberate experiential-based IPE; resulting in a recommendation to institute graduated interprofessional education experiences throughout the continuum of health profession curriculum (Grice et al., 2018).

Research evidence supports these ideas and affirms socialization of allied health learners is an essential element of professional development (Divall et al., 2014). Professional socialization begins early in a student's education and continues throughout their career (Arndt et al., 2009; Olson et al., 2016; Price et al., 2014). It is a dynamic and ongoing process where learners get to know their professional role and identity as participants in a variety of experiences (Price et al., 2014). Students benefit from

consistent socialization where types of knowledge, patterns of thought, and self-identities are constructed by the group (Barr, 2013; Clark, 2006; Hutchings et al., 2013). As such, educational learning environments influence how a student is inducted into the values, beliefs, and practices of their respective discipline (Arndt et al., 2009). Therefore, it is important that educators shape educational programs to be intentional with how and when they guide students in a constructive socialization process.

Clouder (2003) warns there is potential for both positive and negative outcomes in a social milieu. For instance, a learning group can enable the collective generation of meaning among students or subject them to social control as they are molded into the ideal professional. The complexity of professional socialization compounds the need for allied health professionals to learn to use tools from another profession's toolkit and cross professional boundaries to find a solution when their skills are limited (Clark, 2006). Professional socialization needs to be staged with step-by-step exposure to professions outside one's profession to cultivate competencies required of interprofessional care teams (Arndt et al., 2009).

Scholars recommend interprofessional education as a necessary approach to professional socialization because it helps students gain an understanding of their own professional identity and awareness other profession's roles, and responsibilities (DeVries et al., 2016; Farrell et al., 2015). These conditions establish a space where learners are free to form their individual professional perspectives and explore cross-disciplinary practices. The aim of interprofessional socialization is to minimize professional biases and support student identities as interprofessional collaborators

(Lockeman et al., 2017). Moreover, it is critical interprofessional learning environments prepare students to function optimally as a team because they are expected to play an important role in improving healthcare delivery (Lestari & Yuliyanti, 2018).

Literature Guiding Interprofessional Socialization

The value of IPE is well established and the importance of positive experiences with IPS has been validated, however, there is limited understanding of what learning structure and socialization environment is needed to nurture the development of optimal interprofessional team functioning (Khalili et al., 2013). Research on interprofessional education teaching and learning practices is prolific, however, the lack of rigorous and comparable studies makes it difficult to recommend one teaching method over another (Fox et al., 2018). The increased repertoire of theoretical frameworks and approaches to IPE and the lack of detailed explanations of pedagogy in the literature compounds the issues of synthesizing theory with practice to build a coherent interprofessional learning process (Barr, 2013; Payler et al., 2008). Collectively, the insights gained from research studies outlining the administrative considerations, theoretical applications and teaching practices guide educators in IPE. Scholarly evidence is discussed that illuminates the factors influencing strategic integration of interprofessional socialization in allied health curriculum.

Supportive Systems and Leaders. First and foremost, studies and reports indicate it is imperative for collaboration and support to exist along a continuum between accreditation bodies, university administration and faculty leading IPE. The success of curriculum design is dependent on specific criteria between accreditation and academic

institutions. This includes appointed leaders, professional development opportunities, interprofessional mentoring, joint curriculum planning and collaborative research projects (Stanley et al., 2016). A strong support system for leaders of IPE lays a critical foundation for faculty from different academic units to come together and navigate the complex and ongoing process of establishing optimal interprofessional learning environments.

The sustainability of IPE initiatives is threatened by the challenges associated with the aforementioned criteria for success. The problems include timing of learning experiences across programs (Fox et al., 2018; Kinnair et al., 2012), lack of faculty willing to participate, inequitable distribution of resources (Fox et al., 2018), and poor participation from some allied health programs (Olson & Bialocerkowski, 2014). Advocates advancing IPE have convened to explore solutions to the insidious barriers to quality IPE. For instance, the National Collaborative for Improving the Clinical Learning Environment recommends education leaders identify important learning objectives and key components of IPE models that transition learners to collaborative practice (Weiss et al., 2019). This action research embraces these suggestions and explores the learning experiences that support collaboration among teams in community-engaged learning environments. And the aim of this action research is to gain a deeper understanding of how theoretically-grounded pedagogy and instructional models contribute to team socialization. Select literature and studies underpinning the IPE learning environment and models of interprofessional socialization informing the pedagogical approach in this action research are outlined in the following sections.

Learning Environment. I have suggested community-engaged learning is a viable approach to interprofessional education, beginning at the early stages of allied health academic programs. The learning environment generates real-world experiences for learners to explore career opportunities and connect meaningfully with the community. Students are transformed by experiential, interactive interprofessional learning experiences when they are brought together in the same place and time (Clark, 2006; Fox et al., 2018; Kinnair et al., 2012). In these collective learning environments, learners are at the threshold of new understandings because of the positioning in the community and deep involvement with other disciplines. Strategic and responsive instructional strategies are important to guide learners in this liminal space. Early learners, with limited exposure to other professions, need the right support to develop comfort working with others in teams (King et al., 2010). It is important to establish a learning environment, and use teaching techniques that facilitate a sense of belonging among the learners. Both formal and informal learning opportunities in conjunction with service-learning are known to promote interprofessional socialization (Arndt et al., 2009). Evidence specifically suggests team learning outside the traditional classroom, such as CEL, is an effective approach to IPE (Stubbs et al., 2017). Social learning theory provides an explanation of the possibilities that exist when individuals who have a common interest come together for an extended period of time.

Social learning theorists, Jean Lave and Etienne Wenger (1991) coined the term Communities of Practice (CoP) to describe groups of people who perform better because they share a common interest and work together for a long term. Wenger explains the

learning or growth that occurs is not intentional, rather it results from three components of the social process; the domain, the community, and the practice. Interprofessional community-engaged learning groups can be described as a CoP because students gather together with their shared passion to improve community well-being (domain), to learn from, with and about each other (community) as they mobilize their skills to facilitate health promotion activities (practice). Collectively, the group shares ideas, develops strategies, determines solutions and builds innovations. This is an ideal environment to nurture the development of interprofessional competencies and illuminate the collective potential of emerging professionals. A number of Wenger's (1998) guiding principles can be used to guide instructional strategies:

- engaging and socializing creates a community of resilience,
- interrelations develop out of engagement in practice; not out of an idealized view of a community,
- negotiating the shared purpose gives rise to relations of mutual accountability,
- community coherence develops from a shared repertoire,
- each individual in a CoP finds a unique place and gains a unique identity, which is both further integrated and further defined in the course of engagement in practice (pp. 73-83).

Structural factors (e.g., time and place) and social interactions are important criteria of an optimal interprofessional learning environment. Lave and Wenger guide our understanding of the social processes between learners from different disciplines and the

possible outcomes of practice when learners gather together in the community with a shared passion (Lave & Wenger, 1991; Wenger, 1998).

Models of Interprofessional Socialization. Positive outcomes of interprofessional education and socialization are widely reported. Scholars have systematically analyzed the pedagogical strategies underlying the studies to uncover a common theoretical framework and have begun to explore models to guide pedagogy for IPE (Barradell & Kennedy-Jones, 2015; Khalili et al., 2013). Conceptual models emerging from these scholar's exploratory research are described and connections to interprofessional socialization are constructed.

Interest in advancing IPE often begins when educators recognize the need for IPS, but they often feel constrained by profession-specific curriculum mandated by accreditation. For instance, Barradell and Kennedy-Jones (2015), scholars from two different allied health professions (physiotherapy and occupational therapy), recognized professional competence was more than discipline-specific skills. They aimed to identify forms of knowledge and believed these forms were portals to unknown ways of thinking to potentially address a gap between curriculum heavy in content and required competencies. Their scholarly work evolved as they came to realize the need for a broader perspective to guide teaching practices and introduced the need to integrate 1) ways of thinking and practicing, 2) liminality, 3) meaningful learning and 4) meta-learning (Barradell & Kennedy-Jones, 2015). The authors guide educators to combine

> authentic learning scenarios that require students to develop ways of thinking and practicing, and places and spaces where students can experiment, experience,

explore, question, research, problem-solve and connect essential constructs of importance to the profession and themselves"

(Barradell & Kennedy-Jones, 2015, p. 543).

The scholarly endeavors of Barradell and Kennedy-Jones (2015) are representative of the concerns facing educators who seek strategies to prepare learners interprofessionally in the midst of high demands of discipline-specific education. Their ideas provide guidance to educators to think differently about how they prepare students for the workforce. My action research study embraces these ideas by using the community as the space for engaged learning to transform ways of thinking and practicing by integrating teaching practices that incorporate reflective exercises, meaningful activities, and opportunities to explore new ideas.

Khalili (2013) aimed to understand the IPS process and developed a framework outlining the stages of transformation a learner must go through to move from an uniprofessional identity to a dual identity. The three-stage process includes 1) breaking down barriers, 2) interprofessional role learning, and 3) dual identity development. The framework proposes students must first eliminate misperceptions of other professions, secondarily practice interprofessional collaboration, and thirdly view themselves simultaneously with their own profession and the interprofessional community. Khalili elaborates on the three-stage process and explains it is influenced by past interprofessional experiences and awareness of professional perspectives. He suggests teaching and learning practices fundamental to IPS facilitates awareness of one's own perspective as well as the perspective of others, opportunities to practice one's role and

learn the role of others and engage in meaningful collaborative practice activities. Kolb's experiential learning theory, asset-based and critical pedagogy and Csikszentmihalyi's flow theory, are outlined in the following section to establish a theoretical framework for pedagogical strategies to facilitate IPS.

Theoretical Framework of the Innovation

Kolb's Experiential Learning Theory

Scholars explore Kolb's ELT to determine its usefulness as a theoretical framework to guide interprofessional education (Clark, 2006; D'Eon, 2005; Fewster-Thuente & Batteson, 2018). The theory is built on six propositions that evolved from the work of prominent 20th century scholars of experiential learning:

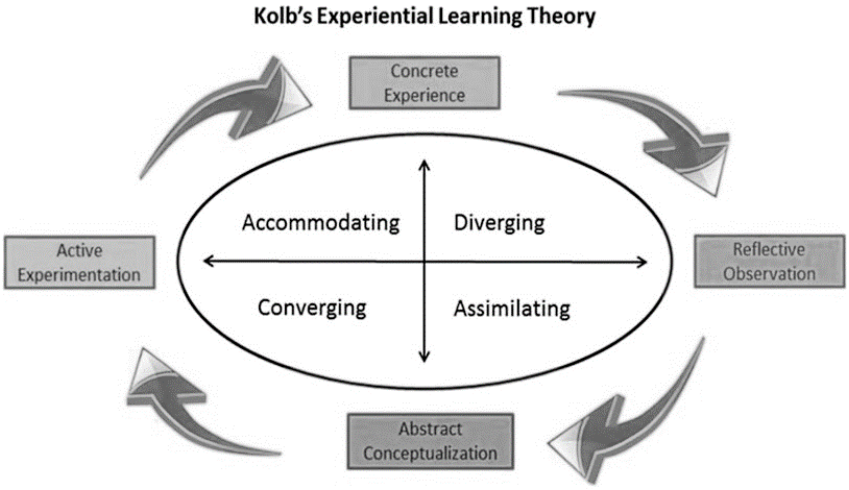
- Learning is a process through a series of connected experiences.
- All learning is relearning.
- Learning requires the resolution of conflict through reflection and action.
- Learning is a holistic process of adaptation in the world.
- Learning results from synergistic transactions between the learner and the environment.
- Learning is the process of creating knowledge (Kolb & Kolb, 2013, pp. 6-7).

ELT integrates these ideas and represents a dynamic view of learning based on a cycle of resolution with two areas of investigation, action/reflection and experience/abstraction (D. A. Kolb, 1984). As noted earlier, Kolb's scholarly work was driven by his understanding of the importance of developing competencies and the process of socialization into a profession. He explained that it requires intense experience that

facilitates knowledge, skills and reorientation of one's identity. The theory addresses problems he observed with professional education to include its traditional focus on producing autonomous specialists. Kolb's holistic, four-part learning cycle illustrates a continuous process of "two dialectically related modes of grasping experience—Concrete Experience (CE) and Abstract Conceptualization (AC)—and two dialectically related modes of transforming experience—Reflective Observation (RO) and Active Experimentation (AE)" (Kolb & Kolb, 2013, p. 7). Four learning styles are outlined at the center of the cycle; diverging, assimilating, converging and accommodating (see to Figure 1). Together the stages of the cycle and the learning styles outline how knowledge is created through a transformational experience.

Figure 1

Kolb's Experiential Learning Theory

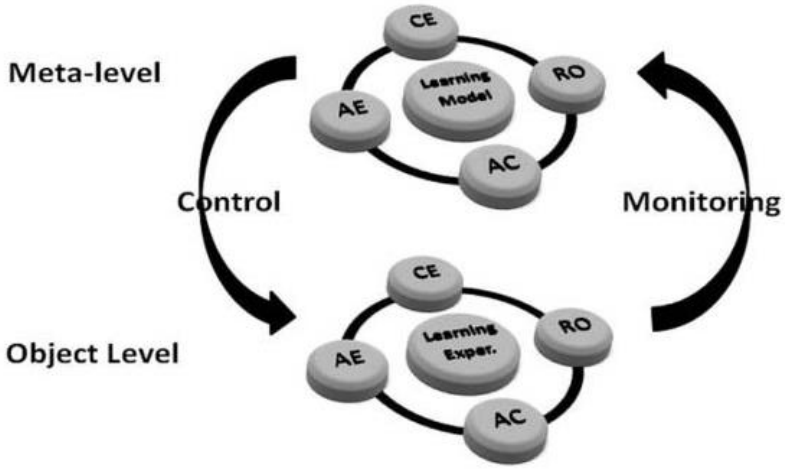


Note. Adapted from: "Experiential learning: Experience as a source of learning and development," by Kolb, David A.,1984.

Kolb and Kolb (2009) elaborated on the earlier work and introduced "a modified meta-cognitive model based on ETL that includes concepts of learning self-identity, the learning spiral, learning style, and learning space" (p. 323). In this model, it is proposed that the three cycles of learning operate sequentially, the concrete learning experience at the object level, the learners normative model of how learning should be, and the monitoring and control surrounding the two cycles as displayed in Figure 2. The authors suggest the meta-model is most useful for planning participation in a learning task as learners manage their own learning by developing meta-cognitive capacities. The task of the educator is to develop supportive learning relationships and create learning spaces where students can explore their learning identity (Kolb & Kolb, 2009).

Figure 2

Modified Meta-cognitive Model



Note. The figure displays Nelson's Meta-cognitive Model modified to include the Experiential Learning Theory learning model. From "The learning way: Meta-cognitive aspects of experiential learning," by Kolb, Alice, A. & Kolb, David., 2009, p. 303.

Theoretical Application. Educator's use Kolb's ELT in many fields of study to include interprofessional education. Successful educators use the process and organize educational activities that address all four learning modes repetitively; extending the learning with each passage in the cycle (Kolb & Kolb, 2013). The role of the educator shifts throughout the ELT spiral as learners reflect, add meaning, and experience transformation. Additionally, guiding students through the learning cycle requires a longer period of time gaining perspective on previous experiences to their metacognitive normative learning model (Kolb & Kolb, 2009).

Several scholars of interprofessional education draw on Kolb's ELT as a theoretical foundation to explore students' intellectual transformations (Clark, 2006; Fewster-Thuente & Batteson, 2018; Kinnair et al., 2012; Reising et al., 2017). Studies reinforce ELT's notion that when learning happens in stages it is more advantageous (Fewster-Thuente & Batteson, 2018; Reising et al., 2017). In fact, a continuous learning mindset is needed to successfully practice in today's evolving health system that requires collaboration (Greiner & Knebel, 2003), supporting the use of a holistic integrated learning process including acquisition, specialization, and integration (Kolb & Kolb, 2013). IPE scholars, Anderson and Lennox (2009), trace a long history and sustained use of an interprofessional education model adapted from Kolb's ELT. The Leicester Model was first conceived in 1998 to engage higher education with community healthcare. In this model students, educators and practitioners deliver care, reflect on experiences and gain a better appreciation for teamwork and collaboration.

The Leicester Model offers guidance on how to empower team-working and collaborative learning in the community. In these environments, mixed groups of learners work in small groups, are immersed in client care experiences, analyze theoretical perspectives, consider solutions, and become agents of change (Anderson & Lennox, 2009). These structured community-engaged IPE learning opportunities, involving everyday interactions among individuals living with chronic health conditions, has proven to be sustainable. Additionally, the learners experience a greater appreciation for the roles of other professions and understanding of the importance of collaboration to address healthcare needs among vulnerable populations.

Limitations. Transformative learning theories and models are gaining traction in IPE; however, the focus is on the individual and overlooks the wide range of societal inequities at play with a mixed group of learners. Olson (2016) shares criticism of Kolb's experiential learning cycle in dynamic systems involving teamwork because it is "a model of experience that paradoxically neglects the social context in which that experience occurs and which also serves to shape the experience" (p. 151). Moreover, the different educational backgrounds, and responsibilities among allied health professions introduces power differences and complicates teaching practices. Interprofessional educators need to know how to cultivate the differences, and guide learners to adapt individually and collectively in order to be prepared to work collaboratively in complex health systems (Reeves et al., 2011). Socio-cultural models, where learners are not at the center of activity, assist learners to understand how

knowledge and competence evolves in complex environments with dynamic teams (Stocker et al., 2014).

Asset-Based and Critical Pedagogy

Pedagogy inclusive of asset-based teaching and critical dialogue in interprofessional CEL can embrace learner and community capacities, rather than differences and deficits. Team collaboration is enhanced when knowledge, skills and cultural characteristics of the learners are illuminated and integrated into the learning environment. Likewise, communities are empowered when outside change agents view "local community members as the experts of their own local conditions, resources, knowledge, culture, values, and priorities for change" (Missingham, 2017, p. 341); a critical element of asset-based community development (Kretzmunn & Mcknight, 1996). Learning environments, situated in the community, empower students for social change, particularly when the perspective is focused on the assets of the learners, the specialties of their professions, and the strengths of the community and their members. Critical pedagogy can facilitate learner awareness and understanding of the power relations between individuals and institutions. Therefore, educators need to know how to nurture relationships between students and between students and community members based on equality, not inequality. Scholars of critical pedagogy offer insights to guide pedagogical approaches that aim to "achieve individual and collective learning for social change" (Missingham, 2017, p. 346).

Bell hooks (2004), the author of *Teaching Community: A pedagogy of hope*, offers insight into critical pedagogy by explaining teachers must first facilitate a sense of

belonging among students to alleviate the challenges associated with diverse groups learning together. Building on hook's ideas, Ladson-Billings (2014) suggests quality educators intentionally integrate academic success, cultural competence, and sociopolitical consciousness to illuminate student strengths and connections. Essentially, critical social theorists emphasize critical discourse is foundational to quality education (Freire, 1970; hooks, 2010; Leonardo, 2004). Pointing to engagement as the base for criticism to promote a language of transcendence, these scholars highlight the importance of the relationship between people and social systems. Education with diverse learners, situated in the community, calls for pedagogical strategies to break down intrapersonal, interpersonal, and structural barriers between learners, educators and community members in order to develop interprofessional competencies. Freire (1970), suggests in *Pedagogy of the Oppressed,* two stages of humanist pedagogy where the culture of superiority is confronted through action. He explains in the first stage the oppressed unveil the world of oppression and through praxis commit themselves to its transformation, and in the second stage, in which the reality of oppression has already been transformed, this pedagogy ceases to belong to the oppressed and becomes the pedagogy of all people in the process of permanent liberation (Freire, 2018). Critical pedagogy raises awareness of critical issues, guides reflection and dialogue, ignites a deeper understanding of oppressive systems with the intent to inspire action for change. Productive discourse inherent in the process awakens critical consciousness and empowers learners to be engaged with society which can lead to improvements in healthcare (Mooney & Nolan, 2006).

Culturally Relevant and Sustaining Pedagogy. A pedagogy that is culturally responsive to the diverse characteristics among students, the philosophical differences between professions, and the sociocultural characteristics of society is critical to CEL. Ladson-Billings (2014), a pedagogical theorist, recommends educators begin by guiding students to integrate individual assets into their work. She elaborates on the teaching practice and suggests a threefold approach she coined as c*ulturally relevant pedagogy.* It includes, 1) academic success, 2) cultural competence, and 3) sociopolitical consciousness, and refers to the intellectual growth students experience, the ability to help students appreciate their own cultures, and the ability to take learning beyond the confines of the classroom (Ladson-Billings, 2014). Paris and Alim (2014) elaborate on this notion and recommend a *culturally sustaining pedagogy* where educators build upon asset-based pedagogical work by integrating critical reflexivity, sustaining heritage, engaging in community practices, and demanding pluralist outcomes. Ladson-Billings (2014) recommends a continuous remix of critical pedagogy scholarship and this is particularly true for community-engaged IPE because of the diversity of allied health learners, the numerous learning contexts and resources, and the complexity of community health.

Community Cultural Wealth. Additionally, the theory of community cultural wealth offers a broader view of the unique strengths of learners that are valuable in a CEL environment. Asset-based pedagogy replaces the traditional deficit approach and focuses on the student's cultural wealth obtained from life experiences. Yosso and

Burciaga (2016) contend there are six forms of capital that make up community cultural wealth:

- *Aspirational capital* refers to the ability to maintain hopes and dreams for the future, even in the face of real and perceived barriers.
- *Linguistic capital* includes the intellectual and social skills attained through communication in multiple languages and/or language styles (including communication through art, music, poetry, theatre, and dance).
- *Social capital* can be understood as networks of people and community resources.
- *Navigational capital* refers to skills in maneuvering through social institutions.
- *Familial capital* refers to those cultural knowledges nurtured among familial (kin) that carry a sense of community history, memory, and cultural intuition
- *Resistant capital* refers to those knowledges and skills fostered through oppositional behavior that challenge inequality (p. 2).

Educational programs aimed at a larger purpose toward social justice can draw upon community cultural wealth to empower learners (Yosso, 2005). The community-engaged learning environment, particularly one that engages learners with vulnerable populations, presents an opportunity where the strengths and assets of both the learners and the community can be seen and cultivated. Roberto Gonzales (2016), a scholar who researches the contemporary processes of social inequity, recommends the creation of a positive learning culture rather than reinforcing the concluded and perpetuated negative

characterizations of marginalized populations and their environments. Intentional interactions between the instructor and the learner are important to grow and nurture supportive relationships.

