

Physical Therapist Students' Perceptions: Learning From a Community-Based, Client-Focused, Interprofessional Learning Experience

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Introduction. This study examined physical therapist students' perceptions of their learning from a year-long, community-based, client-focused, interprofessional education experience (IPE) involving nine disciplines.

Methods. Sixty-nine Doctor of Physical Therapy students ($n = 69$) completed a reflection paper at the end of an IPE, consisting of small group visits of students from four of the nine different health care disciplines, with families in their homes, larger structured group discussions with faculty, and a wellness project. The students participated in four home visits, and six discussion sessions were completed

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over two semesters. Two teams of two researchers reviewed and coded the papers to identify key words and phrases to reflect meaning. All researchers then reached a consensus on themes and subthemes. Triangulation of analysis occurred throughout the analysis, and quotes that reflected the important themes were identified.

Results. Themes included the following: 1) learning about differences in perspective, 2) importance of team communication, 3) value of seeing a patient in their own environment and realizing how this affects their health and health behaviors, 4) making a connection with a patient, and 5) realizing that the patient's goals can be different from the students' expectations.

Discussion and Conclusions. This IPE was perceived as an effective and meaningful instructional strategy. The realistic situated learning methods resulted in students appreciating the need for individualized consideration of the patient as a whole person. The extended period of team-based requirements fostered a deeper understanding of communication across professions and with clients, along with insights into the perspectives of different health care professionals.

Key Words: Interprofessional Education, Professionalism, Curriculum Design.

INTRODUCTION

The Institute of Medicine¹ and the World Health Organization² have suggested that interprofessional education experience (IPE) is essential to prepare new health care professionals for the demands of health care delivery in the 21st century. Interprofessional learning environments prepare individuals to work across disciplines in team-based settings to serve the increasingly complex needs of patients. The value of IPE as an educational strategy has been widely embraced, but its effectiveness in improving patient care and outcomes has not been

