



March 2021

An Introduction to Interprofessional Education for First Semester Doctoral Occupational Therapy and Physical Therapy Students

Suzanne Trojanowski

University of Michigan-Flint, stroj@umich.edu

Jillian Woodworth

University of Michigan-Flint, jillwood@umich.edu

Anna Rose Wiencek

University of Michigan - Flint, awiencek@umich.edu

Amy Yorke

University of Michigan - Flint, amyorke@umich.edu

Follow this and additional works at: <https://nsuworks.nova.edu/ijahsp>



Part of the [Occupational Therapy Commons](#), and the [Physical Therapy Commons](#)

Recommended Citation

Trojanowski S, Woodworth J, Wiencek A, Yorke A. An Introduction to Interprofessional Education for First Semester Doctoral Occupational Therapy and Physical Therapy Students. *The Internet Journal of Allied Health Sciences and Practice*. 2021 Mar 31;19(2), Article 9.

This Manuscript is brought to you for free and open access by the College of Health Care Sciences at NSUWorks. It has been accepted for inclusion in *Internet Journal of Allied Health Sciences and Practice* by an authorized editor of NSUWorks. For more information, please contact nsuworks@nova.edu.

An Introduction to Interprofessional Education for First Semester Doctoral Occupational Therapy and Physical Therapy Students

Abstract

Purpose: Interprofessional education (IPE) engages health care professional students in order to develop the knowledge, skills, and attitudes required of a health care practitioner. IPE can be challenging to execute; however, exposing students early in their professional education in IPE has positive results. Occupational therapy (OT) and physical therapy (PT) are health care professions who commonly work with each other. The purpose of this study is to describe the process and outcomes of implementing an IPE experience with first year doctoral OT (OTD) and PT (DPT) students completed within the first six weeks of the first semester of their respective programs. **Methods:** Ninety-one (31 OTD, 60 DPT) students were placed in small groups and discussed professional identities and interprofessional collaboration among OT/PT during pre-professional observations. Students completed the Readiness for Interprofessional Learning Scale (RIPLS) pre-post-meeting and a written reflection post-meeting. **Results:** Ninety-one students completed the Pre-RIPLS survey, while only 58 Post-RIPLS were completed (13 OTD, 45 DPT). The response rate was 63.7% overall (41.9% OT and 75% PT). A statistically significant difference was found between pre- to post-test RIPLS score among the entire group ($p = 0.013$), and the DPT students ($p = 0.020$), but not the OTD students ($p = 0.414$). Written reflections included the following themes: influence of personal experiences leading to choice of profession, observations shaping knowledge of the professions, similarities and differences between the two professions, and future collaboration. **Conclusion:** An IPE activity can be implemented early in the professional education of OTD/DPT students with positive results.

Author Bio(s)

Dr. Suzanne Trojanowski, PT, DPT is an Assistant Clinical Professor in the Physical Therapy Department at the University of Michigan-Flint. She is a Board-Certified in Neurologic Physical Therapy. Her research focuses on interprofessional education and knowledge translation.

Dr. Jillian Woodworth, DrOT, OTR/L is an occupational therapist, with a clinical doctorate in occupational therapy from Nova Southeastern University. Dr. Woodworth is an Assistant Clinical Professor of Occupational Therapy at the University of Michigan-Flint. Her research and education focuses on Interprofessional Education (IPE) among students in health science professional programs.

Anna Rose Wiencek, Occupational Therapy Student is a second year student in the OTD program at the University of Michigan-Flint. Anna Rose received her bachelors from the University of Idaho in Exercise Science and Health with a minor in Psychology. Anna Rose works as a GSRA for Dr. Jillian Woodworth.

Dr. Amy Yorke, PT, PhD is an Associate Professor and Associate Director of Community Engagement in the Physical Therapy Department at the University of Michigan-Flint. She is Board Certified in Neurologic Physical Therapy. Her research focuses on knowledge translation, outcome assessment in rehabilitation practice, and interprofessional education and collaboration.