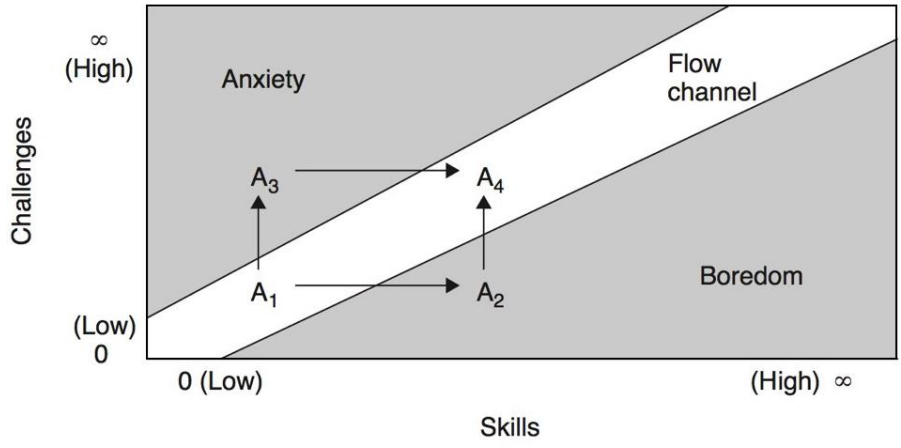
Scholars continuously build on critical pedagogy and explore the criteria of collective relationships that encourage the development of critical consciousness (Cabrera et al., 2014; Liou et al., 2016). Liou et al., (2016) recommend critical mentoring pedagogy where learners are supported to make important decisions in their lives. Similarly, Cabrera et al., (2014) recommend teachers use critically compassionate intellectualism to help students make meaningful connections and become agents of change. These strategies nurture self-awareness and an exploration of interests while also encouraging the development of a critical consciousness (Liou et al., 2016); preparing students with conscientizacao (Freire, 1970). Freire's theory of conscientizacao describes "a combination of critical conscientiousness, self-reflection, and engagement in anti-oppressive collective action" (Cabrera et al., 2014, p. 1090). Educators need to consciously and purposefully adopt critical pedagogy to facilitate a learning environment where all members can safely and openly integrate their knowledge, skills, abilities and contacts, to resist oppressive systems and explore new ideas and interests. Meaningful activities incorporated into CEL can facilitate collective engagement and serve as the incubator where educators and learners can freely explore and develop both the individual and social identity.

Csikszentmihalyi's Flow Theory and Interprofessional Socialization

Factors that contribute to student engagement and optimal learning have been explored using Csikszentmihalyi's theory of flow (Cox & Montgomery, 2019; Shernoff & Hoogstra, 2001). According to Csikszentmihalyi (1990), optimal engagement is facilitated when learners are given 1) clear goals and a pathway to accomplish tasks, 2) challenging work slightly above their skill level, 3) control over the activity and autonomy with decision-making, and 4) immediate feedback to adjust their performance. Flow, "a holistic sensation that people feel when they act with total engagement" (Csikszentmihalyi, 1997, p. 36) is elicited from experiences that involve the right amount of challenge and enjoyment with human life (Csikszentmihalyi, 1997). Figure 3 illustrates flow is likely to be experienced when the perceived amount of challenge and skill with a task is in balance, otherwise an individual may experience anxiety or boredom (Csikszentmihalyi & Bar, 1990).

Figure 3

Flow: The Psychology of Optimal Experience



When individuals practice and master complex challenges and their attention becomes *highly focused*, they lose their *self-consciousness* and *sense of time* and the activity feels *autotelic*, or enjoyable for its own sake (Csikszentmihalyi & Bar, 1990). Total engagement or full absorption in self-defining and collaborative activities can impact behavioral, cognitive, and emotional engagement (Cox & Montgomery, 2019), and influence a learner's individual and group identity (Mao et al., 2016).

Flow experiences, as described by Csikszentmihalyi (Csikszentmihalyi, 1997; Csikszentmihalyi & Bar, 1990; Csikszentmihalyi & Halton, 1981) constitute personal expressiveness (eudaimonia) when participating in self-defining activities (Waterman, 1993). Eudaimonia includes subjective experiences, similar to flow, centered in "one's actions, identity, strength of purpose, and competence" (Waterman, 2008, p. 236). According to eudaimonic identity theory, engagement in a wide range of personally salient activities, representative of individual interests, talents and abilities cultivates a person's identity (Mao et al., 2016). When individuals interact with others who have similar goals, they are more likely to identify with the group, and thus develop a social identity (Mao et al., 2016). One critical pedagogical strategy for successful interprofessional education among allied health learners involves engagement in group activities (Olson & Bialocerkowski, 2014). To gain a broader perspective on this phenomenon, Mao et al., (2016) studied the relationship between flow and social identity through participation in self-defining activities and reported "flow was positively associated with social identity;" (p. 1) "whenever the experience of flow is greater during the activity, an individual's perceived social identity is seen as greater accordingly" (p.

8). These findings have implications for enhancing interprofessional socialization through participation in group activities that illicit flow. An optimal learning environment involves participation in activities that requires a moderate to high level of challenge and skill, with clear goals and feedback (Demerouti & Makikangas, 2017); establishing a state Csikszentmihalyi conceptualized as flow (Csikszentmihalyi & Halton, 1981). In this action research study, I suggest interprofessional socialization can grow with increased conditions of flow.

Summary

At the beginning of this chapter, Helen Keller's proclamation that we can do much more together than we can alone serves as a guiding principle for pedagogical practices explored in this study that contribute to socialization among small groups of interprofessional learners. The theoretical resources guiding the innovation offer guidance with student learning experiences, spaces and processes, and educator roles and competencies needed to socialize interprofessional teams. In this review, I demonstrated how the socialization process can benefit from a continuous and graduated cycle of learning that nurtures inherent capacities to strengthen associational life. Moreover, I introduced the idea of creating flow experiences to enhance a team's socialization. Additionally, I illustrate why community-engaged learning is an important, valuable and underutilized approach to IPE. Finally, based on previous scholarship, I established a meta-theoretical framework for community-engaged learning that lays a foundation for the design of the Interprofessional Education and Community Health course meant to prepare early learners to work collaboratively on teams. Table 1 outlines a comparison of

the pedagogical strategies drawn from the characteristics of experiential learning, critical pedagogy and conditions that support flow. In chapter three, I present the mixed methods action research approach adopted to capture student experiences during the community-engaged interprofessional course.

Table 1

Comparison of Pedagogical Characteristics and Conditions of Flow

Experiential Learning (Kolb, 2013)	Critical Pedagogy (Ladson-Billings, 1996, 2014)	Flow- Optimal Engagement (Csikszentmihalyi, 1990)
Create concrete experiences between learner/environment	Learn beyond the classroom to solve real-world problems	Plan challenging work slightly above skill level
Establish a process of creating knowledge and relearning	Focus on academic achievement and build bridges to facilitate learning	Establish clear goals and a pathway to accomplish tasks
Resolve conflicts/differences through reflection, action, feeling and thinking	Develop community of learners through critical dialogue- praxis	Provide immediate feedback to adjust performance
Develop individual learning style to complete learning cycle, promotes deep learning	Maintain cultural integrity and encourage individual characteristics and assets	Allow control over the activity and autonomy with decision-making

CHAPTER 3

METHODS

In this action research study, I created and facilitated a structured community-engaged interprofessional education (IPE) experience to promote socialization, exploration and collaboration among students at the early stages of their academic programs. The strengths and assets of the learner, the community and its members were embraced to increase profession-specific and interprofessional competencies as an approach to rethinking allied health education (Berwick et al., 2008). Teaching and learning practices in community-engaged IPE were explored to gain an understanding of what factors contribute to interprofessional socialization (IPS), why the factors contribute to IPS, and how IPS evolves among early learners through community-engaged learning. The innovation in this study was co-created among interprofessional educators to establish feasible and sustainable learning experiences in partnership with the community. The aim of this study was to produce knowledge about pedagogical practices through action research that studies relational, and collaborative learning processes (Bradbury et al., 2019). Pedagogical practices pivotal to interprofessional socialization among early learners in allied health academic programs were explored.

Research Approach

I employed action research methods as a means to ignite a grassroots effort toward establishing theoretically-grounded, and meaningful interprofessional education learning experiences for allied health students in Arizona (Mertler, 2016). Action research is the practice of searching closely for a better understanding and interpretation

of a system of interdependent processes. It is an iterative, cyclical and ongoing study of what is happening in the learning environment, and how these happenings interact with each other (Lemke, 2000). Action research, applied in educational practice, can have immediate and meaningful influence on the learning environment because it grows out of the unique space and place, honoring specific social and contextual factors (Mertler, 2016). I explored the complex problem of discovering what contributes to optimal interprofessional learning environments. To accomplish this goal, I situated myself within the problem of practice, and conducted a systematic study to uncover deeper situational meanings not visible with generalizable research.

Setting

The study took place with Student Health Outreach for Wellness (SHOW), Arizona's first tri-university collaborative, Arizona Board of Regents (ABOR) sponsored service-learning, student-run project. SHOW students, faculty, program staff, preceptors, and community partners unite in a mission "to facilitate the health of vulnerable populations in the community through excellence and innovation in interprofessional education, service, practice, and research" (About us, n.d.). SHOW students, learning with interprofessional teams, deliver programs in collaboration with community programs to promote the well-being of underserved populations.

The action research took place during a 15-week university course in the spring 2020. This course is part of a series of three progressive interprofessional education courses situated within a new SHOW initiative to prepare students to provide collaborative, team-based health promotion services. In these courses, students build their

professional practice skills as they develop interprofessional competencies in a community-engaged learning environment. The innovation for this action research involved the design and instruction of the first course in the series of three. The course introduces concepts of community health and gives students the opportunity to facilitate interprofessional activity-based therapeutic interventions. Additional detail about the course is discussed later in Chapter 3 with a description of the innovation. The second course immerses student teams through outreach with complex health situations. Lastly, the culminating course guides learners to integrate their interprofessional leadership and teamwork skills to collaboratively produce a project that impacts health systems issues. Upon completion of all three courses, the student learning outcomes include the following:

- Demonstrate competency with the IPEC Core Competencies (values/ethics, roles/responsibilities, communication, and teamwork) in a community-engaged learning environment (Interprofessional Education Collaborative, 2016).
- Explain the implications of social determinants of health (economic stability, education, social and community context, health and health care, neighborhood and built environment) on community well-being (Office of Disease Prevention and Health Promotion, n.d.).
- Identify differences and disparities of health and healthcare in the delivery of health promotion activities.
- Apply leadership values and capabilities with a collaborative team in the delivery of health promotion activities (Saewert, 2018).

Student Participants

Data in this action research was gathered from a purposive convenience sample of voluntary participants. The participants included 11 students (two males and nine females) enrolled in the Interprofessional Education and Community Health course in the spring 2020. These students were all undergraduate students (four third-year, and seven fourth-year) enrolled in academic programs in the following areas: recreational therapy (n = 5), pre-medicine (n = 1), psychology (n = 1), business (n = 1), healthcare delivery (n = 1), and bioscience/microbiology (n = 2). The students ranged in age from nineteen to twenty-four with an average age of twenty-one. Six students identified as white, four students identified as Asian, and one student identified as Hispanic or Latino. All students were educated on the purpose of the study, given the opportunity to voluntarily and confidentially participate in the investigation, and advised of the option to withdraw their participation at any time during the study. All eleven students agreed to participate and signed the informed consent. The letter of consent is located in Appendix B.

Role of the Researcher

I was an insider with this action research because I served as both the lead instructor of the course and the researcher conducting the study. As the lead instructor, I was responsible for planning, scheduling and teaching the course. However, a group of faculty and staff, associated with SHOW, also supported the design of the course. The SHOW program director and lead instructor of the IPE and Complex Health course provided content recommendations to align with the other two courses. The senior director of Interprofessional Education and Collaborative Practice with the Edson College

of Nursing and Health Innovation guided the development and alignment of course learning goals and outcomes. The SHOW project manager served as a co-instructor and supported the student onboarding process (preliminary paperwork). Together the team worked collaboratively to deliver all three SHOW courses by sharing expertise with content and instruction.

My positionality with this action research as an insider in collaboration with other insiders was a way to democratically have a greater impact on the quality of the SHOW course (Herr & Anderson, 2012). The collaborative research involved a community of practice (CoP) committed to learning, organizational change, and institutional transformation (Wenger, 1998). The aim was to establish high quality interprofessional learning experiences in partnership with the community to improve community health. Together, this team worked to align our diverse individual perspectives and practices to inaugurate tri-university interprofessional courses for early learners. As a passionate advocate for advancing interprofessional education, I conducted a systematic mixed methods study to explore the possibilities of community-engaged learning with IPE to inform and guide quality teaching practices. Allied health students need strategic interprofessional socialization processes to prepare them to work on collaborative teams in practice, and therefore, I established a theoretical framework to guide teaching practices with the course. Experiential learning process principles (Kolb & Kolb, 2013), individual assets (Ladson-Billings, 2014), and the relational and emotional nature of the learners (Bradbury et al., 2019) were fundamental to the innovation. Moreover, my positionality afforded me the opportunity to lead pedagogical practices that I believed

would contribute to IPS, and simultaneously studied the characteristics of an optimal interprofessional community-engaged learning environment.

Innovation

This innovation was designed to better prepare learners to work collaboratively with interprofessional teams by instituting theoretically-grounded and sustainable learning experiences. Specifically, this action research innovation is a community-engaged IPE pilot course for early learners. The course makes use of university-community partnerships and community-engaged learning to prepare students for interprofessional practice with the intent to ultimately improve health outcomes in the surrounding community.

SHOW, an interprofessional and inter-university student-led program, offers this course along with two others to students enrolled in academic programs at Arizona State University, Northern Arizona University and the University of Arizona. This inclusive course makes it possible for students from a variety of disciplines to come together at the same time, and the same place to develop competency with shared learning outcomes. The Interprofessional Education and Community Health course, designed collaboratively among a group of SHOW faculty and staff, exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Additionally, it is intended to lay the foundation for progressive interprofessional socialization experiences as students learn from, with and about each other, developing professional practice skills and interprofessional competencies.

Innovation Design: Interprofessional Education and Community Health

The three-credit, 15-week interprofessional education and community-engaged learning course was designed using experiential learning theory, asset-based and critical pedagogy, and flow theory. Students were exposed to hands on experiences in the community, guided to engage in reflexive dialogue and encouraged to use their unique skills and resources to co-create meaningful therapeutic interventions. The students enrolled in the spring 2020 course were divided into teams: two teams of four students, and one team of three students. Each team collaboratively planned and implemented health promotion interventions with vulnerable populations in the community.

Prior to and up to two weeks into the class, students completed preliminary health and safety requirements (e.g., HIPAA training, BLS/CPR, CITI training, orientation, etc.) for eligibility to participate in community-engaged learning. During the first three weeks of the course, the educators introduced students to interprofessional education, social determinants of health, therapeutic activity planning, and the designated community partners. Additionally, student teams established a team charter, outlining communication plans for the team. Thereafter, student teams worked together to design interprofessional evidence-based protocols and delivered health promotion therapeutic activities with their respective community agencies. The locations included Ability360, the ASU Community Collaborative at the Westward Ho, and Foundation for Senior Living. At midterm, students reconvened as a large group via Zoom, a video conferencing platform, to share and reflect on their learning experiences, evaluate and refine their team charter. In-person course instruction, and community services were altered to adjust to the physical distancing requirements related to the Coronavirus Disease 2019 (Centers for Disease

Control and Prevention, 2020). Students continued their direct programming for an additional five weeks using a variety of virtual and social networking approaches. Finally, students brought closure to their experience by writing a synthesis paper and sharing an impact project at a culminating virtual event with the large group on the last day of class. At the event, students creatively communicated their individual and team learning outcomes through a medium of their choice such as art, poetry, and song. For a full overview of the learning activities and assignments, refer to the course schedule in Appendix A.

Mixed Methods Action Research Design

This study employed a mixed methods action research (MMAR) design to simultaneously collect qualitative (Qual) and quantitative (Quan) data, merging the data and using the results to gain a deeper understanding of the pedagogical practices pivotal to interprofessional socialization. Both qualitative and quantitative data was collected because a single data source was not adequate to explore the complex processes and culture of community-engaged learning and their influence on interprofessional socialization (Ivankova, 2015). The MMAR study included two phases, beginning with qualitative data collection from reflections, observations, and focus group and quantitative data from questionnaires. A second phase of data collection occurred five months after the initial phase and included a focus group and questionnaire. The quantitative and qualitative data was collected concurrently with greater weight given to narrative content because the study emphasizes an exploration of the teaching and learning strategies that prepare learners to work on interprofessional teams. Qualitative

data from the first phase was analyzed for preliminary results, and used during the second phase for member checking, a process to ensure student perspectives were captured accurately (Ivankova, 2015). Data from both phases were compared and merged to produce well-validated results. A concurrent MMAR design, Ivankova (2015) signifies as Quan + Qual, was used to obtain complementary evidence.

By comparing and merging the Qual and Quan data from the two phases, I was able to establish meta-inferences to answer the research questions. This action research methodology was used to provide more credibility to the overall study conclusions and to reach valid conclusion in order to guide future pedagogical practices in IPE (Ivankova, 2015). Additionally, the two-phase MMAR design made it possible to simultaneously verify and explore factors contributing to interprofessional socialization; gaining deeper contextual perspectives contributing to stronger evidence. Table 2 outlines the procedures for data collection and analyses during the two phases of the study.

Table 2

Procedural Diagram of Research Activities

Steps	Strategies	Products
Phase 1		
QUALITATIVE data collection	Reflections Focus group Observations	Writing assignments Recording transcripts and notes Checklist notes
+ Quantitative data collection	Questionnaire IPS survey Flow survey	Background information ISVS-9B Eduflow
QUALITATIVE data analysis	Codes Categories Memos	Coded documents Code system Journal of memos
+ Quantitative data analysis	Statistical analysis	Descriptive statistics Reliability measure Bivariate correlations
Phase 2		
QUALITATIVE data collection	Focus group	Recording transcripts and notes
+ Quantitative data collection	Questionnaire IPS survey	Background information ISVS-9B
QUALITATIVE data analysis	Codes Categories Memos	Coded documents List of themes Journal of memos
+ Quantitative data analysis	Statistical software Combine data Transform data	Descriptive statistics Bivariate correlations Linear regression
→ Interpretation	Compare qualitative and quantitative data joint analysis	Meta-inferences

Note: QUAL = qualitative data source. Quan = quantitative data source. The capitalized letters represent higher priority and increased weight given to the data in the MMAR study. The rectangle indicates a stage of data collection and analysis. The oval indicates the stage where meta-inferences were created (Ivankova et al., 2006).

Quantitative Data Sources and Collection

Instruments. The Interprofessional Education and Activity-Based Learning Survey (IPEABL) survey included a questionnaire of demographic information (academic level, educational discipline, age, gender, and race), background knowledge and experience with IPE, and incorporated questions from two measures; 1) the Interprofessional Socialization and Valuing Scale 9 B (ISVS-9B) and 2) the EduFlow. A copy of IPEABL and the ISVS-9B permission to use is located in Appendix C.

The ISVS-9B evaluates the role of IPE in preparation of allied health students to work on interprofessional teams. It is a self-report measure that evaluates shifts in beliefs, behaviors and attitudes that underlies interprofessional socialization. The ISVS-9B was designed to be used with pre-post studies to measure change with IPS (King et al., 2016). The intent is to measure the transformative learning that takes place as a result of interprofessional education; changes in assumptions and worldviews, knowledge and skills related to collaborative teamwork and shifts in values and identities (King et al., 2010). The ISVS-9B portion of the questionnaire included nine questions reflecting three concepts of interprofessional practice; roles (belief), client-centeredness (attitudinal), and conflict/negation (behavioral) (King et al., 2010). Participants were asked to indicate the degree to which they held or displayed beliefs, behaviors and attitudes about interprofessional learning using an unbalanced seven-point scale: 1 = not at all, 2 = to a very small extent, 3 = to a small extent, 4 = to a moderate extent, 5 = to a fairly great extent, 6 = to a great extent, 7 = to a very great extent, and an option to select 0 = not applicable.

The EduFlow Scale can be used in a variety of educational contexts to advance the study of optimal learning environments. The EduFlow portion of the questionnaire included a 12-item self-report measure with four dimensions of flow relevant to cognitive processes (three items per dimension); cognitive absorption, time transformation, loss of self-consciousness and autotelic experience (Heutte, Fenouillet, Kaplan, Martin-Krumm, Bachelet, 2016). Participants were asked to respond to each statement describing the learning environment using an unbalanced seven-point scale: 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neither agree or disagree, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

The IPEABL instrument was pilot tested in the fall 2019 with learners similar to the participants in the study to assess the quality and format of the questions and overall survey, evaluate for inconsistent or unexpected answers, and determine how long it takes to complete the survey (Suskie, 1996). The direction of the EduFlow ratings was adapted to align with the direction of ISVS–9B, qualifying statements were added to the background knowledge and experience questions to provide clarity, and the demographic questions were moved to the end, so the most important and non-threatening questions were at the beginning.

Quantitative data collection. The Interprofessional Education and Activity-Based Learning Survey (IPEABL) was distributed four times to the study participants during the fifth, eleventh and fourteenth week of the course, and again five months after the course. Each execution of the survey will be referred to as Survey 1, Survey 2, Survey 3, and Survey 4, representing these time periods during data collection. Each survey

contained questions from the ISVS-9B and background knowledge and experience with IPE. Background knowledge of interprofessional education rated level of understanding on a 4-point scale: 1 = no understanding, 2 = some understanding, 3 = good understanding, and 4 = excellent understanding. Level of experience with different types of interprofessional education (special events, conference/seminars, learning activities outside of class, fieldwork, and classroom work with other majors) was measured using a four-point scale: 1 = none, 2 = occasional, 3 = some, and 4 = significant. Demographic information was included in Surveys 1 and 4. Questions from the EduFlow were included in Surveys 1, 2, and 3. Table 3 presents an overview of the quantitative data sources, collection periods, and analyses.

Table 3

Quantitative Data Sources, Collection Periods, and Analyses

Source	Collection	Analysis
Demographic data: Academic level, educational discipline, age, gender and race	Surveys 1, 4	Descriptive statistics Bivariate correlations
Background information: IPE knowledge and experience	Surveys 1, 2, 3, 4	Descriptive statistics Bivariate correlations
Interprofessional Socialization (ISVS-9B): Transformative learning resulting from IPE: changes in assumptions and worldviews, knowledge and skills related to collaborative teamwork, shifts in values and identities	Surveys 1, 2, 3, 4	Descriptive statistics Reliability measures Bivariate correlations
EduFlow: Engagement in the learning experience measured through the lens of flow; cognitive absorption, time transformation, loss of self-consciousness, and autotelic experience	Surveys 1, 2, 3	Descriptive statistics Reliability measures Bivariate correlations

Note. Survey collection periods: Survey 1 = week 5, Survey 2 = week 11, Survey 3 = week 14, and Survey 4 = five months after course.