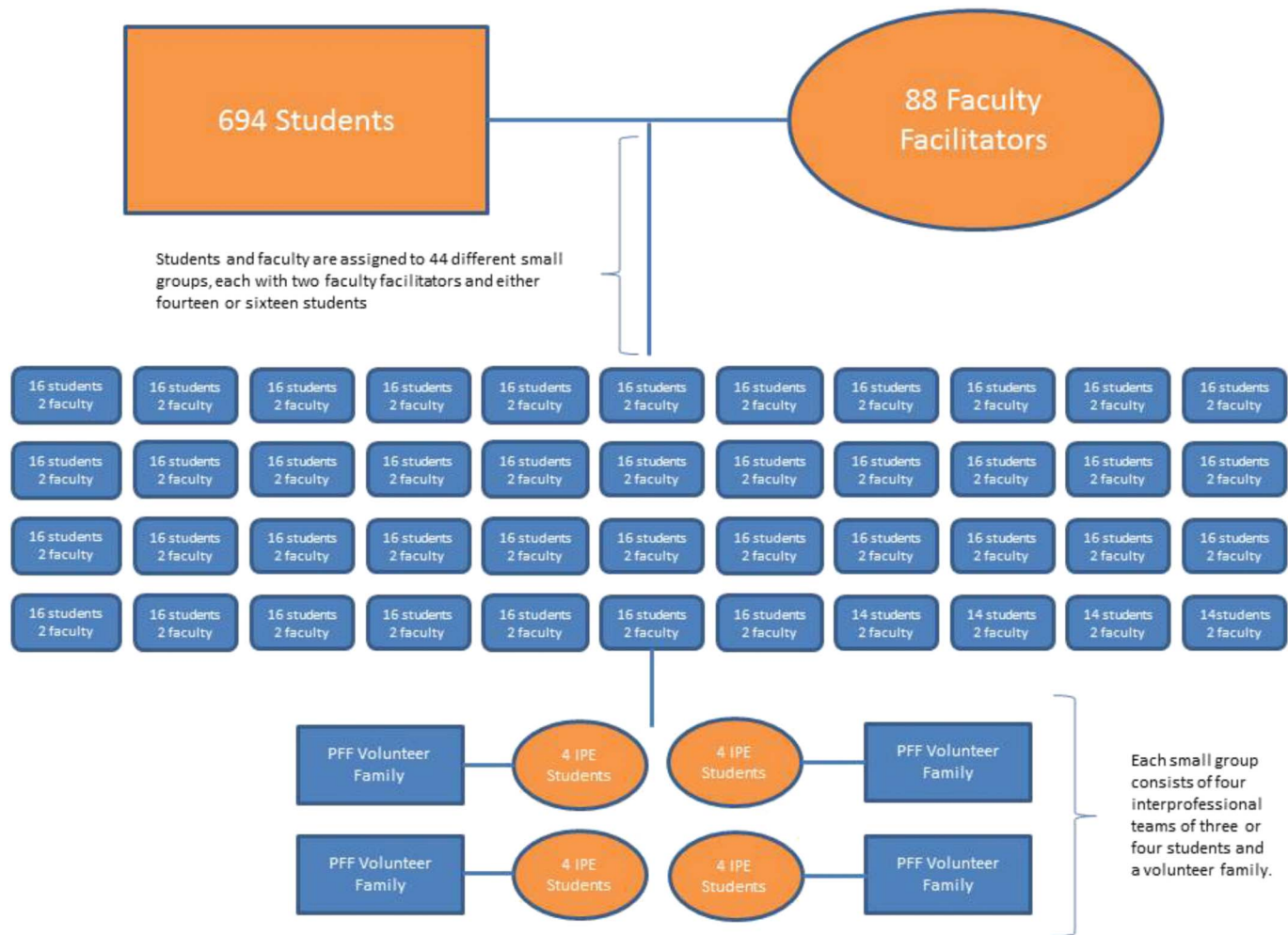
widely studied or supported.³ Recent research and policy analysis has focused on linking the learning outcomes of IPE to improved patient care, satisfaction, cost, and quality of care.¹ As the United States health care system continues to move toward value-based purchasing and more accountable care, mastery of these skills will be essential. In 2009, six major health care professional organizations came together to form the Interprofessional Education Collaborative (IPEC) because they recognized the need to "promote and encourage collaborative efforts that would advance substantive interprofessional learning experiences to help prepare future health professionals for enhanced team-based care of patients and improved population health outcomes."⁴

In addition, the American Physical Therapy Association (APTA) has identified collaboration as one of the guiding principles for physical therapy (PT) profession when it adopted a new vision for the profession in 2013. The principle of collaboration states, in part, "Education models will value and foster interprofessional approaches to best meet consumer and population needs and instill team values in physical therapists and physical therapist assistants."⁵ Given the importance of this issue and the increased emphasis on IPE by the Commission on the Accreditation of Physical Therapy Education⁶ and the addition of the APTA as members of the IPEC in 2016, designing curricula in PT education programs that maximize meaningful and effective IPE opportunities is imperative.

REVIEW OF LITERATURE

Situated or contextual learning approaches provide authentic and realistic learning in the context where the skills are needed.⁷ The foundations of situated learning stem from constructivist learning approaches in which learners are asked to construct meaning from real events or interactions.⁸ The process of "learning about and with" other professions⁴ is likely to be most effective using active

Figure 1. Interdisciplinary Family Health Program Structure (Academic Year 2013)



learning processes embedded in the context of real problems and with patients.⁹ Although the recent accreditation requirements and APTA endorsement for IPE initiatives have resulted in an increased focus on IPE activities,^{6,10} classroom activities are often the instructional method of choice because of logistics and the time involved for community or clinical experiences.¹⁰ There are a wide array of models, however, most involve limited student engagement in finite, short periods of time, which occur in structured laboratory or didactic settings, not authentic, contextual environments.¹¹ Models that enable a continuum of community experience with the same individuals and teams are not as common.