During the course, participants were given a link to Qualtrics (https://www.qualtrics.com) in their reflection assignment posted on Canvas, the learning management system, and were prompted to complete Surveys 1, 2 and 3 immediately following the delivery of their health promotion activity. A Qualtrics link for Survey 4 was distributed to all participants via email. The survey responses were coded with the

numbers associated with each scale item. Survey response rates were as follows: Survey 1 (N =11), Survey 2 (N = 11), Survey 3 (N = 10) and Survey 4 (N= 9). There was data missing from one participant with ISVS-9B7 in the fourth survey, and it was defined as a missing value for statistical calculations, and 0 was not selected as an option with any of the four surveys. Survey data was exported from Qualtrics into Excel, and reviewed to ensure quality control and accuracy. The data was cleaned and a codebook with assigned values for each item in the survey was created before uploading to SPSS 26 for analysis (Ivankova, 2015).

Qualitative Data Sources and Collection

Descriptive and narrative accounts of the interprofessional community-engaged learning experience was taken from three data sources—student reflections, observations, and focus groups. The qualitative portion of this MMAR explored contributions to interprofessional socialization during the Interprofessional Education and Community Health course by evaluating the views of the participants, analyzing documents, identifying categories and conducting inquiry in a subjective and reflexive manner (Creswell & Plano Clark, 2018; Saldaña, 2016).

Reflections. The first qualitative data source included reflections and a comprehensive synthesis of participant learning experiences with the course instruction, interprofessional socialization, interactions with the instructor, and engagement with the community program. The weekly assignments guided students to reflect on the experiences that facilitated knowledge and skills (Kolb, 1984), and discuss beliefs, behaviors and attitudes associated with the course and their interprofessional learning

experiences. The weekly reflections were completed on a continuous Google document, and the link was submitted weekly through Canvas. The reflection assignments were developed throughout the course based on student responses to learning material, and instructor observations of team functioning. Example prompts included:

- What contributed to your team's success this past week?
- What needs to happen for your team to improve its collaborative approach?
- What resources and supports are needed to improve team performance?
- How do you plan to support the team to lead the program next week?

An outline of the comprehensive weekly reflection prompts and activities is located in Appendix D. Also refer to Appendix A to review the Interprofessional Education and Community Health course schedule, outlining specific dates for each assignment.

Additionally, students completed a final synthesis paper to share perspectives and ideas associated with the Core Competencies for Interprofessional Collaborative Practice (Interprofessional Education Collaborative, 2016), social determinants of health (Office of Disease Prevention and Health Promotion, n.d.), and healthcare disparities. They reflected on experiences and observations with team-based, community-engaged experiences and shared ideas to guide future collaborative strategies to delivering health promotion activities. The assignment guided students to respond to the following writing prompts:

- What experiences, resources, and/or interactions contributed to your knowledge and ability to work collaboratively as a team to deliver health promotion services with vulnerable populations? What additional supports were needed?

- How did your feelings, beliefs, and perspectives evolve with respect to your team and the population you were working with in the community? Include specific examples, reference the time frame and influential factors.
- Describe an experience when your team performed at the peak of your collective ability. How was everyone involved impacted and what factors contributed to success?
- What experience had the greatest influence on your individual learning and how do you anticipate this knowledge contributing to your future career?

Thirteen reflection assignments and the synthesis paper from all eleven participants were collected at the end of the semester. The reflections from each student were de-identified and combined into a single document and labeled reflection one, reflection two, etc. The synthesis papers were also de-identified and labeled using a participant code. The reflections informed the research questions by providing an explanation of how and why interprofessional socialization evolved through community-engaged learning.

Observations. Team observations were completed as a second source of qualitative data with the assistance of the course co-instructor to record team behaviors with the intent to crosscheck gathered information with the students self-reported beliefs, behaviors and attitudes (Butin, 2009). The intention was to complete two observations of each team, totaling six observations, however, this proved to be impossible due to the program modifications needed to adjust to physical distancing requirements related to the Coronavirus Disease 2019 (COVID-19) pandemic. Two teams were observed during the

community-engaged team experience at the end of February, including the initial huddle, service delivery and closing huddle. We recorded observations using the interprofessional team observation tool (ITOL) found in Appendix E. To reduce anxiety, potentially generated from evaluation, no graded assignment was associated with the observation, and the observers adopted a participant observational role (Creswell & Plano Clark, 2018); contributing to the activity, providing support and immediate feedback, and, recording interprofessional team behavior. A narrative description of our observations of interprofessional socialization were dictated immediately following the activity to capture additional details. Due to the limited number of observations, the transcripts were added to the researcher notes to provide rich context for analysis (Creswell & Guetterman, 2019).

Focus groups. A third type of qualitative data was collected during the study to capture a different dimension and add depth to understanding what contributes to IPS during community-engaged learning (Creswell & Plano Clark, 2018). I conducted two focus groups for forty-five minutes each to gain perspective on the shared beliefs, behaviors and attitudes of groups of students. The first focus group was facilitated during the ninth week of the semester when all the student teams gathered on Zoom to reflect on what went well, what didn't go well and what next. At the first focus group, all eleven students were oriented to the purpose of the focus group and then divided into two groups, one with five students and one with six students, by using the Zoom breakout rooms feature. The 45-minute discussions were facilitated by the researcher and course

co-instructor using the protocol in Appendix F. Each team was guided to respond to questions in their small groups, and write additional answers, not discussed in the group.

The second focus group was held five months after the course ended with two students who participated in the first phase of the research. All participants were invited via email, and given the opportunity to select a convenient time through an online scheduling tool. The focus group was scheduled for the day and time when most respondents were available, and a Zoom invite was distributed to all participants. Four students planned to attend, however, two did not sign on to Zoom due to unexpected constraints. The purpose of the second focus group was to revisit and explore beliefs, behaviors and attitudes toward IPE in CEL and participate in a member checking process. I began the focus group reviewing the consent (see Appendix G for a copy of the recruitment and consent letter), and describing the plans for discussion. The participants were guided to interact with each other as we explored viewpoints, and validated the results from the first phase of data analysis; "checking for accuracy and resonance with their experiences" (Birt et al., 2016, p. 1802). I facilitated the focus group using the protocol approved by IRB located in Appendix G. Two additional students who were not able to attend the second focus group answered the focus group questions via email.

Both focus groups were held using Zoom, a video and audio-conferencing platform, and recorded using Otter, a smart note-taking application that combines audio, transcription, speaker identification and keywords. The audio files and transcription for both focus groups were cleaned to correct errors and remove identifying information,

labeled by date of interview (i.e., Focus Group _9-29-20), and stored in a password protected file that cannot be accessed without an additional two-step verification process.

Procedure and Timeline

The procedures and timeline for data collection and analysis is outlined in Table 4. Both phases of data collection aligned with Arizona State University's spring 2020 and fall 2020 academic calendars. Additionally, considerations were made for holidays and spring break.

Table 4

Timeline of Research Procedures

Timeframe	Actions	Procedures
November 2019	Promoted innovation Developed instruments Survey and reflections	Course enrollment Developed survey in Qualtrics Created instructional prompts Integrated into course curriculum
February 10, 2020	IRB Approval	Submitted IRB
February 13, 2020	Recruited participants	Distributed/Collected consents Oriented students to study
February - April 2020	Reflections Synthesis paper	Collected course assignments
February 17, 2020	Survey 1 distribution	Eleven participants completed survey
February 2020	Team observations	Conducted two team observations
March 16, 2020	Focus group 1	Facilitated focus group with eleven participants Recorded two discussion groups
March 30, 2020	Survey 2 distribution	Eleven participants completed survey
April 20, 2020	Survey 3 distribution	Ten participants completed survey
April 29, 2020	IRB update	Included use of Zoom recordings Distributed/Collected updated consents
May - July 2020	Analyzed qualitative data	Transcribed audio recordings Cleaned data and conducted analysis
July – September 2020	Analyzed quantitative data	Exported data from Qualtrics Cleaned and conducted analysis
September 29, 2020	Focus group 2	Facilitated focus group with two participants
	Survey 4 distribution	Member checked initial findings Nine participants completed survey
October – November 2020	Interpretation	Compared data/joint analysis Meta-interferences

Data Analysis

Data analysis occurred in two phases. In the first phase, the qualitative data was analyzed and used for member checking to test the initial findings for accuracy (Creswell & Plano Clark, 2018; Ivankova, 2015). During the second phase of data analysis, the qualitative and quantitative data was compared and merged to establish meta-inferences. Refer to the procedures for research activities as outlined in Table 2.

Quantitative

Quantitative analyses began with descriptive statistics to discover trends and patterns and potential relationships between the constructs (Ivankova, 2015), and between survey collection periods. I calculated descriptive statistics to describe the variability of the data collected for demographic characteristics, knowledge, experience, flow and interprofessional socialization. The average and standard deviation were calculated across all participants to assist in understanding patterns (Ivankova, 2015). Bivariate correlations were then calculated to test the relationship between demographic characteristics, independent variables and interprofessional socialization. To examine bivariate relationships, I conducted a correlation analysis (Smith & Glass, 1987) using Pearson (*r)* and point-biserial (r_{pb}), and analyzed the degree of relationship between variables. Next, I examined reliability of the ISVS-9B and the overall EduFlow scale and its four constructs to test for internal consistency (Smith & Glass, 1987) using Cronbach's alpha (Cronbach, 1951). Standards for good reliability are subjective, however, methodologist recommend coefficients between 0.7 and 0.8; coefficients less than 0.5 are usually unacceptable for unidimensional scales (Field, 2013). These parameters guided interpretation of the

results, however, the values were carefully considered in the context of the study (Pedhazur & Schmelkin, 1991).

Qualitative

A structured and iterative process was used to analyze the reflections journals, synthesis papers, and focus group transcripts. The process followed Charmaz' approach to grounded theory (2014). According to Charmaz (2014) the intended outcome of grounded theory is innovation. A new or renewed way of doing things is important to advance interprofessional education. Charmaz explains the iterative process is intended to bring about information that is beneficial to the context in which the research occurs. The analysis used in this action research is intended to directly benefit learning experiences for students in allied health education. The rigorous and systematic qualitative analysis procedures employed began with manual coding using Saldaña's (2016) typology and secondly using a computer-assisted data analysis software program, MAXQDA.

To begin, I printed the cleaned and de-identified reflections and focus group transcripts and placed them in a three-ring binder. My first step was to explore how the students were talking about interprofessional socialization, and I decided to look at two different time periods. I selected participant reflections from week one and nine because I wanted to examine how the students characterized interprofessional socialization at the beginning of the semester and at midpoint. Initially, I used elemental methods including a combination of descriptive and in vivo coding (Saldaña, 2016). This first look at the data resulted in preliminary codes representing factors associated with interprofessional socialization (e.g., bonding activities, small class, *engaging atmosphere*, work together as

teams, *team will have my back*, and delegate roles). Interestingly, these codes were frequently coupled with positive or negative emotions (e.g., excited, glad, fun, uncomfortable, uncertain, and anxious), illuminating the opportunity to take a deeper look at the data using affective coding methods.

Coding and memo writing were guided by a list of questions and prompts recommended by qualitative researchers outlined in Table 5 (Saldaña, 2016, pp. 22-52).

Table 5

Qualitative Data Coding Questions and Memo Prompts

General questions

- What are the participants doing? What are they trying to accomplish?
- How, exactly, do they do this? What specific means and/or strategies do they use?
- How do the participants talk about, and characterize what is going on?
- What assumptions are they making?
- What do I see going on here?
- What did I learn from these notes?
- Why did I include them?
- How is what is going on similar to or different from other incidents or events recorded elsewhere in the fieldnotes?
- What is the broader import or significance of this incident or event? What is it a case of?
- What surprised me?
- What intrigued me?
- What disturbed me?

Analytic memo prompts

- How [do] you personally relate to the participants and/or phenomenon?
- Code choices and their operational definitions.
- Participants' routines, rituals, rules, roles and relationships?
- Emergent patterns, categories, themes, concepts, and assertions.
- Possible networks (links, connections, overlaps, flows) among the codes, patterns, categories, themes, concepts, and assertions.
- Emergent or related existing theory.
- Problems with the study.
- Personal or ethical dilemmas with the study.
- Future directions for the study.
- Analytical memos generated thus far (metamemos).
- Tentative answers to your study's research questions.
- Reflect and write about the final report for the study.

Throughout the manual coding process, I jotted down notes about anything that intrigued me, particularly how they characterized IPS and the broader significance of

their experiences. Additionally, I elaborated on my ideas writing analytic memos in the margins on the pages including reflections on the coding process, coding choices, and the emergent patterns and concepts in the data (Saldaña, 2016). The second cycle of manual coding was an eclectic approach involving reorganization and additional analysis to gain a sense of categorical organization from the first cycle (Saldaña, 2016). This required some imagination and creativity involving pattern and focus coding; grouping similar coded data and developing categories. To accomplish this task, I used a color-coded highlighting process to identify and assemble raw data that provided insights into the research questions. Key words and phrases were circled and underlined to assist with the creation of preliminary codes, and emerging categories. This step in the process included coding participant reflections (N = 11) from week 1, week 9 and week 14, and the two transcripts from the first focus group. An initial codebook was created establishing a structure to simultaneously code all the data using in vivo and emotion coding processes in MAXQDA (https://www.maxqda.com).

The computer-assisted strategy with MAXQDA was then executed for comprehensive qualitative analysis of all data sources. Initially, twenty-seven documents containing two focus group transcripts, thirteen reflections, combining all participant responses in one document, and eleven final synthesis papers were uploaded into MAXQDA. The codes generated from the first and second cycle of manual coding laid the foundation for the code system. All documents were then coded in MAXQDA using the previously created pattern, focus and emotion codes. The iterative process resulted in

the code system and memos outlined in Appendix H, including descriptive memos defining parameters and characteristics of each code.

Ethical Considerations

The ethical considerations throughout this research study have been guided by the basic ethics of research involving human subjects: the principles of respect of persons, beneficence and justice (Department of Health, 1979). Persistent awareness of these ethical considerations guided continuous strategies to protect the study participants from harm, and the community members indirectly associated with the action research. This research project was reviewed and approved by the Arizona State University (ASU) Institutional Review Board (IRB) at each cycle to ensure the participants were treated ethically, and their well-being was adequately protected. (see Appendix I).

The participants were educated on the purpose of the project and consented for me to collect written assignments, researcher observations, focus group and Zoom recordings for analysis. As an insider researcher, careful considerations were made to address the power differential between the instructor and the learner (Banegas, 2015). First, I engaged in critical reflexivity of consciousness by maintaining a reflection journal. Second, I sustained ongoing interactions with the participants, sought continuous guidance from the co-instructors, and minimized pressure of course evaluation measures by integrating group assignments and using a mastery learning approach. Due to the nine-month data collection period, I reviewed consent with the participants at each focus group; reminding them that the study was voluntary, and their choice would not affect their grade in the course or their standing at ASU. All collected data was de-identified,

and a master list was created to include participant's name and code number to link participant responses to the surveys, assignments, observations, and focus groups. The data was transferred and stored on a password-protected computer and will be stored for a period of four years, and then deleted.

The objective of this research was to identify optimal teaching and learning strategies to enhance the use of community-engaged learning in interprofessional education. As such, learning material was collected and pedagogical strategies were evaluated; no client or community data was included in the research methods. However, community-engaged learning involved students providing health promotion activities with vulnerable populations. To minimize risk of harm with the community, student teams were required to submit protocols for review prior to service delivery and student teams were given prompt feedback and guidance. Also, the co-instructors rotated attendance at the programs, and the community organization supervisors oversaw all services.

Multiple strategies were used during the mixed methods analysis and interpretation process to enhance the trustworthiness of content depicted in this research. I debriefed regularly with the SHOW faculty and leadership team to assess credibility, and systematically reflect on the meaning and relevance of the findings to the study (Ivankova, 2015). Quantitative calculations were repeated a minimum of three times and reviewed by committee members to ensure accurate representation of data. Partiality with qualitative analysis was avoided by using a variety of data sources, meaningfully engaging with participants, and member checking (Mertler, 2016).

Summary

This mixed methods action research (MMAR) study was designed to explore how and why community-engaged learning experiences contributed to interprofessional socialization. Both qualitative and quantitative data was collected with emphasis on the qualitative data to provide a deeper explanation of how community-engaged learning contributed to IPS. The systematic inquiry of this action research allowed me to be an active participant in the study as I examined my own teaching practices and reflected on what was happening in the interprofessional learning environment. The MMAR study took place with learners enrolled in the Interprofessional Education and Community Health course and included qualitative data from learner reflections, synthesis papers, and focus groups and quantitative data from demographic information, background knowledge and experience, and two measures: the ISVS-9B and Eduflow. The collected data was merged to explore how it compared with each other, and it was transformed to provide rich information needed to answer the research questions:

RQ1a. What factors contribute to interprofessional socialization?

RQ1b. Why do these factors contribute to interprofessional socialization?

RQ2. How does interprofessional socialization evolve among early learners in allied health academic programs through participation in a community-engaged learning course?

An outline of the data sources, collection period and analyses are outlined in Table 6.

Table 6

Outline of Data Sources, Collection and Analyses

Source	Collection Period	Analysis
Quan Demographic/ background questionnaire	Phase 1 Weeks 5, 11 and 14 Phase 2 5 months after the course	Academic level, educational discipline, IPE knowledge and experience, age, gender, and race
Quan Interprofessional Socialization ISVS-9B	Phase 1 Weeks 5, 11 and 14 Phase 2 5 months after course	Transformative learning resulting from IPE: - changes in assumptions and worldviews, knowledge and skills related to teamwork - shifts in values and identities
Quan Engagement EduFlow	Phase 1 Weeks 5, 11 and 14	Engagement in the learning experience measured through the lens of flow - Cognitive absorption - Time transformation - Loss of self-consciousness - Autotelic experience
QUAL Reflections	Phase 1 Weeks 1–7 and 9-14	Learning and engagement experiences - IPE core competencies - Knowledge & skill acquisition - Influences on engagement
QUAL Team observations	Phase 1 Week 6	Learning and engagement experiences - IPE core competencies - Engagement through lens of flow
QUAL Focus Groups	Phase 1 Week 9 Phase 2 5 months after course	Learning and engagement experiences - IPE core competencies - Level and type of engagement

Note: IPE = interprofessional education. Quan = quantitative data source. QUAL = qualitative data source. The capitalized letters represent higher priority and increased weight given to data in the MMAR study (Ivankova et al., 2006).

CHAPTER FOUR

RESULTS

The purpose of this action research was to explore how community-engaged learning contributed to interprofessional socialization among early learners who were enrolled in the pilot Interprofessional Education and Community Health course. To assess the student's experiences in this innovation, I studied three research questions:

RQ1a. What factors contribute to interprofessional socialization?

RQ1b. Why do these factors contribute to interprofessional socialization?

RQ2. How does interprofessional socialization evolve among early learners in allied health academic programs through participation in a community-engaged learning course?

Chapter four is divided into three sections outlining the results from the analysis of quantitative and qualitative data and mixed methods key findings.

Quantitative Data Results

First, descriptive statistics and frequency tables display the characteristics of the sample and the items included in the Interprofessional Education and Activity-Based Learning Survey (IPEABL) to identify patterns across four time points. Second, bivariate correlations show relationships between demographic characteristics, independent variables, and IPS. Third, results of reliability testing to measure the internal consistency of the Interprofessional Socialization and Valuing Scale 9 B (ISVS-9B) and the EduFlow scale are shown. Finally, multiple linear regression models were calculated to investigate a potential predictive relationship between Flow and interprofessional socialization.

Demographic Characteristics

Participants ranged in age from 19-24 with an average age of 21. The majority of participants identified as white (55%) and majored in recreational therapy (46%). I investigated bivariate correlations between each demographic variable and mean ISVS-9B scores at baseline and found no significant associations. Associations between age (r = .42), gender (r_{pb} = .02), race (r =.22) and discipline (r = .36) were calculated using correlation analyses. Demographic characteristics and bivariate relationships at baseline are outlined in Table 7.

Table 7

Demographic Characteristics and Bivariate Relationships with IPS at Baseline

Variable	*n*	%	*r*
Age			.42
19	2	18.2	
20	1	9.1	
21	3	27.3	
22	4	36.3	
24	1	9.1	
	n	%	r_{pb}
Gender			.02
Female	9	82	
Male	2	18	
	n	%	*r*
Race			.22
Asian	1	36	
Hispanic or Latino	4	9	
White	6	55	
Discipline			.36
Healthcare delivery	1	9	
Physical therapy	1	9	
Pre-medicine	1	9	
Psychology	1	9	
Public/Community health	1	9	
Recreational therapy	4	47	
Other			
Business	1	9	
Pre-scientist	1	9	

Note: IPS = interprofessional socialization. *r* = Pearson correlation coefficient and r_{pb} = point-biserial correlation.

Knowledge

Background knowledge of interprofessional education was measured using a 4-point scale rating level of understanding from 1 = no understanding to 4 = excellent understanding. Measures of central tendency were calculated and the average reported

level of understanding across the four surveys ranged from M = 2.55, SD = .69 to M = 3.33, SD = .87. The results indicate students report an increase in understanding over time with tighter clustering of students who have some to good understanding of interprofessional education. Knowledge and interprofessional socialization were not significantly correlated at any time point. Descriptive statistics for knowledge and bivariate correlations between knowledge and the ISVS-9B mean scores for each survey period are displayed in Table 8.

Table 8

Knowledge Descriptive Statistics and Correlation with ISVS-9B

Variable	*Survey* 1 N = 11			Survey 2 N = 11			Survey 3 N = 10			Survey 4 N= 9		
	M	SD	*r*	M	SD	*r*	M	SD	*r*	M	SD	*r*
IPE Knowledge	2.55	.69	-.12	3.09	.70	.29	3.10	.74	-.17	3.33	.87	.09

Note: IPE = interprofessional education*; r* = Pearson correlation coefficient.

Experience

Level of experience with different types of interprofessional education was measured using a four-point scale ranging from 1 = none to 4 = significant. During Surveys 1, 2 and 3, the majority of students reported having some or significant experience with fieldwork (Survey 1 = 82%, Survey 2 = 91%, Survey 3 = 90%) and classroom experiences (Survey 1 = 91%, Survey 2 = 82%, Survey 3 = 90%). Participants reported some or significant experience with classroom experiences (78%) and activities out of class (60%) during Survey 4. Measures of central tendency for the overall level of experience across the four surveys (Survey 1: M = 2.82, SD = .69, Survey 2: M = 2.85, SD = .52, Survey 3: M = 2.94, SD = .63, and Survey 4: M = 2.76, SD = .62) indicated

occasional to some experience with IPE throughout the time period. There was a significant positive relationship between interprofessional socialization and overall experience with the second survey, *r* = .72, and a significant correlation with two types of IPE experiences; fieldwork *r* = .64 and classroom activities *r* = .75 at the same point in time. The reliability of the IPE was above .50 at all four time points (α = .83, .73, .68 and .72); a value acceptable in early stages of research when measuring psychological constructs (Field, 2013). Table 9 displays descriptive statistics, reliability information, and bivariate correlations with the ISVS-9B mean score for all four surveys.

Table 9

Experience Descriptive Statistics and Correlation with ISVS-9B

Variable	Survey 1 N = 11; α = .83			Survey 2 N = 11; α = .73			Survey 3 N = 10; α = .68			Survey 4 N = 9; α = .72		
	M	SD	*r*	M	SD	*r*	M	SD	*r*	M	SD	*r*
IPE Experience	2.82	0.69	-.29	2.85	0.52	.72*	2.94	0.63	.21	2.76	0.62	-.06
Events	2.73	0.91	-.40	2.73	0.65	.41	2.30	1.06	-.03	2.33	1.00	-.49
Trainings	2.27	0.65	.12	2.00	0.78	.14	2.20	1.14	.21	2.00	0.87	-.29
Activities	2.64	1.12	.03	3.00	0.89	.55	3.20	0.70	.59	3.11	0.78	.12
Fieldwork	3.00	1.00	-.53	3.36	0.67	.64*	3.40	0.97	.05	3.00	1.12	.41
Class	3.46	0.69	-.34	3.18	0.75	.75**	3.60	0.70	-.10	3.33	0.71	.03

Note: r = Pearson correlation coefficient. * Correlation is significant at the .05 level (2-tailed). ** Correlation is significant at the .01 level (2-tailed).

EduFlow Scale

The EduFlow scale measures four dimensions of flow; cognitive absorption, time transformation, loss of self-consciousness and autotelic experience using an unbalanced

seven-point scale ranging from 1 = strongly disagree, to 7 = strongly agree. The highest mean score for all three surveys was with cognitive absorption ($M_{survey1 =}$ 5.58, SD = .75; $M_{survey2}$ = 5.97, SD = .86; $M_{survey3}$ = 6.13, SD = .42), representing a tight and high level of cognitive engagement throughout the course. Initially, there was a wide variation in standard deviations for autotelic experience (SD = 1.40), loss of self-consciousness (SD = 1.57), and time transformation (SD = 1.67). During the fourteenth week of the course, students reported more consistent levels of engagement in the learning experience, representing a higher level of agreement with the conditions of flow. The fluctuation in mean scores between time transformation and loss of self-consciousness throughout the semester could be attributed to student's interest in the activity, commitments and responsibilities, and stressors associated with COVID-19. The overall mean score for Flow increased at each time point ($M_{survey1 =}$ 5.18, SD = .99; $M_{survey2}$ = 5.47, SD = .61; $M_{survey3}$ = 5.70, SD = .47). Statistically significant positive correlations were found between interprofessional socialization and overall Flow, and two sub-constructs, cognitive absorption and autotelic experience, during the second survey.

Reliability measures ranged from α = .60 to α = .92 for the individual constructs and the composite overall alpha score ranged from α = .70 to α = .86 for all three surveys. All values were above α = .50, a value acceptable in early stages of research when measuring psychological constructs (Field, 2013). The values of cognitive absorption for Survey 1 (α = .69), and Survey 3 (α = .60) may be questionable according to George and Mallery (2019). This may be explained by the low sample size, however, a closer look at the raw scores for the individual items with cognitive absorption in all three surveys, with

each team of students, there was more variation in responses among teams with members who had varying levels of experience. According to the creator of the EduFlow Scale, "cognitive absorption emerges as a central characteristic in flow experiences within the context of learning" (Heutte et al., 2016, p. 138) however, the lower number indicates the three questions associated with cognitive absorption are functioning less homogeneously than the other three constructs in this study. Descriptive statistics, bivariate correlations with IPS, and reliability information for the EduFlow Scale at three time points are displayed in Table 10.

Table 10

Descriptive Information of Flow Experiences at Three Time Periods

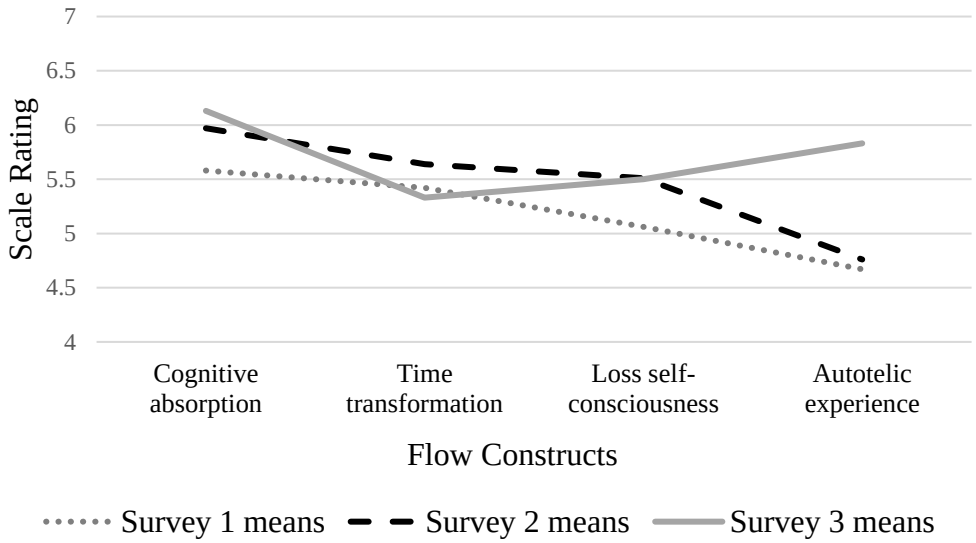
Variables	Survey 1 N = 11; α = .86				Survey 2 N= 11; α = .79				Survey 3 N= 10; α = .70			
	M	SD	α	*r*	M	SD	α	*r*	M	SD	α	*r*
Overall Flow	5.18	0.99		.28	5.47	0.61		**.78****	5.70	0.47		.27
Cognitive absorption	5.58	0.75	.69	.21	5.97	0.86	.90	**.65***	6.13	0.42	.60	.30
Met demands	5.64	0.67		.06	5.91	0.70		**.63***	5.90	0.74		.17
Under control	5.36	1.12		.44	5.91	1.34		.57	6.20	0.42		.08
Understood role	5.73	1.01		.05	6.09	0.94		**.64***	6.30	0.48		.45
Time transformation	5.42	1.40	.91	.18	5.64	0.71	.89	.35	5.33	1.14	.89	.18
Time flew by	5.27	1.68		.22	5.73	1.01		.33	5.60	1.17		.09
Felt time fly by	5.36	1.69		.21	5.73	1.01		.37	5.40	1.08		.28
Not notice time	4.55	1.75		.06	5.09	1.38		.28	5.00	1.49		.15
Loss self-consciousness	5.06	1.57	.86	.10	5.51	1.04	.92	.35	5.50	0.96	.89	.01
Did not care	4.64	1.96		.01	4.73	1.49		.24	5.30	0.95		-.04
Did not fear	4.91	1.81		.01	4.64	1.36		.49	5.80	1.14		-.14
Did not worry	4.45	1.92		.25	4.91	1.45		.27	5.40	1.08		.21
Autotelic experience	4.67	1.67	.85	.35	4.76	1.33	.78	**.73***	5.83	0.72	.75	.23
Felt excited	5.09	1.97		.36	5.55	1.04		**.75***	5.60	1.08		.05
Happy	5.45	1.70		.38	5.73	0.65		**.72***	5.90	0.74		.34
Felt joy	5.73	.905		.15	5.64	0.81		.37	6.00	0.82		.25

Note. Item descriptions are abbreviated. The full description is available in Appendix C. Calculated correlations are between the ISVS-9B mean score, and flow mean score and individual constructs for each survey. * Correlation is significant at the .05 level (2-tailed). ** Correlation is significant at the .01 level (2-tailed).

To gain further perspective on the evolution of flow over the three time periods, a line chart is displayed in Figure 4. There was an increase in all four flow constructs during Survey 2. Cognitive absorption and autotelic experience were rated highest during the third period, and loss of self-consciousness remained consistent with Survey 2. However, time transformation was rated lowest during Survey 3, possibly due to the effects of COVID-19 or the missing data from one participant.

Figure 4

Trends in Flow over Three Time Periods



Interprofessional Socialization and Valuing Scale 9 B

The ISVS-9B measures beliefs, behaviors and attitudes about interprofessional learning using a seven-point scale ranging from 1 = not at all to 7 = to a very great extent, with an option to select 0 = not applicable. The highest scores in Survey 1 related to the importance of working as a team, comfort being accountable, negotiating with the team, comfort being a leader, and sharing evidence across disciplines (ISVS-9B 5, 7, 6, 2, and 4). This is perhaps representative of students who had participated in team-building activities and learned information about evidence-based protocols. The scores on other questions related to client involvement, clarifying misconceptions with members of a team, awareness of role on a team, and preference working on an interprofessional team (ISVS-9B 8, 9, 1 and 3) were lowest (ranging from 4.73 to 5.27) during Survey 1.

The standard deviations were also calculated to gain perspective on the variability

and consistency of student responses. The widest standards deviations and widest variability among the responses, were indicated in items ISVS-9B 3, 4 and 9, representing preference working on an interprofessional team, sharing evidence across disciplines, and clarifying misconceptions with members of the team. This variation may be explained by the range of knowledge and experience with interprofessional education among the participants. The lowest standard deviation of the interprofessional socialization were ISVS-9B 1, 5 and 6, representing tight clustering of responses were with awareness of role on a team, importance of the team, and negotiating with the team.

The highest scores in Survey 2 related to awareness of role on a team, the importance of working as a team, comfort being a leader, and clarifying misconceptions with members of a team (ISVS-9B 1, 5, 2, and 9). These results occurred at 11 weeks of instruction when teams had experience planning and delivering health promotion activities. Questions related to client involvement, negotiating with the team, and preference working on an interprofessional team (ISVS-9B 8, 6 and 3) were rated the lowest among the nine questions, however, the total range of scores was from 5.46 to 6.46 indicating overall greater beliefs, behaviors and attitudes toward IPS during the eleventh week of the semester compared to Survey 1.

Again, the standard deviation was calculated in Survey 2 to gain perspective on the variability and consistency of student responses 11 weeks into the course. The largest standard deviation and widest variability among the responses were indicated in items ISVS-9B 3, 4 and 6 (SD = 1.21, 1.18, 1.21). These items represent a student's preference working on an interprofessional team, sharing evidence across disciplines, and

negotiating with a team. This variation may be explained by individual and team reactions to COVID-19 and the ability to adapt communication, planning and delivery methods. The lowest standard deviation of the interprofessional socialization were ISVS-9B 9, 1, 8 and 2, (SD = .70, .82, .83, .91) representing a tight clustering of responses with comfort clarifying misconceptions, awareness of role on a team, client involvement, and comfort being a leader.

In Survey 3, eight of the nine interprofessional socialization experiences indicated in the ISVS-9B had mean values above 6.0. The question related to ability to negotiate with the team was rated slightly lower (M 5.80, SD .92), whereas importance of working on a team, being accountable, client involvement and clarifying misconceptions with members of the team were rated the highest. The standard deviation for all items in the scale were below one representing tight clustering for all responses, indicating students developing cohesion with their attitudes, beliefs and behavior toward interprofessional socialization over time.

The fourth and final responses to ISVS-9B, completed five months after the course, resulted in the highest overall average score (M = 6.24, SD = .43). The question related to ability to negotiate with the team continued to be rated the lowest (M = 5.56, SD = 1.13), whereas importance of working on a team, aware of role on a team, and being accountable with members of the team were rated the highest. The standard deviation for all items in the scale ranged from .53 to 1.13 representing variation among the responses, indicating students developing less cohesion with their attitudes, beliefs and behavior when no longer engaged with the same interprofessional team.

Three of the four overall alpha scores (.78, .83 and .70) were above .50, revealing internal consistency, however, the Cronbach alpha score for the first survey was .26, well below the acceptable coefficient of reliability (Nunnally, 1978). The lack of comparable alphas, particularly with the Survey 1 could be explained by the low sample size, and wide variation of knowledge and experience with interprofessional education among the respondents at the early stages of the course. Limited knowledge of IPE at the beginning of the course may have contributed to a lack of understanding of terminology in statements such as; *I see myself preferring to work on an interprofessional team*. Additionally, some statements may not have been relevant to students with limited experience and exposure to clients by the fifth week of the course: *I have gained a better understanding of the client's involvement in decision making around their care.* Table 11 outlines descriptive statistics and estimates of reliability for each survey.

Table 11

Descriptive Statistics of Interprofessional Learning at Four Time Periods

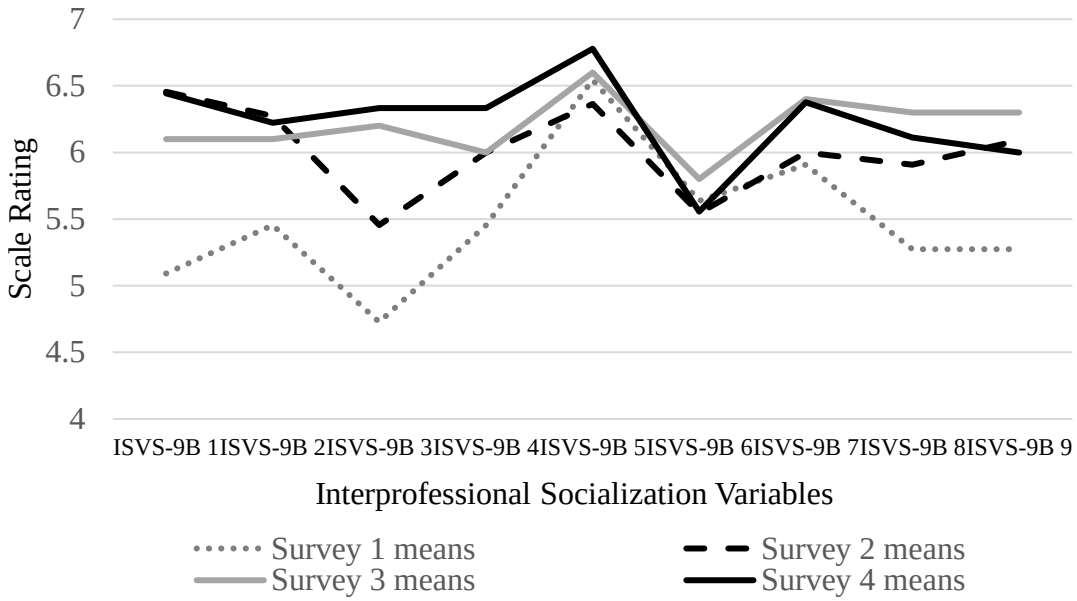
Variable	Survey 1 N= 11 α =.26		Survey 2 N = 11 α =.78		Survey 3 N =10 α =.83		Survey 4 N = 9 α =.70	
	M	SD	M	SD	M	SD	M	SD
ISVS-9B mean scores	5.49	0.42	6.01	0.61	6.20	0.49	6.24	0.43
ISVS-9B 1 Aware of role on team	5.09	0.54	6.46	0.82	6.10	0.57	6.44	0.53
ISVS-9B 2 Comfort being leader	5.46	0.93	6.27	0.91	6.10	0.88	6.22	0.97
ISVS-9B 3 Prefer to work on team	4.73	1.85	5.46	1.21	6.20	0.79	6.33	1.00
ISVS-9B 4 Value sharing evidence	5.46	1.44	6.00	1.18	6.00	0.82	6.33	0.71
ISVS-9B 5 Importance of team	6.55	0.82	6.36	1.03	6.60	0.52	6.78	0.44
ISVS-9B 6 Able to negotiate	5.64	0.81	5.55	1.21	5.80	0.92	5.56	1.13
ISVS-9B 7 Comfort with team	5.91	0.83	6.00	1.00	6.40	0.84	6.38	0.74
ISVS-9B 8 Client involvement	5.27	1.01	5.91	0.83	6.30	0.68	6.11	0.60
ISVS-9B 9 Clarify misconceptions	5.27	1.19	6.09	0.70	6.30	0.68	6.00	1.00

Note: ISVS = Interprofessional Socialization and Valuing Scale. Item descriptions are abbreviated. A full description is available in Appendix C.

To further explore the evolution of interprofessional socialization over the four time periods, a line chart is displayed in Figure 5. ISVS-9B 5, understanding of the importance of working on a team, was rated consistently high. ISVS-9B 1, 3 and 7; aware of role on a team, preference working as a team and, comfort being accountable to the team, respectively, showed growth over time with preference working as a team displaying the greatest growth. ISVS-9B 9, comfort clarifying misconceptions with team members, also showed growth during the semester.

Figure 5

Trends of Interprofessional Socialization over Four Time Periods



Note: ISVS = Interprofessional Socialization Valuing Scale

Impact of Flow on Interprofessional Socialization

Correlation statistics indicated two sub-constructs of flow, cognitive absorption and autotelic experience, were associated with interprofessional socialization at Survey 2 and descriptive statistics show an increase in IPS over time. Because of these findings, linear regression models were calculated to explore the impact of cognitive absorption and autotelic experience on IPS at each survey time point. Table 12 displays results from the regression equations showing poor fit at each time point. (Survey 1: $F(4,6) = .49$, $p = .75$, $R^2 = .25$; Survey 2: $F(4,6) = 4.01$, $p = .07$, $R^2 = .73$; Survey 3: $F(4,5) = .22$, $p = .92$,

R^2 = .15). Flow was not a statistically significant predictor of interprofessional socialization at any time point using a standard alpha level of .05.

Table 12

Linear Regression of ISVS on Flow Constructs at Surveys 1, 2, and 3

	B	95% CI for *B*		*SE B*	β	*p*
		LL	*UL*			
Survey 1						
Cognitive absorption	0.22	-0.32	0.75	0.22	0.38	.36
Time transformation	0.05	-0.57	0.67	0.25	0.20	.84
Loss of self-consciousness	-0.06	-0.59	0.47	0.22	-0.25	.78
Autotelic experience	0.13	-0.21	0.47	0.14	0.44	.37
Survey 2						
Cognitive absorption	0.24	-0.29	0.77	0.22	0.34	.31
Time transformation	0.13	1.22	0.47	0.14	0.22	.41
Loss of self-consciousness	0.11	-0.16	0.38	0.11	0.24	.36
Autotelic experience	0.41	-0.22	1.03	0.26	0.48	.16
Survey 3						
Cognitive absorption	0.41	-1.03	1.84	0.56	0.35	.50
Time transformation	0.05	-0.53	0.63	0.23	0.12	.82
Loss of self-consciousness	0.09	-0.52	0.70	0.24	0.18	.71
Autotelic experience	0.06	-0.88	0.10	0.37	0.09	.88

Note: Survey 1 N = 11, Survey 2 N= 11, Survey 3 N = 10; CI = confidence interval; LL =lower limit; UL = upper limit.

Qualitative Data Results

Contributions to Interprofessional Socialization

The cycles of coding used in the qualitative inquiry resulted in a hierarchical system including nine categories, twenty-four codes, and twenty sub codes as outlined in Appendix H. To answer the questions what factors contributed to interprofessional socialization, and why do these factors contribute to IPS, five categories and two sub-codes are discussed. I have selected these factors as primary contributors to IPS because they were referenced consistently by all participants, they were frequently cited, and participants provided in depth explanations for the importance of the factor in both the

reflections and focus groups. The analysis suggests 1) diverse backgrounds, 2) authentic relationships, 3) communication contents, 4) challenges, 5) collaborative assignments, 6) expressed emotions, and 7) meaningful community-engagement contributed to interprofessional socialization among teams. The seven emerging factors associated with interprofessional socialization are discussed in the following section. Table 13 provides context with student teams; membership, assigned community organization and characteristics of each participant.

Table 13

Teams and Participant Characteristics at Baseline

Team and participant code	Gender	Age	Race	Discipline
Ability360				
1360	Male	19	Hispanic	Business
2360	Male	21	Asian	Pre-medicine
3360	Female	22	White	Recreational therapy
4360	Female	22	White	Recreational therapy
Foundation for Senior Living				
1FSL	Female	24	White	Recreational therapy
2FSL	Female	22	White	Recreational therapy
3FSL	Female	21	White	Psychology
Community Collaborative WWH				
1WWH	Female	19	Asian	Healthcare delivery
2WWH	Female	20	Asian	Pre-physical therapy
3WWH	Female	21	White	Recreational therapy
4WWH	Female	22	Asian	Pre-scientist

Diverse backgrounds. Throughout the course, students regularly refer to differences in majors, levels of knowledge, experience, and personal strengths as contributors to their team's socialization process. They explicitly explain their "different skills, majors, level of knowledge and strengths … helped the [team] "run smoothly," "have more thoughtful ideas," and "provide well-rounded solutions to problems with

clients." One particular student reflected back on an optimal team experience and provided a comprehensive perspective on how diverse backgrounds impacted IPS explaining, "our intervention on emphysema was one time we worked the most effectively as a team." They elaborated by outlining the contributions of each team member:

1) 3360, a recreational therapist, has a background in evidence-based research and writing protocols so this complemented her strengths well,
2) I, (2360) have a background in the benefits of exercises for vulnerable populations as well as knowledge on how to adapt these exercises to include everyone, which contributed to my strengths during this protocol,
3) 2360, a premed major, was able to talk extensively about what emphysema is and why it is important to do exercises for your lungs to both prevent and manage this disease, and
4) 1360, a business major, has strength in engaging individuals and selling our ideas to them.

The student summarized the value of integrating their diverse backgrounds explaining, "everyone was in charge of a part of the intervention they were interested in and they were able to let their strengths shine through… this led to a successful intervention that everyone who attended thoroughly enjoyed."

Over time and with practice, teams developed an understanding and ability to capitalize on the strengths, experience and knowledge of individual team members to uniquely support teamwork. Interestingly, demographic characteristics were rarely

mentioned when asked what knowledge, skills, background, experience, or personal characteristics contributed to IPS. Age is referenced in context with level of experience, however, gender, race or cultural backgrounds were not identified as contributing factors to IPS. Rather, early learners attributed their success as a team to their ability to integrate profession-specific expertise and personal attributes.

Authentic relationships. The quality of relationships and intersection between teammates and community members was an important contributor to the team's socialization process. Multiple students described these relationships as encompassing "mutual respect," "listening with empathy," "spending time with one another," and "bonding over participants." Intentional and authentic interactions between team members in conversation about personal and professional matters were imperative to interprofessional socialization. For instance, students recognized when "people are unaware of what is happening in your life personally … it can create some frustrations." To improve empathy and understanding within the team, a student illuminated the value of disclosure, suggesting, "rather than ignoring the issue be sure to keep everyone involved in order to foster the openness and trust that is needed for a group to prosper." A different student shared a specific example; explaining its positive impact on team functioning:

> I was able to share with my team that I had a TBI [traumatic brain injury]. I think it gave them a better understanding of me. This really aided our teamwork and allowed us to support each other in many different ways.

Essentially, the bonding that resulted from personal openness was valued as a contributor to the quality of the team performance: “I liked that we built ourselves as a team and were able to understand each other so that when we started to work with the service site, it was easier to build as a team on our interprofessional competencies and socialization.” Developing authentic relationships was indicated as an essential foundation to interprofessional collaboration in the delivery of community-engaged services.