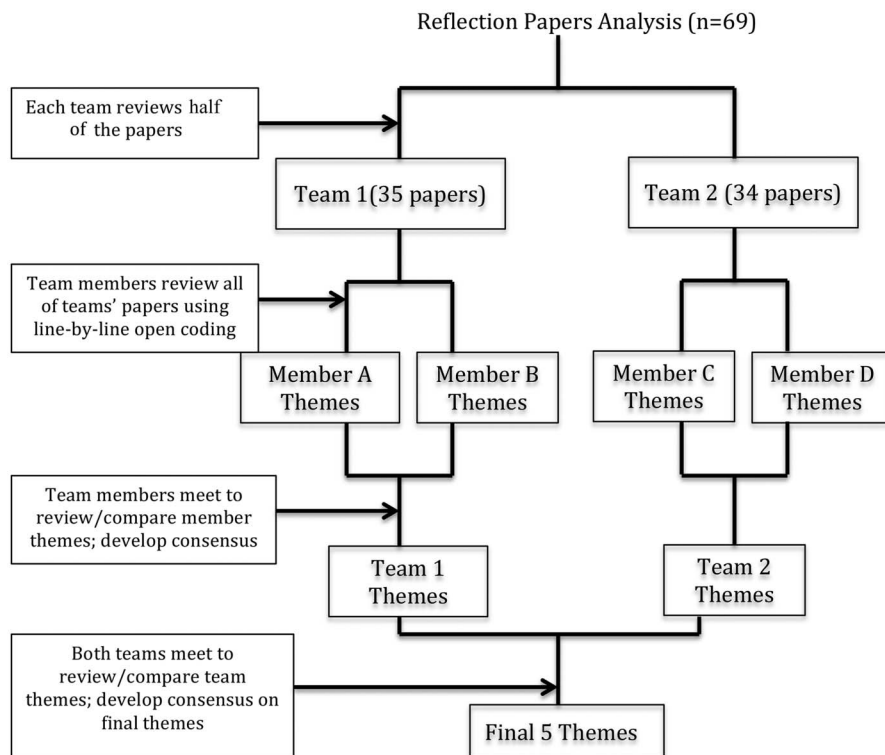
Most reported outcomes from IPE use survey instruments that reflect changes in attitudes and knowledge. Several authors have reported changes in knowledge and attitudes toward other health professions based on students' participation in IPE using a variety of survey instruments such as the Interdisciplinary Education Preparation Scale

(IEPS), the Readiness for Professional Learning Scale (RIPLS), and the Attitudes Toward Health Care Teams Scale (ATHCTS).¹¹⁻¹³ Although these studies have examined changes in students' knowledge and attitudes using these closed ended measures after IPE, the surveys have some limitations and there may be benefit from using qualitative methods to expand on the impact of these immersive learning opportunities from the students' perspective.

Our university takes a unique and comprehensive contextual learning approach to interprofessional education. Students visit volunteer families in their communities over two semesters, with structured objectives and projects to guide learning related to working with other professions and social determinants of health. Figure 1 illustrates the Interdisciplinary Family Health Program (IFH) as it was structured during the academic year this study occurred. Interdisciplinary Family Health Program was established as an interprofessional service-learning program in

1999.¹⁴ At present, over 1000 first-year health professions students (clinical health psychology, dentistry, health administration, medicine, nursing, nutrition, pharmacy, PT, and veterinary medicine) participate in this program required by all of the colleges that comprise our academic health center. Interprofessional teams of four are assigned to a volunteer family in the local community. Students visit families in their homes four times during the academic year. During the home visits, students complete health-related questionnaires with the patient. They also complete a project aimed to address the patient's health needs. Students also participate in six faculty-facilitated interprofessional small group sessions. Each session has a theme that provides students with introductory content related to teamwork, roles and responsibilities, patient safety, social determinants of health, and health disparities. During the sessions, students debrief about their home visits and discuss their project work, with the final session culminating in