As such, the relationships that teams built with each other, and the community was a highlight of their experience with community-engaged learning. Seven of the eleven participants expounded on this perspective in their final synthesis and it was actively discussed in both focus groups as an unexpected and meaningful outcome from their experience in the course. A student studying pre-physical therapy synthesized the relationship building process explaining that it was “really enjoyable to have our team grow as friends throughout the whole experience ... I thought we would just be teammates and speak professionally all the time,” and “I … admit… it is hard to make new friends. This class has helped me not only make new friends with the residents, but also with my team.”

Interprofessional socialization was enhanced when meaningful relations were created among and between the students and the community members. The interconnection between developing friendships and learning through community-engagement emerged as a facilitator to student satisfaction, and enjoyment. During the thirteenth week of the course, students were prompted to reflect on the lessons learned working with interprofessional teams and two reflection assignments provided specific

insights associated with relationships and community-engaged learning. One student explained, "being in a community-engaged activity feels very rewarding and educational at the same time. You create relationships." Another student exclaimed,

> We made friends with the community! When we see them, they seem more comfortable with us, even asking us if we are going to go and party in Mexico or in Florida for spring break! Sometimes I feel like some of the members just come because they like being social with us, … because we have developed this friendship with them.

Authentic relationships among team members, and with the community is critical to team socialization as evidenced by the level of understanding and emotions associated with the stages of growth. Initially, students are unaware of the value of sharing personal information with team members. Consequently, team members experience anxiety or frustrations caused by lack of understanding. As the learners gain awareness of the need for openness and honesty, they are able to support each other and develop strategies for improved team functioning. Ultimately, team members express enthusiasm and excitement when they work together cohesively establishing meaningful relationships with community members.

Communication contents. Early cycles of qualitative analysis resulted in the creation of codes that represented the subjects discussed between team members. The salient features of these codes evolved and resulted in five primary topics: personal issues, planning, problem solving, roles and responsibilities, and quality of care. These

sets of codes were categorized as communication contents; illustrating the importance of discussion topics to interprofessional socialization.

The strategies teams used to communicate with each other, such as pre and post huddles, and team meetings showed the importance of dedicated time for communication, but did not explain why communication contributes to interprofessional socialization. Likewise, the frequency and co-occurrence of communication content codes in the reflection assignments only revealed how often a participant recorded discussion on topics such as; planning services, delineating roles and responsibilities, resolving issues, discussing personal information, perspectives and values, and reviewing the quality of care provided by the team. To explore why communication content was emerging as a factor contributing to IPS, I analyzed the focus group discourse to gain an understanding of the shared group perspective.

The participants were prompted during the focus groups to share what worked well and what did not work well among the teams. The collective group conversations illuminated a better understanding of the content of their communication and its impact on their socialization. The students said their teams bonded and prospered because of their ability and comfort openly and honestly sharing knowledge and giving feedback using phrases such as; “complimenting each other,” “sharing highs and lows,” and “clearing up any confusions.” This approach to team communication laid a foundation for collaborative and supportive teamwork, particularly when they faced challenges, and needed to “be respectful and aware of each other’s responsibilities,” “give suggestions,” and “hold each other accountable.” Additionally, the students attributed their ability to

"come up with ideas," "make improvements," and "develop meaningful work" to this communication approach. A recreational therapy student described how being respectful and flexible with one another had a positive impact on the community: "we were always receptive of one another's ideas and would look at an activity from every angle to ensure that it would undeniably benefit the clients."

However, teams also engaged in conversation about individual dispositions; discussing individual temperament, values and character. The personal nature of these conversations was a facilitator to deeper relations, and more productive team outcomes. In fact, when prompted to share a highlight of working with a team, one student described their top experience as, "just communicating with the team and getting to know them more as people and less as peers." Another student concurred in their final analysis assignment describing the value of sharing one's authentic self with team members:

> Personally, I felt as though we were able to understand each other more and communicate more effectively since we got more comfortable in showing our personalities. One member voiced out her ideas a lot more than before, leading to some great protocols. Another became more proactive and took action rather than just following along. The "leader" also stepped back and became a follower more. I saw us go kinda from an autocratic type of leadership style to a democratic type of leadership. One of us may seem more in control at times but at the end of the day, we all have contributed something equally.

The contents of team conversations contributed to interprofessional socialization when the team was open to discussing both personal and professional topics. The team's

intentional efforts to include both subjects in all communication established and maintained productive relationships and contributed to positive team performance.

Challenges. Participants were prompted throughout the semester and during the focus groups to describe what went well, what did not go well, and what changes or goals do they have for their team. The students described a variety of difficult tasks their teams experienced. Six categories of challenging tasks emerged from the data including; 1) gaining knowledge about the community, 2) planning for team communication, 3) developing program plans, 4) delivering services, 5) comprehending personal growth areas, and 6) negotiating roles and responsibilities, Table 14 identifies each category of challenging tasks, and lists participant descriptions of challenging tasks.

Table 14

Interprofessional Team Challenges

Category of Challenging Tasks	Participant Descriptions of Challenging Tasks
Gaining knowledge about the community	• Establishing rapport • Adopting relevant vocabulary and language • Organizational structure, mission, and values • Clients' functional level, interests and needs • Reconciling expectations and reality
Planning for team communication	• Clarifying contact strategy with community • Coordinating schedules; time and location • Identifying optimal method for task (text, Zoom, Google documents, email, or huddles) • Modifying plans for communication
Developing program plans	• Detailing content and process • Establishing modifications • Addressing risk management • Nurturing creative juices
Delivering services	• Recruitment methods • Motivational techniques/interaction strategies • Access and use of resources • Adapting and accommodating
Negotiating team roles/responsibilities	• Integrating everyone's ideas • Connecting and clarifying understandings • Focusing on areas of growth and strengths • Designating tasks
Comprehending personal growth areas	• Sharing skills and interests • Awareness of personality influence • Identifying contributions/constraints • Establishing connections to the work

The community-engaged interprofessional education course introduced students to competencies expected of allied health professionals; assessing, planning,

implementing, and evaluating services collaboratively as a team. In the process, they recognized the need to negotiate roles and responsibilities, and specifically emphasized the challenge of planning for communication to optimize team functioning. In addition to these professional growth areas, the early learners were challenged by new understandings of their personality, knowledge, skills and values, how they impact the team, and the need to develop confidence. Both the professional and personal growth areas occurred when teams were engaged in a shared context, and challenged to learn the culture and language of the community to facilitate quality programs.

Collaborative assignments. Several elements of the course design contributed to individual student learning, yet the collaborative assignments facilitated interprofessional socialization among the teams. Clear guidelines, learning material, community resources and a safe space to learn were among the five codes associated with course design category. However, collaborative writing assignments emerged as the prominent fifth factor that contributed to the collective team's growth and performance. For instance, at the start of the semester, the students established a team charter, a document outlining the team's purpose, and direction. The teams anticipated the benefits of the charter. When asked to explain how the team charter can guide and support the team, the pre-scientist student communicated a positive attitude and outlook on its potential contributions to interprofessional socialization:

> The team charter could help everyone get on the same page before we start working together towards a common goal and having major conflicts. I think it is

good because it reminds everyone why we are here and what roles we would like to play.

At the end of the semester, several students explained why the team charter was in fact meaningful to their team growth, communicating common sentiments in their final synthesis recognizing its value "establishing set roles and responsibilities," and its usefulness "[helping] …to communicate effectively." Additionally, the contents of the charter served as a guide throughout the course as the pre-physical therapy student explained, "I would always keep it in mind whenever we would have our pre and post huddle." Another student referenced the charter as a tool that contributed to their ability to lead the team explaining how it outlined summary characteristics of each team member, and therefore it can "draw out the strengths of each person and be used to the team's advantage." The charter helped lay a foundation of information to draw from as teams prepared for interprofessional service delivery and as one participant emphasized, it was "very necessary for [our team] to function optimally. Without this, we would not have had a clear understanding of our individual roles and strengths."

Similar to the charter, the weekly written protocols created a designated space for team members to contribute individual expertise and record team roles and responsibilities for each activity. The participants found this collaborative assignment forced them "to think outside the box" and "be confident enough to share ideas." The course assignments requiring team collaboration aided in their professional development as it guided them through a process of optimizing interprofessional service delivery.

Expressed emotions. The emotions the participants recalled or experienced were labeled simultaneous to the in vivo coding to explore the student's interpersonal interactions, particularly their social relationships, reasoning and decision-making (Saldaña, 2016). The emotions that accompanied their experiences throughout the community-engaged learning course were both positive and negative. The expression of positive emotions was most prevalent and diverse. Nine codes were used to label their broad spectrum including; happy, anticipating, enthusiastic, confident, pleased, at ease, optimism, motivated and amazed. Negative emotions were expressed less frequently and not by all participants. Nine codes were also used to label the negative emotions (disconnected, inadequate, doubt, unsupported, bored, frustrated, overwhelmed, anxious, and awkward). Three of these codes were removed during analysis because the recorded frequency was less than four, and the emotion was connected to an activity unrelated to the team learning experiences (inadequate, unsupported, bored).

I ran a code frequency analysis in MAXQDA to explore the emotions that existed at four distinct stages of the semester. Reflection assignments from the 5th, 7th, 9th, 11th, and 14th weeks were analyzed to identify the type and extent of emotions at four stages of the interprofessional socialization experience. Three of the stages (5th, 11th and 14th weeks) were selected to specifically view the emotions recorded in the written reflections at the same time the students completed the surveys. I also reviewed the emotions coded during the 7th and 9th week to gain perspective before and after the student teams were challenged to facilitate alternative virtual programming due to COVID-19 restrictions. Table 15 displays the results.

Table 15

Emotions Expressed in Weekly Reflections

Week	Week 5	Week 7	Week 9	Week 11	Week 14
Service delivery description	1st activity in person	3rd activity in person	1st activity virtually	3rd activity virtually	6th activity virtually
Emotion codes	frustrated awkward **confident** **pleased** **at ease** **optimism**	disconnected **happy** **enthusiastic** **confident** **pleased** **at ease** **optimism** **motivated** **amazed**	frustrated overwhelmed anxious **happy** **enthusiastic** **confident** **pleased** **at ease** **optimism** **motivated** **amazed**	**happy** **anticipating** **enthusiastic** **pleased**	**confident** **pleased** **optimism**

Note: Bold lettering signifies positive emotion. Regular lettering signifies negative emotion.

The emotions students expressed during the interprofessional education course are relevant to their socialization because they naturally exist and flow with the community-engagement taking place with the teams (Saldaña, 2016). Analysis of the emotions recorded during the study illuminated the participant's feelings and associated thoughts, but also provided insight into the underlying mood of the teams. As a point of example, a student explained their team members "were all having a rough and busy weekend" because it was midterms at the university and the week before spring break. Similarly, the teams all gathered the ninth week to reflect on team growth and discuss contingency plans due to COVID-19 restrictions. Consequently, elevated emotions were reported by students reflecting on the stressful time period. Emotions contributed to the team's

interprofessional socialization as indicated by the breadth and depth of emotion at time periods when the teams were most challenged and engaged.

Meaningful community-engagement. The student's desire and anticipation to make a difference in the community with a team, and knowing the impact of their service on the community contributed to interprofessional socialization throughout the course. The importance of meaningful community-engagement was evident at the very beginning of the learning experience. On the first day of class, the participants were asked to describe how they feel about student interprofessional teams supporting the needs of vulnerable populations in the community. The responses were prolific and overwhelmingly positive, recognizing the benefits for both the student and the community. For instance, a recreational therapy student responded by writing;

> I think having students support the community is a mutually beneficial relationship. It helps give students hands-on experience to build their professional and interpersonal skills. The community then receives extra, free services toward populations who may be lacking in volunteer support or financial funding.

Other students described the opportunity as "quintessential," "refreshing," and "unique;" "[setting] all of us up for future success." Interestingly, the students were also keenly aware of the potential long-term impact of meaningful community-engaged learning experiences. As one student explained, "healthcare as a whole is bettered from this, and vulnerable populations receive care they need." Anticipation with a community-engaged learning experience was expressed most clearly by the psychology student as she

described feelings of excitement “to see what kind of good that we can bring to the community.”

The spirit expressed in these early reflections continued throughout the semester as they represented what the learners enjoyed about the course. It was common for students to share their satisfaction for, “making a small change,” and “doing something for the clients…to address the mental needs.” The collaborative team approach was also significant to the students who expressed appreciation for “working in real time with other people in a team to reach a common goal,” and “build[ing] off each other [to] make a great day happen.”

Meaningful community-engagement was essential to their team socialization because contributing to the community while simultaneously developing their own skills mattered to all the students. They predicted personal and interpersonal growth gained through hands-on learning can improve overall community well-being. A participant summarized this perspective by explaining that by “creating familiarity with other residents and ourselves we have helped the community, making an impact.”

Evolution of Interprofessional Socialization

To address research question two, regarding the evolution of interprofessional socialization among the teams, I analyzed the participant’s weekly learning reflections to explore interrelationship between learning experiences and emotions. Additionally, I looked at the occurrence of communication content, and the frequency of words to describe team member backgrounds. Finally, I analyzed patterns with the participant’s

retrospective opinions of lessons learned throughout the course. An explanation of the analytic approach with coded data and the results are discussed.

Learning and Emotions. Three learning codes were used to represent stages in the learning process progressing through periods of unknowing, discerning, and knowing. The positive and negative emotions were coded as previously discussed. Throughout the course, students referenced periods of time that they were unaware or uncertain about their next steps to accomplish tasks with their team. These instances were coded as unknowing. The discerning code was applied to circumstances when students were becoming aware of the information needed or were perceiving a situation differently. As time progressed, there was evidence students were comprehending interprofessional practice competencies, and these instances were coded as knowing. The relationship between each stage of learning and emotions experienced was explored to gain perspective on how interprofessional socialization evolved among early learners. Table 16 displays quotes representing each stage of learning and the emotions closely associated with the learning experience.

Table 16

Learning Experiences and Associated Emotions at Each Stage of Learning

Learning	Example quotes of learning experience	Emotion
unknowing	"I didn't really know what to expect. So far it seems pretty exciting."	enthusiastic
	"It was a bit overwhelming to go over everything and hear terms I haven't before, but I'm sure I will get used to it."	overwhelmed motivated
	"I don't know what to do. I feel lost and insecure in my own skin. I think that I need to figure out what I need to do within the group."	awkward motivated
discerning	"Ideas may be challenged by group members coming from different academic backgrounds. I think it may be challenging for me if some group members do not have activity leading backgrounds, but it will also be a chance to take leadership."	optimism
	"I've enjoyed the challenges and difficulties associated with group work. It can be frustrating at times, but I know I'm learning essential skills that will help me in the future."	optimism
	"I care so much about wanting others to be heard that I tend to keep my opinions to myself. However, when it comes to working with a team for the benefit of a patient I do not feel as though this issue would remain. I understand that the patient and their overall health is important and would not let the peace-keeper inside of me stay quiet in order to avoid potential conflict."	optimism
knowing	"I was able to see that even with our success today there are still many things that need to be improved upon. I think we are good at compromise, using nontraditional medicine and have ethics during all interactions. I think we need to work on our communication, using all knowledge to create programs, and we are working on building trust with each other."	optimism
	"We come with different experiences and levels of knowledge. This helps us provide a well-rounded solution to the problems of our clients. Socialization changes individualistic ideals and formulates them into the collective whole that is representative of the team."	confident
	"My ability to adapt, be receptive of others ideas/opinions, and communicate has helped me significantly being a part of this team. Sometimes, I will build up an idea in my head and believe we will go about programming in a specific way. But, then, a team member will have a different opinion about how to approach the situation. In this instance, I have used the aforementioned skills change my approach and make sure everyone's ideas are being heard.	confident

At the early stages of the interprofessional learning experience, early learners were enthusiastic about the opportunity and were motivated toward personal growth. These feelings paralleled emotions associated with being uncomfortable with the new information and uncertain about their role within the team. As the community-engaged learning experience progressed, the learners experienced fewer negative emotions associated with the self and had a positive outlook on the potential for personal growth and improved team functioning. Students comprehended the interprofessional competencies and understood the need for continuous learning at the later stages of the learning process. Additionally, there is evidence some early learners gain confidence in their ability to contribute their skills while remaining open to integrating other ideas.

Communicating personal issues. To gain perspective on how the contents of team communication evolved among interprofessional teams, the topics discussed during meetings and huddles throughout the semester was explored. Participants were given prompts to discuss interprofessional team performance in ten reflection assignments (2, 4, 5, 6, 9, 10, 11, 12, 13, and 14). A full outline of specific weekly prompts is located in Appendix D. Participants explained personal issues, planning, problem solving, roles and responsibilities and quality of care are the subjects discussed among the teams. (code descriptions can be viewed in Appendix H). To examine the co-occurrence of conversational subjects, a simple code configuration in MAXQDA was generated with the five communication contents codes and ten documents. The results are displayed in Table 17.

Table 17

Co-occurrence of Communication Contents in Weekly Reflections

Weekly Reflection	Personal Issues	Planning	Problem Solving	Roles & Responsibilities	Quality of care
2				x	
4	x	x	x	x	
5	x	x	x	x	
6	x	x	x	x	x
9	x	x		x	
10				x	
11	x			x	
12		x			
13	x	x	x	x	x
14			x		

The topics of conversation among the interprofessional teams regularly involved discussions about designating roles and responsibilities, preparing for services, and adapting to unexpected situations. The quality of care provided by the team was discussed less frequently, primarily at mid-semester, and again toward the end. Interestingly, teams consistently engaged in discussions about personal issues or influences outside of client care that potentially could impact team functioning. Interprofessional team socialization progressed with consistent discussions about service delivery that included disclosure of personal issues.

The post focus group discussion illuminated the need for teams to regularly reveal and discuss personal information, such as feelings and thoughts related to current circumstances. This was paramount as the teams adjusted to the COVID-19 situation. When the students were asked about team functioning, they reflected on the struggles they had navigating personal issues in order to ensure smooth service delivery. The group

explained “different things would come up that we would like work through. It wasn’t always clear what was happening, but at the same time, like we knew what the end product needed to be so we could, like fill in for the other person.” The early learners recognized the critical need to make personal issues known, so the team could support each other, and minimize negative effects on team functioning. They learned that the team worked together best when they communicated with openness and honesty.

Perspectives on teamwork. Throughout the interprofessional education experience, students were prompted to reflect on what contributed to their team’s interprofessional socialization, what contributed to their ability to work on an interprofessional team, and what they enjoyed most about the Interprofessional Education and Community Health course. The various backgrounds among team members emerged as a factor contributing to IPS specifically, their understanding of teams and teamwork.

First, to explore how the participants perspectives on different backgrounds evolved during the semester, word clouds were generated to display word frequency. The word clouds, displayed in Figure 6, were generated in MAXQDA from the segments associated with the ‘different backgrounds’ code. Course documents from the first and second half of the semester were divided. Two separate word clouds were generated by removing irrelevant words, setting the minimum word frequency to seven, and limiting words displayed to twenty-six. The perspectives of different backgrounds among teams are displayed in Figure 6.

Figure 6

Perspectives of Different Backgrounds Among Teams

First half of the semester	Second half of the semester
	

The word clouds display an increase in the use of words associated with the collective team, such as us, our and together. Additionally, the words used to describe what contributed to their interprofessional socialization became more descriptive and reflective of team functioning over time; writing words such as experience, able, and strengths.

Second, a deeper examination of the content and context in the coded segments associated with the "different backgrounds" revealed students recognize when interprofessional teams "with diverse backgrounds and specific expertise work together, solutions arise quicker and more abundantly for any problems in these communities." They believe diversity within teams is "important because … people on the team can not only bring different things to the table, but also more creative solutions."

However, students were less cohesive with their perceptions about the value of past experience and knowledge to the team functioning. For instance, one student

perceived lack of knowledge and experience as an asset explaining that the "three of us had not had a lot of experience and the elderly population was something that we bonded over. We realized that we would have no team member to rely on, so we came together to figure out how to approach our facilitations." Whereas, another student recognized the potential barrier and benefit of different backgrounds:

> When I consider not only the different studies we are each in, but also the stage of life each of us was in, it makes sense why we were not always all on the same page. Diversity means different values, work ethic, goal setting, and backgrounds (among a plethora of other factors). However, diversity can also aid in the creation of something amazing. When people come from different backgrounds, they bring with them different ideas, experiences, and assets. It can be a really beautiful thing when a group comes together to help the community.

Perspectives on how different backgrounds contributed to teamwork evolved and differed among early learners during the community-engaged interprofessional education experience. Increased team socialization enhanced awareness of how different backgrounds can impact team functioning. The participants developed an understanding of the importance of integrating strengths and skills of individual team members, but also acknowledged the potential conflicts or struggles that can arise.

Lessons learned. To explore growth in knowledge among early learners, the participants were asked to identify six lessons they learned through participation in the course. The participants were first prompted to view Joy Doll's talk during a TEDx event titled, *Cultivating Collaboration in Health Care: The Journey of an Accidental Expert?*

(TEDxCreightonU & Doll, 2018). Nine participants completed the assignment during the thirteenth week of the course. The responses to this specific question were collected, and similar responses were grouped together. Four categories representing lessons learned emerged; team functioning was the most frequently cited lesson learned, followed by assertive communication, client service, and leadership skills. The knowledge areas, descriptive statistics and their descriptions are outlined in Table 18.

Table 18

Description of Lessons Learned

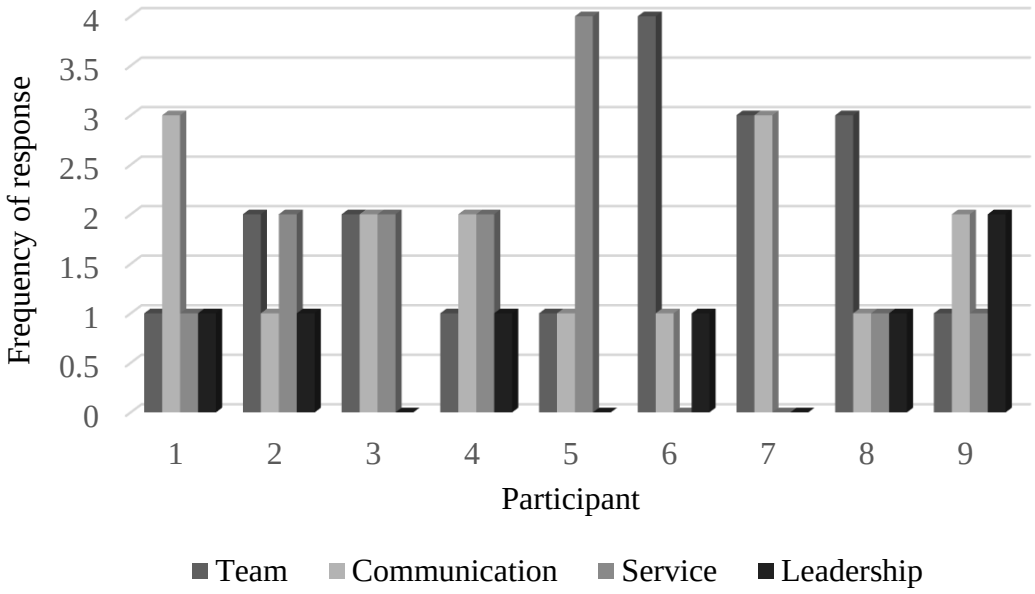
Lessons learned	M	SD	Description
Team functioning	2.00	1.00	Working together, creating relationships, empathy, respect for self and others, collaborative problem solving, valuing all roles
Assertive communication	1.78	0.75	Confidence in self, speak up, be bold, listen, advocate, ask questions, be vocal with making decisions
Client service	1.40	1.11	Developing plans, writing, leading interventions, knowledge of illness, disability and health, quality care
Leadership skills	0.78	0.60	Being organized, technology use, understanding purpose of work

A chart displaying the frequency of each lesson learned was generated to gain further understanding of the differences between the students and their interprofessional socialization experience (see Figure 7). The results reflect common lessons learned among the early learners with five of the nine participants indicating they gained knowledge in all four categories. Teamwork was the primary lesson learned followed by developing assertive communication skills. Students varied in their experiences gaining

knowledge with leadership and client services, which may be explained by their background, and experience.