Figure 2. Reflection Paper Analysis Method



a required family health presentation. Through the home visits, students practice communication with patients, learn about the social determinants of health, and community resources. Throughout the year, students also apply interprofessional collaborative skills by working and collaborating with their interprofessional teams to assess families in the community and analyze issues related to health systems, professional ethics, bias, and health care quality. Although this extensive interprofessional situated learning experience has been in place for more than 20 years, the impact on physical therapist students' learning has not been reported. The purpose of this study was to examine students' perceptions of their learning and impact of the year-long, client-focused, interprofessional learning experience by analyzing answers to questions that guided the students' reflection on this experience.

SUBJECTS

Sixty-nine first-year Doctor of Physical Therapy students participated in the IFH program as part of the course requirements for two health promotion courses in the first year of their curriculum.

METHODS

A qualitative interpretative approach with thematic analysis was used. All students completed a required reflection paper at the conclusion of the year-long program that served as the unit of analysis for this study (Appendix, Supplemental Digital Content 1, <http://links.lww.com/JOPT/A1>, for the guiding questions for the reflections).

The study protocol was determined to be exempt by the institutional review board. Identifying information was removed from the

papers by the administrative staff responsible for the IPE program administration. Several strategies were used to reduce bias and ensure credibility of the findings.^{15,16} Figure 2 illustrates the steps of data analysis. Two teams of two researchers were responsible for reviewing half the papers. After reading through the papers, open coding was used to identify key words and phrases to reflect meaning. After the open coding, the members of each team met and discussed the codes. Codes were compared, expanded, contrasted, and refined to search for commonalities across the papers until a consensus and saturation was reached. Each researcher then generated themes independently followed by discussion with a partner and then in the group of four to triangulate and confirm the findings. When differences were evident, the entire team discussed the differences to reach a consensus. After the themes were agreed upon, the research team identified quotes that reflected the important themes.

RESULTS

The themes developed for the data analysis are presented in Table 1. Two themes emerged related to working with an interprofessional group of students: 1) learning about differences in professional perspectives and 2) the importance of team communication in an interprofessional context. Three themes emerged related to seeing the patient as a whole person: 1) the value of seeing a patient in their own environment and realizing how this affects their health and health behaviors, 2) making a connection with a patient, and 3) realizing that the patient's goals can be different from their idea of what they would anticipate as important. The themes from the data analysis are presented in Table 1.

Differences in Professional Perspective

Working on an interprofessional team allowed students to understand the difference in the perspectives of other health professional students outside of their field. The first subtheme related to students noticing how the other health professional students' backgrounds and education differ from their own field, leading to a greater understanding and respect for each other. One student stated:

I have a better idea of what each profession (nursing, dental, and vet) is required to know and what is taught at an entry level. We all pretty much have similar base knowledge about the human body, but it was interesting to find out the differences as well. I have a deeper respect for these professions that I encountered in the program.

Table 1. Themes Emerging From Reflections

Themes
Differences in perspectives
Team communication
Value of seeing a patient in their own environment and realizing how this affects their health and health behaviors
Learning the value of making a connection with the patient
Patient goals can be different from our own

Another student described how the differences in background and education illustrated the strengths of other health professions and areas in which the other professions contribute to the overall care of patients:

During our group meetings and when on my group visits I learned more about what each profession actually does, the extensive types of training and work they must do, and the common misconceptions from those on the outside looking in. This was valuable to be able to help my own patients realize what each profession does and to understand their mind frame when hearing from patients what was done during their experiences with these professionals.