Figure 7

Frequency Response to Lessons Learned



Combined Mixed Methods Data Results

The qualitative and quantitative results from both phases of the research study were combined to explore converging or diverging evidence and in order to answer the research questions. Significant quantitative results and salient qualitative findings were systematically compared and verified against each other to form the key findings discussed for each research question (Ivankova, 2015). The qualitative data provided a deeper explanation of quantitative data, and diverging evidence was not evident. Survey 2 correlation results, interprofessional socialization variables mean scores (low and high), and related qualitative categories, codes and quotes informed the mixed method meta-

inferences. A joint display of comparable quantitative and qualitative results previously examined is outlined in Table 19, and answers to the research questions guided by the meta-inferences are discussed.

Table 19

Joint Display of Mixed Methods Inference Results

Quantitative result			Qualitative result	Meta-inference
Correlation with ISVS-9B		*r*		
Experience			Diverse backgrounds	Different life experiences enhance teamwork
Overall		.72	"Each of us having our own set of unique experiences (dancing, formatting, yoga.) significantly contributed to our success."	
Fieldwork		.64		
Class activities		.75		
Flow				
Cognitive absorption			Challenges	Assigning roles contributed to team readiness
Overall		.65	"We made sure each one of us clearly knew what we were in charge of and was mentally prepared to be flexible for any unexpected circumstances."	
Met high demand		.63		
Understood role		.64		
Autotelic experience			Emotions	Meaningful activities are rewarding
Overall		.73	"Everyone was feeling that it was fun because we were learning about each other and laughing."	
Felt excited		.75		
Happy		.72		
ISVS-9B mean scores		M		
ISVS-9B 1			Collaborative assignments	Prep helps role clarity/mental preparedness
Aware of role	S1	5.09	"Learning the significance of being competent in knowing one's own role and responsibilities."	
	S2	6.46		
ISVS-9B 3			Authentic relationships	Team member engagement fosters trust
Team preference	S1	4.73	"Keep everyone involved to foster the openness and trust needed for a group to prosper."	
	S4	6.33		
ISVS-9B 5			Meaningful community engagement	Teams are motivated to make an impact
Team importance	S2	6.36	"I am excited to see what kind of good that we can bring to the community."	
	S4	6.78		
ISVS-9B 7			Communication contents	
Comfort with team	S1	5.91	"At the beginning, we were uncomfortable with each other … Once we were able to gain familiarity with each other, we [were] confident enough to share ideas."	Familiarity contributes to openness and confidence.
	S3	6.40		
Overall ISVS-9B			"My belief about teamwork started off in a place where I did not see it as always necessary. I believed that it was helpful, but I did not necessarily enjoy it fully. By the end of the semester, that belief had changed. I now believe that interprofessional collaboration is essential."	IPS evolves with flow experiences
Survey 1		5.49		
Survey 2		6.01		
Survey 3		6.20		
Survey 4		6.24		
Overall Flow				
Survey 1		5.18		
Survey 2		5.47		
Survey 3		5.70		

Note: S1 = Survey; S2 = Survey 2; S3 = Survey 3; S4 = Survey 4. *r* = Pearson correlation coefficient. M = Overall and variable mean scores.

Answering Research Questions 1a and 1b

My first research question asked, *what factors contributed to interprofessional socialization?* and the second portion of the question explored *why the factors contributed to interprofessional socialization?* Teams were socialized when challenged to lead meaningful health promotion activities in the community that required significant planning, role delineation and delegation. The opportunity to participate in meaningful activities was intrinsically rewarding for early learners and their socialization heightened when they engaged with each other authentically. They learned to improve their team functioning by making the best of their diverse backgrounds to deliver quality programming. IPS was also enhanced because of the shared novel opportunity for teams to grow their skills and learn the language and culture of a community. Additionally, the structured collaborative assignments facilitated deep involvement in the work as students learned from, with and about each other, both personally and professionally; developing interprofessional competencies.

These factors contributed to IPS because they fostered growth in confidence and trust among teams enhancing their ability to successfully and joyfully facilitate collaborative care. The challenging responsibilities associated with community-engaged learning ignited emotional reactions that created an environment ripe to develop relationships, and opened the door for teams to be forthright and compassionate with their interactions. When teams were able to optimize use of their assets, clarify roles, have fun together, ensure preparedness, establish trust and familiarity, and maintain motivation, they experienced the greatest level of IPS.

Answering Research Question 2

My second research question asked, *how does interprofessional socialization evolve among early learners in allied health academic programs through participation in a community-engaged learning course?* Early learners were continuously motivated and enthusiastic to learn through community engagement and also maintained a strong belief in the importance of working as a team. Their preference and comfort working as a team increased as they gained familiarity through engagement and established trust. Students expanded their understanding of teamwork because of the demands of collaborative service delivery; altering their views from previous educational experiences involving group work. Interprofessional socialization correlated with cognitive absorption and autotelic experience when teams reported being in their groove. They were at their peak of IPS when they were challenged, aware of their role on a team and deeply immersed with enjoyable experiences solving real-world problems in the community. Overall, IPS increased during their shared community-engaged learning experience and continued to grow beyond their time together. Preference working with an interprofessional team increased and this attitude was sustained long after they experienced optimal team functioning; described by a participant as, “becoming a well-oiled machine.”

CHAPTER FIVE

DISCUSSION

Summary

The purpose of this study was to explore the characteristics of an optimal community-engaged interprofessional learning environment that mobilizes interprofessional socialization. Interprofessional education, the process of learning from, with and about each other, is an essential step in preparing future professionals to work collaboratively, with the aim of improving community health (Gilbert et al., 2010). However, there is a lack of evidence-based, theoretically supported and contextually relevant strategies to facilitate high-quality graduated interprofessional education experiences (Lestari & Yuliyanti, 2018; Priest et al., 2008; Ross & Harris, 2005). Community-engaged learning is a viable and essential opportunity for groups of interprofessional early learners to be transformed into collaborative teams through real-world experiences. This mixed methods action research study involved an integrated analysis of teaching and learning practices pivotal to interprofessional socialization with early learners in a pilot community-engaged interprofessional education and community health course. The following research questions guided the study:

RQ1a. What factors contribute to interprofessional socialization?

RQ1b. Why do these factors contribute to interprofessional socialization?

RQ2. How does interprofessional socialization evolve among early learners in allied health academic programs through participation in a community-engaged learning course?

The innovative fifteen-week community-engaged learning course brought students together from different academic programs to develop their knowledge and skills working collaboratively in the delivery of health promotion activities. The course instituted theoretically-grounded and sustainable learning experiences integrating, experiential learning theory, asset-based and critical pedagogy, and flow theory. These theories laid the foundation for instructional techniques aimed at nurturing the benefits of experiential learning with a team-based approach, inspiring a community of hopeful learners through praxis, and promoting optimal engagement by facilitating challenging and meaningful health promotion activities. Eleven students from six different academic programs enrolled in the elective community-engaged learning course. The students were guided through a curriculum that included the following learning experiences:

- orientation to the course including health and safety requirements,
- orientation to the community partner; mission and goals for service,
- team identity activities, tools and strategies (strengths, charter, huddles),
- interprofessional competencies and social determinants of health,
- activity-based health promotion interventions,
- individual reflection assignments,
- collaborative evidence-based protocol assignments.

Serving the roles of researcher and instructor, I collaborated with faculty and staff from the Student Health Outreach for Wellness initiative to facilitate an Interprofessional Education and Community Health course designed for early learners. Initially, the students and faculty participated in fun team-building activities to develop relationships

and awareness of individual characteristics and group dynamics. Knowledge gained through these activities made it possible to thoughtfully divide students into three diverse teams based on their community partner interests, learning goals, logistical limitations, discipline, personality, and strengths. The teams were guided to deliver collaborative health promotion activities in the community by outlining roles and responsibilities on joint written assignments, adjusting plans based on instructor feedback, and reflecting on team performance immediately following the experience. Additionally, the study participants completed the Interprofessional Education and Activity-Based Learning survey four times and participated in two focus groups to share their background and experience with IPE, and their perceptions of the learning environment and interprofessional learning. The data collected from the reflections, surveys, and focus groups were systematically analyzed to answer the research questions.

Answering the first research question, three factors were identified; 1) diverse backgrounds, 2) meaningful community-engagement, and 3) challenging collaborative assignments contribute to interprofessional socialization. Early learners understand the benefits and risks associated with individual differences and learn to make use of assets to create a culture of collaboration; enhancing team functioning. Teams of students are motivated to improve community well-being and recognize the importance of collaboration to optimize the delivery of health promotion services. A series of scaffolded collaborative written assignments challenge students to contribute individual expertise, and assign responsibilities; contributing to their growth in mental preparedness and overall team readiness.

Answering the second research question, these three factors contribute to interprofessional socialization because 1) embracing differences ignites emotional reactions needed for teams to establish authentic relationships, 2) shared novel real-world experiences create a common ground to learn how to deliver team-based health promotion activities, and 3) challenging work forces teams to address conflicts, and adjust their approach accordingly. Teams learn to make the best of their resources, and regulate their positive and negative emotions when faced with challenges in a shared real-world experience.

Answering the third research question, interprofessional socialization among early learners evolves as team members retain positive attitudes toward community-engaged learning and the importance of interprofessional teams, and develop a preference and comfort to work with an interprofessional team. First, they sustain motivation to participate in CEL and maintain a strong belief in the importance of working as a team. Second, their understanding of interprofessional teamwork increases through enjoyable and challenging experiences, growing their comfort and preference working on interprofessional teams.

In this final chapter, implications for community-engaged interprofessional education are discussed, and practical teaching strategies pivotal to interprofessional socialization are outlined. The insights gained from this action research project 1) emphasizes the need for higher education to actively support university-community partnerships to advance IPE; positively impacting population health, 2) raises awareness of the sociopolitical benefits of establishing graduated interprofessional education

experiences to cultivate IPS, beginning with early learners, and 3) illuminates the pedagogical characteristics valuable to interprofessional socialization. Practical teaching strategies useful with community-engaged IPE are presented.

Implications

Community-engagement: Crucial Strategy for Interprofessional Education

The results of this study highlight key characteristics of teaching practices essential to enriching student learning experiences, advancing opportunities for interprofessional learning, and stimulating creativity and innovation. These three outcomes are representative of good teaching practices with engaged universities (Fitzgerald et al., 2012). Students who participate in community-engaged interprofessional education are enthusiastic, optimistic, and motivated by the transforming experiential learning process (Kolb & Kolb, 2013). This positive attitude runs parallel to feelings of discomfort during the initial unknowing stages of learning, and is retained as students discern interprofessional competencies; ultimately developing confidence and satisfaction with their accomplishments. The relationships built with each other and the community are the highlight of the learning experience; inspiring continued engagement. The learning environment challenges students to gain knowledge about the community, develop and deliver meaningful services while comprehending personal growth areas, navigating barriers to team communication, and negotiating roles and responsibilities. Participation in an interprofessional applied learning opportunity prepares students with team functioning skills; creating relationships, respect for self and others, empathy, collaborative problem solving and valuing team member roles.

Meaningful community-engagement matters to early learners who view it as quintessential, refreshing and unique in comparison to traditional classrooms. They are motivated by the opportunity to be creative and innovative as they collaborate to reach a common goal, building off each other to improve community health.

Opportunities for Community-engaged Learning

Community-engaged interprofessional coursework, designed for small interprofessional groups of students to deliver collaborative programming, combines the critical elements of service-learning (Celio et al., 2011; Holland, 2001; Weigert, 1998) while establishing an optimal IPE learning environment (Price et al., 2014; Stanley et al., 2016; Weiss et al., 2019) to promote interprofessional socialization. Notwithstanding the results of this study, previously published findings revealing positive learning outcomes (Celio et al., 2011; Chupp & Joseph, 2010), and alignment with the principles of engagement in higher education engagement (Boyer, 1996; Driscoll, 2008; Fitzgerald et al., 2012), there are "substantial pedagogical, political, and institutional limits to service-learning across the academy" (Butin, 2006). Specifically, Butin argues a viable service-learning pedagogy is needed to eliminate barriers for non-traditional learners, minimize power dynamics (e.g., students/teacher and classroom/community), and increase access to opportunities for marginalized students. The innovation's impact on interprofessional socialization among early learners suggests access to graduated interprofessional educational opportunities is beneficial to students from diverse backgrounds. Within the context of this study, the salient differences were with academics, interests, skills and talents, personalities, and past experiences.

Characteristics and Growth of Interprofessional Socialization

The capacity for interprofessional learning is immense through community-engagement because of students' inherent high level of enthusiasm for meaningful real-world learning experiences and positive attitudes towards the importance of teamwork. Learners are able to sustain their optimism and satisfaction with newly gained knowledge and skills when educators nurture a sense of belonging among teams and promote interprofessional competence; illuminating student strengths and connections (hooks, 2004; Ladson-Billings, 2014). Early learners develop confidence with interprofessional teams when individual and group assets are embraced and the relationship building process is nurtured (Seligman et al., 2009; Wenger, 1998). Critical factors associated with interprofessional socialization include the team's ability to openly and compassionately discuss personal issues that may impact team performance, and succinctly clarify roles and responsibilities. The need for formal and informal social groups for such critical dialogue is frequently cited as necessary to promote collective social responsibility (Freeman & Vasconcelos, 2010; Freire, 1970; Giroux, 2011). However, planned instructional strategies for important team communication is inadequate, and learners struggle to coordinate schedules outside of class time. Yet, early learners recognize the benefits of establishing trusting relationships and work to make the most of their diverse backgrounds to enhance team functioning. Their success is evident when teams find their groove; maintaining excitement for the future, using multiple forms of communication, drawing from their networks and navigating community-engaged service collectively.

Opportunities and Barriers to Interprofessional Socialization

Systematically designed and theoretically-grounded interprofessional education inclusive of students from different academic disciplines is a challenging endeavor, however, it lays a strong foundation to cultivate positive interprofessional socialization (Barr, 2013; Clark, 2006; Divall et al., 2014; Hutchings et al., 2013), and minimizes the negative effects of an uniprofessional approach (Khalili et al., 2013). As evidenced by this action research, early learners maintain a strong belief in the importance of working as a team, gain understanding of their role on a team and comfort working as a team, expand their understanding of teamwork, and continuously grow their preference working on a team. The challenge facing higher education programs is to establish quality interprofessional education coursework accessible and meaningful to all learners; integrating profession-specific learning outcomes guided by individual accreditation standards, and interprofessional core competencies established by the Interprofessional Education Collaborative (2016). As noted earlier, the complexity of service-learning coursework adds a layer of complication; creating a seemingly impossible scenario with the long-standing model of silo education (Arndt et al., 2009; Morgan, 2017). However, a series of graduated interprofessional courses designed to promote socialization can eliminate scheduling barriers, minimize power differences, and promote access and engagement with all students.

Practical Application

Interprofessional Pedagogical Strategies

In this section, I will share insights gained from the study about the pedagogical characteristics pivotal to interprofessional socialization and offer practical applications. Differences and alignments with the pedagogical characteristics associated with experiential learning, asset-based and critical pedagogy and conditions of flow are discussed. Recollect, a chart outlining the comparisons was presented in Table 1 at the end of Chapter Two. As a reminder, the aim of this action research was to explore team socialization with the hope of illuminating specific teaching and learning practices that cultivate socialization among teams. The target population was early learners thus exploring a group of learners who were at the initial stages of developing their professional identities. The methods of analysis focused specifically on interprofessional socialization among teams, however, the findings captured some indications of personal growth in the process of forming a dual identity (Khalili et al., 2013). Several teaching techniques are presented for use with community-engaged interprofessional education, and suggests application with students prior to establishing solid uniprofessional identities. Faculty and administrators implementing IPE with the community can enhance the learning environment through 1) purposeful community partnerships, 2) structured collaborative writing assignments, 3) intentional conversations, and 4) welcoming cultural assets.

Purposeful community partnerships. Interactive interprofessional experiences with a community-engaged course is linked to higher levels of interprofessional

socialization, particularly when learners feel they are able to meet the high demands of the situation, understand their role, and feel excited and happy with their engagement. These results can be explained by the integration of Kolb's experiential learning theory that posits concrete experience represents the critical first stage in the learning cycle (1984). Likewise, critical social theory also suggests learning beyond the classroom is an essential element to culturally relevant pedagogy (Ladson-Billings, 2014). A variety of theorists support the notion that direct hands-on experience solving real-world problems positively impacts learning, and service-learning scholars have gone to great lengths to delineate the outcomes (Celio et al., 2011; Chupp & Joseph, 2010; Holland, 2001).

However, it is important for the purpose of establishing IPE pedagogical strategies to gain more understanding of why interprofessional socialization occurs while actively engaged with the community. Kolb's theory explains effective learning occurs when the student experiences all four stages including reflective observation, abstract conceptualization and active experimentation; outlined in Figure 1 located in Chapter Two of this dissertation. Therefore, it is essential to integrate reflective practices, and opportunities to explore ideas and test out new approaches to service in IPE. Additionally, Csikszentmihalyi's Flow Theory (1990) introduces the notion that challenging work slightly above skill level facilitates optimal engagement. Learners are at the height of socialization when they experience cognitive absorption and autotelic experiences; two conditions of flow. Interprofessional educators guiding IPE need to recognize these essential elements, and be thoughtful with their selection of community

partners to ensure the planned health promotion experiences are appealing and at or above the level of the learners.

Collaborative writing assignments. Written assignments completed cooperatively are useful tools for teams to record individual resources, outline program plans, and establish roles and responsibilities. Writing collaboratively guides students through the process of creating knowledge and relearning (Kolb & Kolb, 2013), and facilitates interprofessional competence. A feedback loop associated with writing assignments creates a space for instructors to offer constructive criticism. Learners can return to team-created artifacts periodically throughout community-engaged learning to critically evaluate their work and fine-tune content. Multiple forms of shared iterative written work can serve as a bridge to enable graduated learning; a criteria essential to culturally relevant pedagogy (Ladson-Billings, 1995).

Assignments requiring teams to write collaboratively can be a catalyst to interprofessional socialization, particularly when they include distinct objectives and opportunities for re-evaluation. Furthermore, the team's effort writing clear goals and procedures for interprofessional service can facilitate optimal engagement and promote flow experiences (Csikszentmihalyi & Bar, 1990). For instance, developing evidence-based protocols for activity-based therapeutic interventions establishes a step-by-step guide for teams, outlining specific roles and responsibilities. Establishing a team charter is another curricular strategy for teams to record their knowledge, skills, background, experience and dispositional characteristics potentially beneficial to team functioning. Additionally, it can be used continuously by the team to clarify its purpose, communicate

ideas, delineate roles. As with all collaborative written assignments in an interprofessional learning environment, the documents must be dynamic. Interprofessional educators need to integrate touch points for teams to revisit their work to develop and adapt; recognizing knowledge is not static, and team collaboration thrives when members draw from their collective strengths and understand their roles.

Intentional conversations. Early learners are committed to interprofessional teamwork and recognize the importance of communication to their success. They need support establishing methods of communication and guidance to consistently communicate both personal and professional information important to team functioning. First, teams experience challenges with communication planning as they work to identify the strategy and time for team interactions. Ideally, instructors and learners establish in person formal meetings (e.g., team meetings or huddles), and create informal gatherings (eating meals or commuting together). However, these methods can be inadequate or untimely. It is common for students to use various additional forms of communication (e.g., phone calls, video conferencing, and texting) to address the gap, and it takes time to establish the approach that works best for all team members including preference and availability. However, determining strategies for communication is only a portion of the process. The second layer to establishing quality communication is for teams to develop confidence and competence systematically discussing information relevant to the outcome of their programs including personal (e.g., health and family matters), and professional (e.g., planning care, roles and responsibilities, and problem solving) information.

Learners new to community-engaged interprofessional education encounter team challenges (outlined in Table 14) associated with interprofessional competencies and personal abilities. They begin their experience believing they have the competence to contribute meaningfully to the team, however, they gain new awareness of the knowledge and skills they actually need; causing feelings of discomfort and anxiety. They go through a process individually and as a group struggling to communicate their ideas and questions, regulate emotions and temperament, establish professional connections to the work, and contribute their unique expertise. Pedagogical strategies (e.g., modeling, mentoring, and interactive learning experiences) are helpful to support students as they develop confidence and assertiveness during team interactions. However, they need to be guided to establish a system of intentional conversations, and supported to develop courage and ability to discern how and when to disclose essential personal and professional information necessary to optimize collaborative team functioning.

Welcoming cultural assets. Community-engaged interprofessional education alters learner's perspectives of teamwork and nurtures their comfort working with teams by embracing individual characteristics and life experiences. Interprofessional practice is not simply group work. This is a critical lesson among early learners who are accustom to the common and often dreaded curricular assignments known as *group projects*. Team building activities often used in IPE (e.g., True Colors, Myers-Briggs, life raft exercise, and IPE Pictionary) help learners gain awareness of personality differences and similarities, and attitudes toward other professions. These instructional techniques also facilitate group problem solving; giving learners a first look at interprofessional team

functioning. However, when teams begin to experience significant challenges in the real-world, getting to know the community, planning and delivering programs, they need deliberate guidance to embrace their individual resources and cultural backgrounds to collectively negotiate team roles and responsibilities.