Not only did students gain a better understanding of the training and education other health professionals receive, but also how their thought processes vary from their own field and how this awareness expanded their perspectives. One student stated:

The most significant insight I gained from this experience was just learning how different health profession members think. On our first visit, we all immediately jumped to questions directly pertaining to our field of study. I would expect that but at the same time it is also important for us to question things that may typically be evaluated in another profession. As a physical therapist, I still need to ask about medications even though I'm not a pharmacist or a medical doctor. Each patient we see is going to have many components that influence their health and even though we specialize in one specific field, we need to be aware of everything else that may be contributing to a patient's overall well-being.

Team Communication

Realization of the importance and relevance of team communication for their future practice is illustrated by this comment:

The most significant insight gained from this experience was the ability to work with differing health professions and applying it to a patient. I think this kind of collaboration is hard to teach within our curriculums but applying it through IFH was a great way for us to gain that experience. Now, we will be able to apply this experience to our future clinical experiences because in the real world different disciplines interact on a daily basis.

This understanding also allowed students to understand how poor communication

among health professionals directly affects patient quality of care:

I also realized how a breakdown in the communication amongst healthcare providers can cause much frustration, difficulty, and impaired health for a patient. This is a valuable lesson learned that will impact my future practice by making me cognizant of the fact that even when we may not have direct contact with our patient's other health care providers, it is important we do our best to communicate to the patient and their other providers to give our patients a seamless plan of care.

Seeing Patient in Own Environment

Students valued the opportunity to see the patient as a whole person and understand how a patient's environment outside of a clinic affects their health and health behaviors:

As health care providers we often fall into the trap of seeing patients as patients. We often forget about their daily environment, lifestyles, and/or what they genuinely enjoy doing. Patients can bring it up, but unless you see it outside the clinic, it can be hard concept to grasp. Therefore, with this experience I really liked seeing ___ as a person rather than just a patient.

Another student stated,

The most significant insight gained from this experience was the opportunity to observe the patient in her home environment. In contrast to the view we get when patients are seen in an office setting, the home visits allows us to observe what other background situations and/or conditions may be affecting her health in significant ways (for example, her unsafe neighborhood (unable to walk), tension with her neighbor (stress), living situation with her daughter (stress), cleanliness and clutter in her home (safety)). This will serve as strong reminder that, as a future health care professional, it is important to understand the patient as a whole, and that I will be seeing only a sliver of the patient's "health picture" when treating him/her in clinic.

Value of Making a Connection

The value of seeing a patient in their own environment also helped students make connections and value those connections they make with patients,

The most significant insight I gained was that visiting a patient in their environment gives you a detailed picture of the person's life and a context in which to view this individual, which is a priceless asset to building a relationship with them based on a unique perspective you now have.

This connection allowed students to understand the importance of really listening and showing compassion to patients. For example, one student wrote

The most significant insight that I gained was the importance of considering other people's point of view. Whether it is another healthcare professional, patient, or a family member, it is important to listen to what they have to say. It is easy to become very myopic and tune other people out. I feel that listening to our family and hearing about her life showed me that the people that I will see in the Hospital or clinic are not "patients" but they are people. Everyone has a story and it is extremely important to slow down and to let people know that you care about them and what they have to say in order to facilitate trust and help them to improve their current situation.

Students described how they truly connected with their patients and then began to realize that sometimes the goals of patients might be different from their own, "I felt that I learned how to listen very well through this experience and that giving advice is not always the answer even when we feel patients need it."

Patients Have Their Own Goals

The final theme related to seeing the patient in a more complete light was realizing that the patient's goals were often different from what the students anticipated. This student stated:

The most challenging part of the IFH course has been wanting to help our family more but feeling powerless to do so. The family and the client especially would benefit from changes in diet and regular exercise, however we as students are not qualified to implement these changes, only encourage her to take steps to change her current condition. Unfortunately, motivation can only go so far before it is up to her to actually take initiative and have support from her family to do so.