Interprofessional educators can draw from transformative learning theories as they aim to produce autonomous specialists (Kolb & Kolb, 2013). Encouraging individual cultural experiences and characteristics into the learning environment with early learners introduces a scaffolded approach to critical conversation. For instance, in the program associated with this study, students enroll in three courses that build on one another. These courses are intended to engage students in critical and culturally relevant dialogue, going deeper over time. Initially, students can draw from their own knowledge and skills; such as values, traditions, language, manners of interacting, and learned behavior to contribute to team functioning. As they progress through IPE coursework experiencing success with interprofessional teams, gaining cultural competence, and enhanced sociopolitical consciousness; learners can develop competence for critical dialogue (Ladson-Billings, 2014). Asset-based pedagogical strategies (e.g., writing prompts, huddle guidelines, and creative assignments), and immediate feedback provided by multiple mentors (e.g., instructors, preceptors, and community partner supervisors) can guide learners to recognize how their cultural wealth (e.g., aspirational, linguistic, social, navigational, familial and resistant) influences their educational experience (Yosso & Burciaga, 2016). Icebreakers and creative assignments, such as the impact project described in Appendix C can encourage learners to identify and contribute their cultural

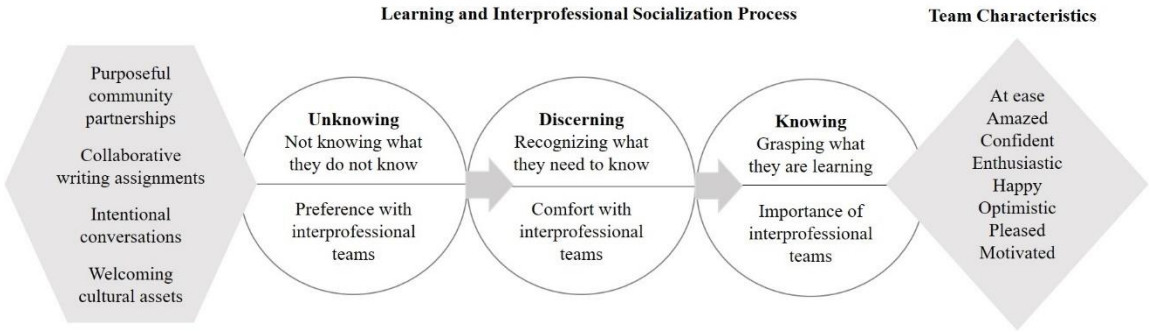
assets to the team (e.g., language, networks, creative talents, ambitions, religious, and cultural understandings). Intentional strategies need to be imbedded throughout the interprofessional experience to cultivate assets and illuminate the worth of cultural experiences, knowledge and skills, often excluded from the learning environment.

Summary of Pedagogical Strategies Pivotal to Interprofessional Socialization

Four pedagogical strategies pivotal to interprofessional socialization have been presented: 1) purposeful community partnerships, 2) collaborative writing assignments, 3) intentional conversations, and 4) welcoming cultural assets. These suggestions are based on insights gained from the social-context of this action research study, experiential learning theory, asset-based and critical pedagogy, and flow. The recommended approach was derived from a unique context, and therefore is not generalizable. However, the teaching strategies can be used as a guide for individuals and institutions advancing IPE to consider graduated community-engaged learning as a viable approach to socialize learners as they prepare to work collaboratively. The teaching strategies are helpful considerations when guiding early learners through a cyclical and flow-like process of first gaining an understanding of the realities of interprofessional teamwork, and improving their preference to engage with teams. Second, establishing an environment where students are able to discern what they need to know and do to develop comfort working with a team. Finally, reinforcing their beliefs in the importance of interprofessional teams. Figure 8 outlines the interprofessional teaching strategies useful to the interprofessional socialization process aimed at establishing experiences where groups of learners demonstrate characteristics of a team in flow.

Figure 8

Pedagogical Strategies Pivotal to Interprofessional Socialization



Limitations

The results from this mixed methods action research study should be considered in light of three possible limitations. First, my positioning in the study as both the researcher and the instructor may have influenced the data collected and analyzed. Although extensive strategies were integrated into the methodology to minimize the power differences in the close researcher-participant relationship, I believe my vulnerabilities and the participant's 'inferior' positioning manifested itself in both tangible and intangible ways. I was highly dependent on the participants' reported experiences and found myself feeling acutely concerned with competing agendas; my desire to facilitate a high-quality learning experience, and my need to collect data. Adding to the pressure, the COVID-19 pandemic happened and I was accountable to commitments with our community partners; potentially impacting how I guided learners with their service delivery. As a result, the relationship between myself and the students may have been strained particularly if my behavior reflected my stress. To protect the

students from the negative effects of power differences, the students were informed that their participation was voluntary and would not impact their grade, two instructors provided feedback and guidance, course evaluation was heavily weighted with group assignments, emphasis was given to mastery learning, and a positive learning environment was created. Nonetheless, the recreational therapy students for instance, may have had concerns that I would be their instructor with future courses, and may have shared information in their reflections with the intent to please me. This may have impacted how they responded to prompts requesting feedback on course design and supports needed to nurture interprofessional socialization. My analysis of the factors contributing to IPS and my perceptions of how students evolved may have been limited by the relationship dynamics between the researcher and the researched.

Second, incomplete data collection limited my ability to conduct the planned approach to analyze participant's experiences with interprofessional socialization. I intended to conduct team observations guided by the Interprofessional Team Observation Tool. The purpose was to use the data to crosscheck information collected from the students self-reported beliefs, behaviors and attitudes. Restrictions associated with the COVID-19 pandemic limited the number of observations, and therefore the incomplete data was not included in the final analysis. However, the structured observation tool did contribute to the study by providing the two course instructors with talking points during our weekly team discussions. The deliberations about participant behavior helped inform teaching strategies. For instance, we observed students not performing their roles and appearing disorganized as a team. This type of information was not consistently reported

by all team members in their reflections. I responded by enhancing instructional techniques; modeling, and prompting huddle conversations to address issues impacting participant performance. Throughout the data collection period, faculty conversations continued and factors contributing to interprofessional socialization were documented in the researcher's reflection notes in lieu of recorded observations. However, the systematic analysis would have provided additional clarity when comparing reflections and behavior related to interprofessional socialization.

Finally, the third possible limitation to discuss with this action research is the inherent bias of a convenience sample, the sample size, and the duration of the study. The participants enrolled in the course were under-representative of several sociodemographic groups (e.g., race, academic discipline, and gender) limiting analysis of difference between subgroups. The low number of participants and lack of time to re-evaluate student perceptions after five months limited the use of more complex quantitative calculations to relate variables and describe trends. The aim of this MMAR was to explore interprofessional socialization among early learners for the purpose of practical application. The results collected from the small sample size cannot be generalized. However, the exploratory study made it possible to make improvements on the innovation, and prepare for future research.

Future Research and Concluding Thoughts

In this action research study, I explored the teaching and learning factors that contribute to interprofessional socialization in an innovative, theoretically-grounded pilot course aimed at advancing community-engaged interprofessional education. The study

results emphasize the value and importance of unearthing contextually relevant and supportive IPE pedagogical approaches to guide interprofessional socialization. Future research opportunities are plentiful as stakeholders work to implement quality interprofessional education as a strategy to improve community well-being. This study builds on existing research to illustrate the evolving evidence that learners develop collaborative skills and improve their attitudes toward one another through IPE (Reeves et al., 2016), and mounting literature supporting the need for universities to expand and coordinate IPE through the continuum of learning (Herath et al., 2017). Guiding documents are available to provide health professions education and training programs with plans to develop and implement quality IPE (Weiss et al., 2019), however, more studies are needed to identify useful pedagogical practices to teach teamwork skills (Fox et al., 2018), and specifically integrate interprofessional socialization with other academic disciplines and community contexts (Khalili et al., 2013).

Additional research in different contexts (i.e., rural areas, national and global regions, small colleges, and diverse demographic characteristics), and with representative samples of interprofessional learners is needed to continue to establish a theoretically-grounded pedagogy that results in learners prepared to lead and participate in collaborative interprofessional teams. This requires rigorous analysis of learner perceptions and behaviors with IPE competencies, and pedagogical factors that contribute to team interprofessional socialization. Specifically, the impact of flow and its sub-constructs on interprofessional socialization with a large sample size. Longitudinal studies would also be beneficial to evaluate the evolution of interprofessional

socialization; assessing students and professionals throughout interprofessional education and practice experiences.

Finally, research on interprofessional education and community-engaged scholarship must be a priority to universities and communities. There is growing evidence to support the need to prepare learners with competencies for interprofessional collaborative practice and it is essential all stakeholders (e.g., institutional leaders, faculty, and community members) embrace the important responsibility (Health Professions Accreditors Collaborative, 2019). The knowledge we need to know to improve community well-being through interprofessional collaboration requires critical conversations, intensive instructional planning and rigorous research. Interprofessional scholars, educators and community members need to be supported in their commitments to communities of practice aimed at breaking down silos and bridging the gap between quality education and healthier communities.

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APPENDIX A

INTERPROFESSIONAL EDUCATION & COMMUNITY HEALTH COURSE SCHEDULE SPRING 2020

Week	Location	Learning Activity, Content & Assignments
Week 0	E-Learning	Course Orientation & Preparation • Health and safety requirements • SHOW orientation • Pre-requisite paperwork
Week 1 1/13/20	Seminar	Individual and Team Identity • IPEC Competencies (Roles/Responsibilities, Teamwork & Communication) • Strengths assessment/Reflection assignment
Week 2 1/27/20	Seminar	Individual and Community Health • Social Determinants of Health • Activity-based interventions • Establish team charter/Reflection assignment
Week 3 2/3/20	Seminar	Orientation to Community Partners • Health promotion program plan • Team evidence-based protocol/Reflection assignment
Week 4 2/10/20	Service Site	Health Promotion Protocols • Team huddle • Roles & Responsibilities • Team evidence-based protocol/Reflection assignment
Week 5 2/17/20	Service Site	Population Heath • Population Health (social/emotional) • Team evidence-based protocol/Reflection assignment (Survey 1)
Week 6 2/24/20	Service Site	Assessment & Relationships • Assessment & Relationships • Team evidence-based protocol/Reflection assignment
Week 7 3/2/20	Service Site	Population Health • Population Health (physical) • Team evidence-based protocol/Reflection assignment
Week 8 3/9/20	Online	Assertive Communication/Problem Solving • Assertive Communication/Problem Solving • Team evidence-based protocol/Reflection assignment
Week 9 3/16/20	Seminar	World Café • Large group reflection (focus group 1) • Student wellness activity
Week 10 3/23/20	Service Site	Population Health • Population Health (cognitive) • Team evidence-based protocol/Reflection assignment
Week 11 3/30/20	Service Site	Sociocultural Characteristics • Cultural Characteristics • Team evidence-based protocol/Reflection assignment (Survey 2)
Week 12 4/6/20	Service Site	Population Health • Population Health (community/leisure) • Team evidence-based protocol/Reflection assignment
Week 13 4/13/20	Service Site	Collaborative Practice • Collaborative Practice • Team evidence-based protocol/Reflection assignment
Week 14 4/20/20	Service Site	Impact Project • Team evidence-based protocol/Reflection assignment (Survey 3)
Week 15 4/27/20	Seminar	Individual, Team & Community Impact Presentations • Synthesis paper

APPENDIX B

INTERPROFESSIONAL EDUCATION COMMUNITY-ENGAGED LEARNING

LETTER OF CONSENT

Dear Students,

My name is Kelly Ramella, and I am a doctoral student in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Carrie Sampson, a faculty member in MLFTC. I am interested in learning about teaching and learning strategies with interprofessional education and I am conducting a research study to explore how community-engaged learning contributes to interprofessional socialization among allied health students.

I am asking for your help, which will involve your consent for me to analyze your written assignments and observations of team performance in the Interprofessional Education and Community Health course. Additionally, I request that you participate in two focus groups and complete a survey three times during the semester and one more time five month later. The information gained from the analysis will be used to develop and refine teaching and learning practices.

The assignments you complete in the course will be collected at the end of the semester for analysis. No additional work is required. The first one-hour focus group will occur at midterm during the semester and the second focus group will occur in September 2020. Student oral reflections on their learning experiences will be recorded during the focus group. The survey includes background information (academic level, educational discipline, level of exposure and understanding of IPE, age, gender, and race), your beliefs, behaviors and attitudes toward interprofessional education and your experiences and perceptions learning with a team in the community. I anticipate the surveys will take five minutes.

Your participation in this study is voluntary. If you do not consent to the study, your assignments will not be collected for analysis, background and demographic information will not be collected, your responses to the surveys and comments during the midterm focus group will not be included in the analysis. Your behavior during the team performance observations will not be recorded on the check sheet and not analyzed. If you choose not to participate or withdraw from the study at any time, there will be no penalty whatsoever and your choice will not affect your grade in the course or your standing at ASU. You must be 18 years of age or older to participate in the study. The benefit to participation is that you will have an opportunity to reflect on and consider the questions and your responses. Your responses will be confidential. Identifiers will not be attached to the assignments, survey, focus group transcripts or observations.

Results of this study may be used in a dissertation, reports, presentations,
and publications but your name will not be known.

If you have any questions concerning the research study, please contact the research team: Carrie Sampson csampso4@asu.edu or (602) 543-2820, Kelly Ramella at Kelly.Ramella@asu.edu or (602) 496 -0158.

Thank you,

Kelly Ramella, Doctoral Student

Carrie Sampson, Assistant Professor

If you have any questions about your rights as a participant in this research, or if you feel you hav e been placed at risk, you can contact Carrie Sampson csampso4@asu.edu or (602) 543-2820 or the Chair of the Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

APPENDIX C

INTERPROFESSIONAL EDUCATION AND ACTIVITY-BASED LEARNING SURVEY (IPEABL)

Introduction

Thank you for agreeing to participate in the study on interprofessional education and community- engaged learning. Your participation will assist with understanding the teaching and learning strategies that contribute to interprofessional socialization. Participation is voluntary and the survey is will take approximately 5 minutes. Your responses will be confidential. You may choose to withdraw from the study at any time. There will be no penalty whatsoever and your choice will not affect your grade in the course or your standing at ASU.

If you have any questions concerning the research study, please contact the research team — Carrie Sampson csampso4@asu.edu or (602) 543-2820, Kelly Ramella at Kelly.Ramella@asu.edu or (602) 496 -0158.

Thank you again for your assistance.

Do you consent to participate in this research project?

- Yes

What is your first name?

What is your last name?

Learning Environment

Carefully read each sentence and respond to each statement using a 7-point scale with 1 meaning "strongly disagree" and 7 meaning "strongly agree." Select the number that you feel best fits the experience you recently had with a group of students in a community-engaged activity.

1 - strongly disagree
2 - disagree
3 - somewhat disagree
4 - neither agree or disagree
5- somewhat agree
6 - agree
7 - strongly agree

- I was able to meet the high demands of facilitating the group therapeutic activity.
- I felt like my contributions to the activity were under my control.
- I knew my role with every step when facilitating the group therapeutic activity.
- Time flew by when facilitating the group therapeutic activity.
- I felt like time flew by fast when facilitating the group therapeutic activity.
- I didn’t notice the time passing when facilitating therapeutic activities.

- I didn’t care about what the other students were thinking of me when facilitating the group therapeutic activity.
- I didn’t fear the judgement of other students when facilitating the group therapeutic activity.
- I was not worrying about what the other students were thinking about me when facilitating the group therapeutic activity.
- I had the feeling of living a moment of excitement.
- This activity made me happy.
- When I talk about this activity, I feel joy and I want to share it.

Interprofessional Learning

Consider where you feel you are right now after the group activity in the community. Please indicate the degree to which you hold or display each of the beliefs, behaviors, and attitudes that are described using a 7-point scale with 1 meaning "Not at All" and 7 meaning "To a Very Great Extent." Please respond by selecting the one number that you feel best fits your experience. If you feel the statement does not apply to you, please use the zero value (0).

1 - not at all (none)
2 - to a very small extent
3 - to a small extent
4 - to a moderate extent
5- to a fairly great extent
6- to a great extent
7 - to a very great extent
0 - not applicable (no experience)

At this point in time, based on my participation on a team with community-engaged activity-based interventions

- I have gained an enhanced awareness of my own role on a team.
- I feel comfortable being the leader in a team situation.
- I see myself preferring to work on an interprofessional team.
- I have a better appreciation for the value in sharing research evidence across different health professional disciplines in a team.
- I believe it is important to work as a team.
- I am able to negotiate more openly with others within the team.
- I feel comfortable being accountable for the responsibilities I have taken on.
- I have gained a better understanding of the client’s involvement in decision making around their care
- I feel comfortable in clarifying misconceptions with other members of the team about the role of someone in my profession

Background Information

What academic level best fits your status right now? *

- Undergraduate student
- Masters student

- Doctoral student
- Non-degree seeking student

What is your primary educational discipline? *

- Music therapy
- Nonprofit management
- Nursing
- Nutrition
- Occupational Therapy
- Pre-medicine
- Public/Community Health
- Recreational Therapy
- Recreation and Sports
- Social Work
- Other:

How often have you participated in each of the following interprofessional education experiences? (learning from, with and about students from other allied health disciplines)?

- Attend special events designed for interprofessional education
- Conferences/Workshops/Seminars on the topic of interprofessional education
- Special learning activities designed for interprofessional education
- Fieldwork experience/Practicum/Internships/Employment
- Classroom activities/projects with students in other majors
    - None
    - Occasional
    - Some
    - Significant

How do you rate your understanding of interprofessional education?

- No understanding. I have not heard of interprofessional education.
- Some understanding. I know what is meant by interprofessional education.
- Good understanding. I can list the four interprofessional competencies.
- Excellent understanding. I can practice the interprofessional competencies.

What is your age?

What is your gender identity?

- Female
- Male
- Transgender Female
- Transgender Male
- Gender variant/non-conforming
- Prefer not to answer
- Other:

What is your race (select all that apply)?

- American Indian or Alaska Native
- Asian
- Black or African American

- Hispanic or Latino

o Native Hawaiian or other Pacific Islander
o White
o Prefer not to answer
- Other

Details for Order #45659

Order Details

Order	Order #45659
Order Date	Oct 29, 2019 10:46 PM
Offering Price	$ 0.00
Offering Handling Fee	$ 0.00
Project	Interprofessional Socialization and Valuing Scale (ISVS)
Offered By	Holland Bloorview Kids Rehabilitation Hospital
Contact Information	gking27@uwo.ca

Cart

	Quantity	Price	Sub Total
Interprofessional Socialization and Valuing Scale-9 (ISVS-9A and ISVS-9B)	1	0.00	0.00

Agreed Licenses:
ISVS License (Revision: 1)
Nov 13, 2018 6:42 PM

Total 0.00 CAD

Components

Component	Download
ISVS-9A (Equivalent Form A) Scoring Instructions	Download
ISVS-9A (Equivalent Form A)	Download
ISVS-9B (Equivalent Form B) Scoring Instructions	Download
ISVS-9B (Equivalent Form B)	Download

Address Information

No Address Information

Payment Details

No Payment Information

Delivery Information

No Delivery Information

APPENDIX D

WEEKLY REFLECTION PROMPTS AND ACTIVITIES

Week	Reflection prompts and activities
1	• Describe your learning experience today. (thoughts, feelings, interactions). What did you anticipate and how was it the same or different from your expectations? What are your goals to prepare for next week? • Describe both personal and professional attributes you can contribute to a team. Refer to the results of your True Colors assessment. • How do you feel about student interprofessional teams supporting the needs of vulnerable populations in our community? • What were your impressions of the IPE learning material? Why is IPE important? Why might it be challenging?
2	• Describe a situation where a person developed learned helplessness as a result of health challenges. (You can draw from personal or professional experience) What factors influenced the feeling of helplessness? How can allied health professionals address these factors in general, and what can your team do to address learned helplessness among vulnerable populations? • Discuss your thoughts and feeling about your team. What opportunities and challenges do you anticipate? • How can the team charter guide and support your team? • Do you have any questions or concerns about the expectations of your team?
3	• What factors impact the health and well-being of the clients served by the community partner? • What ideas do you have for your team to support the agency's mission? What can you contribute to the health promotion programs? • What are you excited about with this learning opportunity? What questions or concerns are on your mind after meeting with the community partner?
4	Reflect on this week's quote: "The greatest medicine of all is to teach people how not to need it" Hippocrates • How did you and your team use evidence and individual resources to guide the development of your health promotion program protocol? List resources, search engines, library information and key words used to locate literature. Compare and contrast your team protocol to the sample protocol. What will you add/edit with your protocol now that you have seen the program in action? • What resources and supports contributed to your team's success this past week? What needs to happen for your team to improve its collaborative approach? Review the elements of successful team huddles. What are your team's areas of strength and growth? • What are your goals and plans for next week and how will you and your team to prepare for the next health promotion intervention?
5	• Describe any observations, interactions or thoughts you had today regarding the importance of interprofessional practice? • What were the positive outcomes of your team huddle today? What additional questions or concerns do you think needed to be discussed? What actions can you take to address the issues? • Explain why it is important for allied health professionals to gain information contained in the Patient Activation Measure • How can this information be used to empower clients to actively engaged in a healthy lifestyle? • Based on your experiences with community health thus far, what opportunities and barriers exist to providing comprehensive, integrated and responsive mental health and social care services in community-based settings? Reference knowledge gained from the Patient Activation Measure, Mental Health Action Plan and statistics from the Mental Health

	America. Summarize the content of your team's pre and post huddle. Use the huddle guide to structure your summary. Was there any information not discussed that needs to be included next week? • SURVEY
6	• Describe any observations, interactions or thoughts you had today regarding the importance of interprofessional practice? • What were the positive outcomes of your team huddle today? What additional questions or concerns do you think needed to be discussed? What actions can you take to address the issues? • What insights did you gain about yourself and your team's communication after rating your openness for collaboration, information and discussion? Share an example of how your team has either been successful with communication or has been hampered. • Are you maximizing your contribution to the team? If so, describe how you have communicated your role with the team and contributed your knowledge and skills. If you have not yet maximized your potential, what will you do to communicate and share what you have to offer? • Team members and individuals in the community benefit from empathetic listening. Write three statements you will use in our practice to facilitate empathy: 1 query, 1 clarifying statement and 1 response
7	• How has your team made an impact with the community program and its members? • What contributed to your team's performance this week? If your performance is not at the level that you would like it to be, what barriers are preventing team performance and what support does your team need to strengthen its impact with the community program. • Discuss three physical limitations you have observed with the community members in your health promotion program. Describe three strategies your team has used to intentionally plan to accommodate for physical limitations and promote the highest level of independent engagement in your programs? • What social determinants of health influence the participants in your programs? (reference the video content directly)? Identify two research project ideas you have that will improve our understanding of determinants of physical activity participation and behaviors across the lifespan? (refer to research topic for details)
8	• Select one of your previously completed evidence-based health promotion activity protocols to update. Improve on the protocol by citing additional literature and integrating information you learned by leading the program. All students in the team are expected to contribute to the improvements and updates to the protocol.
9	• How has community-engaged learning contributed to your team's interprofessional socialization? • What has contributed the most to your ability to work on an interprofessional team? • What have you enjoyed most about the Interprofessional Education and Community Health course? • What has been the greatest challenge for your team to provide meaningful health promotion activities? • How can the SHOW faculty support your community-engaged learning experience? • FOCUS GROUP
10	• Share four connections you made with the article about communication with vulnerable populations regarding a pandemic to the clients you are serving in this course. Describe four strategies you feel are important to support your clients as a team during the pandemic? • How has social distancing impacted your teamwork and how do you feel about the strategies and plans your team is using to plan and implement services remotely? What can be done to optimize your performance?