DISCUSSION

Our study builds on and extends existing educational interprofessional education literature

by studying the impact of an extensive and immersive situated learning experience. In addition, findings from such an experience from the students', particularly PT students, perspective have not been previously described. One of the strengths of this article is the use of qualitative methods to explore student perspectives. In a Cochrane review of interprofessional practice literature, Zwarenstein¹⁷ recommends additional use of qualitative methodologies to elaborate on the impact of interprofessional collaboration. The use of qualitative methods in this article allowed an insight into student perspectives and outlined two major benefits of the year-long community-based program: gaining an understanding of other professions and the communication skills required to work in a team while developing an awareness and appreciation of individuals as a "whole person" within a realistic context.

The first theme identified in this study was related to the student's appreciation of an understanding of the different perspectives of other professionals in their team and the importance and nuances of interprofessional communication. The comments demonstrated that students value the IPE experience and understand the importance of interprofessional care in their future practice. This outcome is consistent with meeting one of the recently updated IPEC competencies: "using knowledge of one's own role and those of other professions to appropriately assess and address the health care needs of the patients and populations served."¹⁸ Although this finding is not unique, other studies have relied on attitudes toward learning in an interprofessional environment rather than documenting the learning outcomes. Wellmon et al¹³ also reported benefits in interprofessional learning as they reported increases in IEPS scores, particularly the group score, the RIPLS score, and the ATHCTS score in a study of 123 students of clinical psychology, education, PT, and social work who engaged in an IPE experience that consisted of a total of 6 hours of IPE interaction in three, 2-hour sessions. Ruebling et al¹⁹ reported on student attitudes and perceptions regarding interprofessional collaboration before and after a one-semester introductory IPE experience between students in a variety of professional and technical programs including PT. They compared the outcomes from RIPLS and West England Interprofessional Questionnaire from this group with a group of graduating health professional students without IPE. The authors reported that the findings provide some evidence that students who participate in an introductory IPE course early in their professional preparation not only keep, but

improve positive attitudes toward interprofessional learning and should be better prepared to engage in intercollaborative practice. In addition, the importance of interprofessional team communication was elucidated. Our study findings expand on these results by providing information about the specific insights students gain when working with other students.

There are relatively few longitudinal IPE experiences reported. In a similar type of ongoing IPE experience with a patient, Giordano et al³ reported IEPS scores from a 2-year-long program. They also used four or five member teams of at least two disciplines and paired the students with a patient who was trained as a health mentor. After the first year, students of nursing, occupational therapy, PT, and pharmacy scored relatively high on the IEPS, suggesting that participants shifted toward embracing the skills necessary to work effectively as a part of interdisciplinary teams. However, in contrast to our study, these authors reported that the factor that was scored the lowest was an understanding of the value of other professions. The authors suggest that greater emphasis should be placed on teaching this material and designing IPE experiences to capture opportunities to learn the value of other professions in the care of patients. Our findings indicate that an extended IPE experience in a realistic setting along with directed objectives and discussion in larger groups improves students' understanding of the value of other professions and the value of teamwork.

The second theme related to interprofessional care was the importance of interprofessional communication, meeting the IPEC competency: "communicate consistently the importance of teamwork in patient-centered and community focused care."¹⁸ Others who have provided immersive experiences have reported similar findings. In a small qualitative study related to an 8-day international service-learning project with occupational therapist, physical therapist, and speech-language pathologist students, Pechak et al¹² also documented reflections from four students of the importance of collaboration and the importance of communication between professions. Our study investigated reflections from 69 students further emphasizing the value of immersive interprofessional team experiences for this particular competency. Student reflections provide evidence of developing skills early in relationship building and communication while working with a variety of individuals. The opportunity to participate, plan, and deliver a patient-centered project in a community setting at this

early stage in their professional development may be the first step toward providing a base for future patient/population-centered care.^{4,19}

The final themes illustrated the students' realization of the impact of the environment on health and health behaviors, making connections with patients, and realizing that the patient's goals could be different from the student's idea of what is important. This is an extremely important lesson for students to learn and an insightful reflection for physical therapist students in the first year of professional education. Being able to see and work with people in their environments is likely to have facilitated this realization sooner and in a more meaningful manner than any classroom experience. All these lessons are vital to developing a more rounded and patient-centered approach. Situated learning theory suggests that there is value in learning that takes place in a setting functionally equivalent to where the knowledge will be applied.²⁰ Mostrom²¹ states that learning does not just occur in "one's head but is contextual, relational, and reciprocal and occurs in authentic environments." A key element to situated learning is the immersion within a real setting within communities of practice, defined by Wenger-Trayner²² as, "groups of people who share a concern or a passion for something they do and who interact regularly to learn how to do it better." Several authors²¹⁻²⁷ have written about the role of learning in the context of practice and the support that communities of practice provide. The unique aspect of the IFH program is the visits to the patient's home. This is particularly relevant in today's health care systems where the concept of medical homes and community care are an integral component of the health care continuum. Physical therapy clinical education does not always provide extensive opportunities to learn about the unique challenges and influence of the patient's home setting for their rehabilitation needs. By observing first-hand the surroundings, environmental barriers, interactions with others, and the impact of resources, students were exposed to the realities of life that may be different from their own perspectives. They had the opportunity to participate in multiple visits over two semesters and developed a deeper understanding of the context of social support, access to medical care, environmental considerations for health and disability, and social determinants of health that a one-time encounter would not provide. The longitudinal nature of the program, along with regular peer and faculty discussion, reinforced their realization of the impact on each person's unique personal, social, and environmental circumstances. The development and mentoring in the structured discussions reinforced professional commitment to meet the

needs of patients within their individual environments and develop a culture of interprofessional teamwork early within the professional curriculum. Exposing students to a community of practice is hoped to set the stage for a broader understanding of the value of interprofessional care where the patient is the center of the team.

As mentioned previously, one of the themes that emerged in this study was that students started to understand the value of seeing the patient in their own environment. This concept is important also in the context of the International Classification of Function (ICF) model. Students are introduced to the ICF model during the same year but outside the context of this IPE experience. Although the ICF model is not overtly mentioned as part of the IFH curriculum, students begin to realize that their client's health and function are influenced by more than a series of impairments or medical diagnoses. They are exposed to the importance of the environmental context and how social determinants can impact health and participation in life with their first "patient." Implicit in improving health and function is the importance of valuing the patient as a person, including recognition of the importance to their environment and their goals on how they respond to care that is delivered. Students consistently indicated how seeing the patient as a whole person, in their unique environment, might improve how they care for their future patients. Future research should explore how early IPE learning experiences, such as IFH, are reflected in students' development across the curriculum and in later practice.

Limitations

This study analyzed the response of students in one cohort of students in the DPT program and did not analyze the findings of the reflection papers from students in other disciplines for similar themes. The study does not reflect the patient's perspectives of the experience.

CONCLUSIONS

The use of a two-semester-long interprofessional experience was perceived as an effective and meaningful instructional strategy and met some of the competencies outlined by the IPEC. The extended period of team-based requirements fostered a deeper understanding of communication across professions and with clients and insights into different perspectives. In addition, this IPE experience provided a realistic and meaningful situated learning activity that resulted in students

appreciating the need for individualized consideration of the patient as a whole person. The community location of the experience provided a rich opportunity that expanded student's appreciation of the complexities and context from the consumer's perspective. The community-based experience provided students with a viewpoint early in their education that is likely to influence future clinical skills with patients as well as other professionals.

The results of this study indicated that students developed an awareness and appreciation of interprofessional communication, relationships, and interprofessional practice. The IFH program provides a rich environment for contextual learning in a community of practice in interprofessional care and reinforces other DPT curricular objectives. With modifications to meet individual program circumstances, this experience could serve as a model for other programs interested in implementing a community-based, client-focused interprofessional learning activity.

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