11	• How did Rebecca Onie's Ted Talk resonate with you? Explain how it reinforced your perspectives and/or gave you new insights. Share two ideas on how your team can use accessible resources to support clients and reduce risks to health. Reference the components of each of the five domains (Links to an external site.) of SDoH to guide your response. • Share a highlight of your experience working with your team to prepare Protocol 6. • SURVEY
12	• Reflect on the role you and your team has had promoting health through activity-based interventions. Describe the benefits of this service for you, your team and the individuals in the community. • What ideas do you have for future health promotion activities that embrace leisure interests and increase individual and community well-being? (Review the model used in social and therapeutic horticulture (Links to an external site.) as an example). Discuss four benefits of the activity-based program you envision. • Describe how different professions can contribute to increased engagement in the community and participation in leisure to promote health. (Discuss at least 4 different professional roles) • How do you see yourself contributing to health promotion?
13	• Write a summary of your contributions to your team's tasks for this week. Explain what has gone well with the work your team is doing and what gaps or barriers need to be addressed. • Write an overview of relational coordination (RC) and share an example of how your team has exemplified RC, and an area that your team could improve over time. How can interprofessional community-engaged learning facilitate the development of RC with interprofessional student teams? • According to Amy Edmondson, what three things can a team do to create psychological safety? What experiences have you and your team had with these attributes? What facilitated and/or inhibited psychological safety with your team? • Joy Doll shares six lessons she has learned working with interprofessional team-based care in her Ted talk. What six lessons have you learned from your experience in this class?
14	• Write a summary of your contributions to your team's tasks for this week. Explain what has gone well with the work your team is doing and what gaps or barriers need to be addressed. Include reference to the outcome of your work this week. (link to document, video, etc) • What is your reaction to this week's quote: "It is the long history of humankind (and animal kind, too) that those who learned to collaborate and improvise most effectively have prevailed." – Charles Darwin o Do you agree/disagree? What words of wisdom would you add to the quote and why? • Watch the ANTS video. What threatens and cultivates team unity? What needs to happen among teams to strengthen the health of our communities? • SURVEY
15	<u>Final Synthesis Paper:</u> Reflect on the interprofessional competencies and incorporate them into your responses as you synthesize your learning: communication, roles/responsibilities, team/teamwork, and values/ethics. What experiences, resources, and/or interactions contributed to your knowledge and ability to work collaboratively as a team to deliver health promotion services with vulnerable populations? What additional supports were needed? How did your feelings, beliefs, and perspectives evolve with respect to your team and the population you were working within the community? Include specific examples, reference the time frame, and influential factors.

	Describe an experience when your team performed at the peak of your collective ability. How was everyone involved impacted, and what factors contributed to success? What experience had the greatest influence on your individual learning and how do you anticipate this knowledge contributing to your future career? <u>Impact Project:</u> The semester culminates in an artistic expression of the student's learning and experience. Students will use an artistic form of expression to communicate the concepts studied and experienced in this interprofessional education and community-engaged class. The post community-engaged service learning experience needs to reflect what you have 1. learned about yourself, other professions, vulnerable populations, interprofessional practice and your experience in community health, and 2. learned about teams, teamwork and how teams must collaborate to function optimally. Projects can be almost anything. Ideas: a storybook, poem or story telling (narrative medicine), sculpture, mixed media posters, drawing/painting or computer software program with animated design art, or musical composition. Be creative in how you present the concepts.

APPENDIX E

INTERPROFESSIONAL TEAM OBSERVATION TOOL (ITOL)

Date:	Location:	Activity:
Prep Time:	Activity Time:	Huddle Time:
Students:		

Document if the behavior is observed in all, some or none of the students. Explain observations and techniques used to demonstrate behavior.

Behavior observed	**All**	**Some**	**None**	**Comments/Techniques**
Manage demands of group				
Individual contributions/strengths				
Balance and clarity of roles				Leader:
Joy, happiness				
Confidence with activity				
Time management of service				
Initiate clarifying communication				
Client rapport				
Person-centered care				
Problem solving				

Notes:

APPENDIX F

FOCUS GROUP I CONSENT AND PROTOCOL

WELCOME
Hello everyone.

I would like to welcome you to the midterm 'world café.' This is our opportunity to reflect on the experiences your team has been having and discuss plans for the second half of the semester. My name is Kelly Ramella. I am your instructor and a doctoral student in the Mary Lou Fulton Teachers College at ASU. I have been working to advance interprofessional education at Arizona State University and I am particularly interested in learning about your experiences with interprofessional socialization while working as teams in the community.

In this action research study, I am both the course instructor and the researcher. This inside position allows me the opportunity to explore what teaching and learning strategies contribute to interprofessional socialization. The aim is to gain an understanding of how best to support students as they develop their skills working with interprofessional teams to address the health needs in our community. There is a moderator with each team to team conversation as we collectively discuss team experiences.

The aim of the focus group is for each group to openly and honestly share their beliefs, attitudes and behavior with the team. The goal is to identify areas of success and opportunities for growth. I want to encourage you all to participate because it is important all voices are heard when reflecting on the team experience. The aim is to use this time to adjust team functioning as needed to optimize the work you are doing in the community.

Each moderator will be recording the conversation and taking notes. The reason we would like to tape record is because we want to be sure to capture everybody's comments accurately and want to be certain we don't miss anyone's comments. If at any time you prefer that we not record a particular comment, please let us know and we can stop the recorder at that time. Is it all right with everyone that we record the group discussions? ----Thank you. Because we are using an app on our cell phones, I would like to ask you to please speak up and to only have one person speaking at a time.

I would like to assure you that everything that is said here will be kept strictly confidential and no names will be attached to any of the comments that are included in any written or oral reports. I would also like to assure you that your participation is completely voluntary and you may choose not to participate or to discontinue participation at any time with no consequences to you. If you have any questions about this study, you can contact Dr. Carrie Sampson csampso4@asu.edu or (602) 543-2820 or the Chair of the Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

When you came in, you should have received a 1-page questionnaire. We will reserve 10 minutes at the end of the meeting to give you a chance to complete the questionnaire.

This is to ensure that you have a chance to tell us anything you felt you didn't get to say during the meeting. Please do not put your name on the questionnaire to assure anonymity of your responses. By completing the questionnaire, you have given us your informed consent to participate.

The discussion will last about an hour—until approximately 4:30 pm, depending on the amount of discussion.
Does anyone have any questions?

INSTRUCTIONS
Now I would like to ask each of you to please tell us your name, major, and year in school.

Questions

1. What went well with your team the past few weeks?
    a. Program plan and delivery (teamwork) – Strengths of individuals and team
    b. Communication between team members and community partner
    c. Roles/responsibilities of your profession and other professions
    d. Learning about the values/ethics of your profession and other professions

2. What didn't go well with your team the past few weeks?
    a. Program plan and delivery (teamwork)
    b. Communication between team members and community partner
    c. Roles/responsibilities of your profession and other professions
    d. Learning about the values/ethics of your profession and other professions

3. What changes or goals do you have for your team?
    a. (Hand out team charter) What updates/additions/changes do you want to make to your Team Charter?
    b. What supports does your team need to improve on its effectiveness? How will you access the resources and information?

Probes

"Would you explain further?"
"Could you give me an example of what you mean?"
"I'm not quite sure what you mean." "I don't understand."
"Would you say more about that?"
"Would you describe that further."
"Would you tell us what led you to that decision/viewpoint/idea?"

Wrap-Up of Discussion
This concludes the main topics of discussion.

"Is there anything else your team wants to discuss or information you want to share?
"Are there any additional thoughts that haven't already been mentioned?"

Closing

We would like to thank you all for the work you have been doing with your community partner and the time you have taken at midterm to reflect deeply on what you have accomplished and the goals ahead. We look forward to reviewing your updated Team Charters and the programs you will be planning and facilitating in the weeks ahead. We will all be back together in this room at the end of the semester to share our collective accomplishments; learning as teams and benefitting the health of vulnerable populations in our community. Please take a few minutes to complete the questionnaire before you leave today. Thank you.
Questionnaire

When you have completed the survey, please slip it in the large manila envelope. Again, thank you for your time and have a good rest of the semester. Please answer the question in the space provided; please feel free to use additional paper if needed.

How has community-engaged learning contributed to your team's interprofessional socialization?

What has contributed the most to your ability to work on an interprofessional team?

What have you enjoyed most about the Interprofessional Education and Community Health course?

What has been the greatest challenge for your team to provide meaningful health promotion activities?

How can the SHOW faculty support your community-engaged learning experience?

APPENDIX G

FOCUS GROUP II RECRUITMENT, CONSENT AND PROTOCOL

Welcome

Hello everyone.

I would like to welcome you all to the focus group. Thank you for coming! This is my opportunity to share with you the results of the initial analysis of the interprofessional socialization process during the Community Health course last spring and reflect on your beliefs, attitudes and behaviors with IPE at this time. My name is Kelly Ramella. I am a doctoral student in the Mary Lou Fulton Teachers College at ASU. I have been working to advance interprofessional education at Arizona State University. I want to confirm with you the accuracy of my analysis and learn about your current experiences with interprofessional socialization.

In this action research study, I am both the course instructor and the researcher. This inside position allows me the opportunity to explore what teaching and learning strategies contribute to interprofessional socialization. The aim is to gain an understanding of how best to support students as they develop their skills working with interprofessional teams to address the health needs in our community. I will be the moderator to guide a collective discussion.

The aim of the focus group is to revisit and explore beliefs, behaviors and attitudes toward interprofessional education in community-engaged learning. The group will be guided to interact with each other to explore viewpoints, and validate the results from the first phase of data analysis; checking for accuracy and resonance with your experiences.

I will be recording the conversation and taking notes. The reason I would like to tape record is because I want to be sure to capture everybody's comments accurately and want to be certain I don't miss anyone's comments. If at any time you prefer that I not record a particular comment, please let me know and I can stop the recorder at that time. Is it all right with everyone that I record the group discussions? -----Thank you. Because I am using an app on my cell phone, I would like to ask you to please speak up and to only have one person speaking at a time.

I would like to assure you that everything that is said here will be kept strictly confidential and no names will be attached to any of the comments that are included in any written or oral reports. I would also like to assure you that your participation is completely voluntary and you may choose not to participate or to discontinue participation at any time with no consequences to you. If you have any questions about this study, you can contact Dr. Carrie Sampson csampso4@asu.edu or (602) 543-2820 or the Chair of the Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

When you came in, you should have received a 1-page questionnaire. I will reserve 10 minutes at the end of the meeting to give you a chance to complete the questionnaire. This is to ensure that you have a chance to tell us anything you felt you didn't get to say during the meeting. Please do not put your name on the questionnaire to assure anonymity of your responses. By completing the questionnaire, you have given us your informed consent to participate.

The discussion will last about an hour, depending on the amount of discussion.

Does anyone have any questions?

Instructions

Now I would like to ask each of you to please tell us your name, major, and year in school.

Questions

Thinking back on your experience in the Interprofessional Education and Community Health course, what went well with your team?

- Program plan and delivery (teamwork) – Strengths of individuals and team
- Communication between team members and community partner
- Roles/responsibilities of your profession and other professions

Learning about the values/ethics of your profession and other professions

What didn't go well with your team?

Program plan and delivery (teamwork)

Communication between team members and community partner

Roles/responsibilities of your profession and other professions

Learning about the values/ethics of your profession and other professions

How has the experience in the Interprofessional Education and Community Health course contributed to your beliefs, attitudes and skills working on an interprofessional team? (Handout one-page overview of initial analysis). Take a moment to review the results of the initial analysis. How is the information reflective of your learning experience? Is there information contained in this analysis that differs from your experience? If so, in what way is it different?

Probes

"Would you explain further?"

"Could you give me an example of what you mean?"

"I'm not quite sure what you mean." "I don't understand."

"Would you say more about that?"

"Would you describe that further."

"Would you tell us what led you to that decision/viewpoint/idea?"

Wrap-Up of Discussion

This concludes the main topics of discussion.

"Is there anything else you want to discuss or information you want to share?

"Are there any additional thoughts that haven't already been mentioned?"

Closing

I would like to thank you again for the work you did with your community partner and the time you have taken today to support this action research. Interprofessional education is important for allied health learners as you prepare to work collaboratively on teams to improve community health. Your participation is truly appreciated as I aim to identify best practices with IPE. Please take a few minutes to complete the questionnaire before you leave today. Thank you.

Questionnaire

When you have completed the survey, please slip it in the large manila envelope. Again, thank you for your time and have a good rest of the semester. Please answer the question in the space provided; please feel free to use additional paper if needed.

What learning experiences have contributed the most to your ability to work on an interprofessional team? How can the SHOW faculty improve on the interprofessional community-engaged learning experiences?

APPENDIX H

CODE SYSTEM AND MEMOS

- 1 different background
- 2 relationships
  - 2.1 interactions
  - 2.2 intergroup sharing
  - 2.3 mentor support
  - 2.4 faculty guidance
- 3 course design
  - 3.1 safe_minimal pressure
  - 3.2 clear guidelines
  - 3.3 collaborative assignments
  - 3.4 learning material & resources
- 4 shared goal_ideas
- 5 meaningful experience
- 6 challenges
  - 6.1 knowledge of community
  - 6.2 communication planning
    - 6.2.1 tool_structure
    - 6.2.2 time_schedules
  - 6.3 negotiating roles responsibilities
  - 6.4 program plan
  - 6.5 service delivery
  - 6.6 personal growth
- 7 communication contents
  - 7.1 quality of care
  - 7.2 personal issues
  - 7.3 problem solving
  - 7.4 roles & responsibilities
  - 7.5 planning
- 8 emotions
  - 8.1 negative emotions

1 different background

Different backgrounds are a community engaged learning factor that contributes to interprofessional socialization. Students acknowledge differences in majors, levels of knowledge, personality characteristics, level of experience as a contributor to their learning experience.

2 relationships

2.1 relationships\interactions
Interactions with others is a community engaged learning factor that contributes to interprofessional socialization. Students communicate the value, and importance of social interactions with teammates, faculty, community mentor and clients. This is inclusive of experiences that influence relationship building: listening, respecting, empathy, and bonding.

2.2 relationships\intergroup sharing

Intergroup sharing is a community engaged learning factor that contributes to interprofessional socialization. Students share the value and importance of interacting with other teams to gain new knowledge and support.

2.3 relationships\mentor support

Mentor support is a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of receiving feedback, role modeling and support from their community partner representative/mentor.

2.4 relationships\faculty guidance

Faculty guidance is a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of receiving feedback and support on their written assignments, in class, meetings, and during program delivery.

3 course design

3.1 course design\safe_minimal pressure
Safe_minimal pressure is a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of a psychologically safe learning environment with minimal pressure.

3.2 course design\clear guidelines

Clear guidelines are a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of clear guidelines with assignments and with services delivery.

3.3 course design\collaborative assignments

Collaborative written assignments are a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of collaborating on a shared document to prepare for service delivery as a team.

3.4 course design\learning material & resources

Access to resources is a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of using available resources to enhance knowledge and improve skills individually, and as a team.

4 shared goal_ideas

Shared goals and ideas among students in a team is a community-engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of a common goal and arriving at a point in their team where they have collaborated with their ideas.

5 meaningful experience

Meaningful experiences with the community are a community-engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of making a difference, having an impact and bringing about change in the community.

6 challenges

Challenges for the team are a community engaged learning factor that contributes to interprofessional socialization.

6.1 challenges\knowledge of community

Knowledge of the community partner is a specific challenge and a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of gaining resources, knowledge and skills to provide meaningful services with the community partner.

6.2 challenges\communication planning

6.2.1 challenges\communication planning\tool_structure

Tool_structure used for communication is a community engaged learning factor that contributes to interprofessional socialization. Students indicate the value and importance of using and being competent with different tools and structuring their communication to work collaboratively in teams.

6.2.2 challenges\communication planning\time_schedules

Time_schedules to communicate is a community-engaged learning factor that contributes

to interprofessional socialization. Students indicate the value and importance of finding time, scheduling meetings to work collaboratively in teams.

6.3 challenges\negotiating roles responsibilities

Differentiating roles and responsibilities is a challenge for students in a community engaged learning and a factor that contributes to interprofessional socialization. Students communicate a variety of circumstances that challenge them to make decisions about who completes specific tasks.

6.4 challenges\program plan

Programming for service delivery with a team is a challenge for students and a community engaged learning factor that contributes to interprofessional socialization. Students communicate the value and importance of working together as a team in advance to prepare for service delivery to include opportunity to be creative, work as a team autonomously, share resources and integrate individual knowledge and skills.

6.5 challenges\service delivery

Service delivery with clients in the community is a challenge for students and a community engaged learning factor that contributes to interprofessional socialization. Students communicate the value and importance of hands on, first-hand experience in a setting to practice client services skills.

6.6 challenges\personal growth

Personal growth is a challenge for students and a community engaged learning factor that contributes to interprofessional socialization. Students share their individual growth areas as they progress through the course including professional skills, confidence, academic knowledge, and values.

7 communication contents

The content discussed during communication is a community engaged learning factor that contributes to interprofessional socialization.

7.1 communication contents\quality of care

Students discuss the quality of care they provided as a team with the community clients.

7.2 communication contents\personal issues

Personal issues discussed among team members includes private and vulnerable information about themselves. It is authentic, personal, and can represent values, temperament, character, makeup and problems experienced outside of the community-engaged learning experience.

7.3 communication contents\problem solving

Problem solving: Students communicate together to develop strategies to solve problems or adapt to a situation.

7.4 communication contents\roles & responsibilities

Roles & Responsibilities: Students discuss who is completing which task during meetings and huddles.

7.5 communication contents\planning

Planning: Students discuss future plans for providing services with clients. This includes interactions with community partners to ensure access to resources, awareness, and safety.

8 Emotions

8.1 Emotions\Negative emotions

8.1.1 Emotions\Negative emotions\disconnected
Disconnected represents a student sharing concerns that their team is not connected or functioning collaboratively.

8.1.2 Emotions\Negative emotions\inadequate

Inadequate represents a student feeling their work or contribution to the class/team is not enough.

8.1.3 Emotions\Negative emotions\doubt

Doubt represents a student not feeling confident or questioning self.

8.1.4 Emotions\Negative emotions\unsupported

Unsupported represents a student feeling that they are not getting the help or assistance they need

8.1.5 Emotions\Negative emotions\bored

Bored represents a student feeling uninterested with a learning experience.

8.1.6 Emotions\Negative emotions\frustrated

Frustrated represents a student feeling aggravated or annoyed with learning experience.

8.1.7 Emotions\Negative emotions\overwhelmed

Overwhelmed represents a student feeling the workload/expectations are burdensome.

8.1.8 Emotions\Negative emotions\anxious

Anxious represents a student feeling nervous or reticent; highly concerned.

8.1.9 Emotions\Negative emotions\awkward

Awkward represents a student feeling weird, or uncomfortable with a situation.

8.2 Emotions\Positive emotions

8.2.1 Emotions\Positive emotions\happy
Happy represents the joy a student experiences while participating in a learning activity or leading a health promotion activity; referring to an experience as 'fun.'

8.2.2 Emotions\Positive emotions\anticipating

Anticipating represents a student's interest or curiosity as they positively reflect on future learning experiences and "look forward to it."

8.2.3 Emotions\Positive emotions\enthusiastic

Enthusiastic represents a student feeling a high level of positive emotion ("excited") with learning experiences in the course; often using exclamation points in their writing.

8.2.4 Emotions\Positive emotions\confident

Confident represents a student sharing a positive attitude about their knowledge, skills and abilities. It includes students sharing confidence with their team.

8.2.5 Emotions\Positive emotions\pleased

Pleased represents students feeling content about their accomplishments or they enjoy their learning experiences.

8.2.6 Emotions\Positive emotions\at ease

At ease represents students sharing their sense of calm with their experiences. It represents a statement that acknowledges previous angst.

8.2.7 Emotions\Positive emotions\optimism

Optimism represents a student's positive view or outlook of their learning opportunity and experiences as a team; acknowledging a challenge, but expressing learning potential or value.

8.2.8 Emotions\Positive emotions\motivated

Motivated represents a student acknowledging a growth opportunity, and communicating curiosity, motivation or interest to improve performance. This is inclusive of a growth mindset, and striving to improve.

8.2.9 Emotions\Positive emotions\amazed

Amazed represents an unexpected positive emotion associated with the learning experience; often using the word "surprised."

9 Learning Process

9.1 Learning Process\unknowing
Unknowing represents the stage of learning where students are unaware or uncertain with information.

9.2 Learning Process\discerning

Discerning represents a stage of learning where a student begins to become aware of information or perceiving a situation differently and is often able to express potential future behavior.

9.3 Learning Process\knowing

Knowing represents the stage of learning when a student is comprehending the learning material or experience and acknowledges the need for continuous learning.

APPENDIX I

IRB APPROVALS

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Ray Buss
Division of Educational Leadership and Innovation - West Campus
602/543-6343
RAY.BUSS@asu.edu

Dear Ray Buss:

On 9/19/2018 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Inter-professional Roles and Responsibilities of Social Work and Recreational Therapy in a Community Health Setting
Investigator:	Ray Buss
IRB ID:	STUDY00008881
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Interview Protocol, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB Protocol, Category: IRB Protocol; • Recruitment and Consent Letter, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 9/19/2018.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc:
Kelly Ramella

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Leigh Wolf
Division of Educational Leadership and Innovation - Tempe
-
Leigh.Wolf@asu.edu

Dear Leigh Wolf:

On 10/1/2019 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Community-Engaged Interprofessional Education The State of Flow, Team Socialization and Optimal Learning Environments
Investigator:	Leigh Wolf
IRB ID:	STUDY00010791
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Ramella Recruitment & Consent.pdf, Category: Consent Form; • Kelly Ramella IRB Content Analysis.docx, Category: IRB Protocol;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings on 10/1/2019.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Kelly Ramella
Kelly Ramella

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Carrie Sampson
Division of Educational Leadership and Innovation - West Campus
-
csampso4@asu.edu

Dear Carrie Sampson:

On 2/10/2020 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Community-Engaged Interprofessional Education Integrated Analysis of Pedagogical Strategies Pivotal to Interprofessional Socialization
Investigator:	Carrie Sampson
IRB ID:	STUDY00011467
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Course Written Assignments.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Focus Group Protocols v4.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interprofessional Education and Activity Based Learning Post Survey.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interprofessional Education and Activity-Based Learning Survey v2.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interprofessional Team Observation Tool.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
	• Kelly Ramella IRB Protocol v4.docx, Category: IRB Protocol; • recruitment_methods_02-06-20 v 2.pdf, Category: Consent Form;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 on 2/10/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Kelly Ramella
Kaitlyn Felix
Kelly Ramella