The Internet Journal of Allied Health Sciences and Practice

Dedicated to allied health professional practice and education

Vol. 19 No. 2 ISSN 1540-580X

An Introduction to Interprofessional Education for First Semester Doctoral Occupational Therapy and Physical Therapy Students

Suzanne Trojanowski

Jillian Woodworth

Anna Rose Wiencek

Amy Yorke

University of Michigan--Flint

United States

ABSTRACT

Purpose: Interprofessional education (IPE) engages health care professional students in order to develop the knowledge, skills, and attitudes required of a health care practitioner. IPE can be challenging to execute; however, exposing students early in their professional education in IPE has positive results. Occupational therapy (OT) and physical therapy (PT) are health care professions who commonly work with each other. The purpose of this study is to describe the process and outcomes of implementing an IPE experience with first year doctoral OT (OTD) and PT (DPT) students completed within the first six weeks of the first semester of their respective programs. **Methods:** Ninety-one (31 OTD, 60 DPT) students were placed in small groups and discussed professional identities and interprofessional collaboration among OT/PT during pre-professional observations. Students completed the Readiness for Interprofessional Learning Scale (RIPLS) pre-post-meeting and a written reflection post-meeting. **Results:** Ninety-one students completed the Pre-RIPLS survey, while only 58 Post-RIPLS were completed (13 OTD, 45 DPT). The response rate was 63.7% overall (41.9% OT and 75% PT). A statistically significant difference was found between pre- to post-test RIPLS score among the entire group ($p = 0.013$), and the DPT students ($p = 0.020$), but not the OTD students ($p = 0.414$). Written reflections included the following themes: influence of personal experiences leading to choice of profession, observations shaping knowledge of the professions, similarities and differences between the two professions, and future collaboration. **Conclusion:** An IPE activity can be implemented early in the professional education of OTD/DPT students with positive results.

Keywords: Interprofessional education, occupational therapy education, physical therapy education

INTRODUCTION

Collaboration amongst a variety of healthcare workers is essential in today's healthcare systems. Interprofessional collaboration promotes high quality healthcare amongst healthcare systems and teams.¹ Interprofessional education (IPE) occurs, "when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes".¹ Four core competencies for interprofessional collaborative practice have been identified by the Interprofessional Education Collaborative (IPEC).² These include Values/Ethics for Interprofessional Practice, Roles/Responsibilities, Interprofessional Communication, and Teams and Teamwork.² Moreover, when IPE is implemented to promote collaboration in any setting of healthcare there is improvement in health outcomes, health services, and health systems.¹

Several healthcare professionals are involved in delivering physical rehabilitation with two of the largest professions being occupational therapists (OT) and physical therapists (PT). The American Occupational Therapy Association has identified the occupational therapy scope of practice within the profession's Occupational Therapy Practice Framework as follows:

The therapeutic use of everyday life activities (occupations) with individuals or groups for the purpose of enhancing or enabling participation in roles, habits, and routines in home, school, workplace, community, and other settings. Occupational therapy practitioners use their knowledge of the transactional relationship among the person, his or her engagement in valuable occupations, and the context to design occupation-based intervention plans that facilitate change or growth in client factors (body functions, body structures, values, beliefs, and spirituality) and skills (motor, process, and social interaction) needed for successful participation. Occupational therapy practitioners are concerned with the end result of participation and thus enable engagement through adaptations and modifications to the environment or objects within the environment when needed. Occupational therapy services are provided for habilitation, rehabilitation, and promotion of health and wellness for clients with disability- and non-disability-related needs. These services include acquisition and preservation of occupational identity for those who have or are at risk for developing an illness, injury, disease, disorder, condition, impairment, disability, activity limitation, or participation restriction.³

The American Physical Therapy Association defines the practice of the PT profession as follows:

Physical therapists are health care professionals who help individuals maintain, restore, and improve movement, activity, and functioning, thereby enabling optimal performance and enhancing health, well-being, and quality of life. Their services prevent, minimize, or eliminate impairments of body functions and structures, activity limitations, and participation restrictions. Physical therapy is provided for individuals of all ages who have or may develop impairments, activity limitations, and participation restrictions related to (1) conditions of the musculoskeletal, neuromuscular, cardiovascular, pulmonary, and/or integumentary systems or (2) the negative effects attributable to unique personal and environmental factors as they relate to human performance.⁴

The development of professional identity has been shown to help students successfully transition into a clinical setting.⁵ Helping foster professional identity in the graduate programs is essential to create OTs and PTs that are confident in their respective roles in the workplace.⁵ Moreover, studies have shown the importance of exposing students early in their educational careers on IPE. Positive impacts, such as improving interprofessional attitudes, increasing knowledge of healthcare professions, and improved perceived readiness for working interprofessionally, have occurred in early IPE meetings between OT and PT students.⁶ Another study echoed the statement that IPE interventions are time-efficient and produce constructive outcomes, such as curriculum development.⁷ Kim et al. found that the return on investment is worth the implementation and organization of IPE activities.⁶ Both OT and PT students indicate that IPE presented opportunities indicating the importance of improving healthcare services through proper collaboration.⁸ While there is a lot of evidence to support the collaboration of OT and PT professions, current studies often lack details of resources required to execute an IPE activity.

It is important for OTD and DPT students to gain understanding of being part of a multidisciplinary team.⁹ Learning these clinical skills are important to create practice-ready graduate students, in order to improve client outcomes and collaboration in their setting once they are working. OTD students specifically discussed the benefits of IPE as a way to learn more about other healthcare professionals they work directly with, while DPT showed an interest in patient outcomes through the use of IPE.⁸ Graduate students in OTD and DPT programs have continually shown improvements in teamwork and role boundaries after IPE experiences.⁶ Learning to promote effective collaboration, as well as establishing roles and boundaries, can reduce common stereotypes among healthcare providers. In one study, role boundaries were clarified by OTD and DPT students who educated other healthcare professionals on assessments and interventions.¹⁰

Currently, IPE is a requirement for both OTD and DPT programs as a part of the accreditation standards developed by their respective accrediting bodies.^{11, 12} The literature has shown that IPE can benefit students' awareness in proper collaboration in the clinical setting and develop professional role identity. Student learning experiences, such as adding IPE introduction seminars for first year students have shown to produce positive results in enhancing student knowledge.¹³ However, many studies do not include where OT/PT students are at in their education^{8, 14} or include students later in their education.^{6, 9, 15} In addition, these studies were with Master's-level OT students, which differs from the cohort in our study, which is with OTD students. It is unknown if this will produce differing results. The literature lacks reports about resources (time, money) required for planning and executing IPE events. The purpose of this study is to describe the process and outcome of implementing an IPE experience with first year OTD and DPT students completed within the first six weeks of the first semester of their respective programs.

METHODS

Research Design

A mixed-methods research design was used. Qualitative analysis of student reflections was performed. Quantitative analysis of The Readiness for Interprofessional Learning Scale (RIPLS) was completed on pre- and post- learning activities, in order to assess students' attitudes toward interprofessional learning.¹⁶ The 19-item instrument uses a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) to arrive at a summative score. Four subscales examine attitudes toward teamwork and collaboration in learning, positive and negative professional identity, and roles and responsibilities. Higher scores indicate more positive attitudes toward interprofessional learning.¹⁷ Qualitative data, from the de-identified post-learning reflections, were analyzed using a thematic analysis methodology.¹⁸ In a thematic analysis approach, initial ideas are identified, and initial codes created. These codes are then collated into themes, which are then reviewed, defined, and named.¹⁸ This method was chosen because of the likelihood of shared meaning across the student reflections.¹⁹

Description of the Interprofessional Education Activity

Students were in their first semester of their respective professional programs, enrolled in introductory courses. The OTD students were also part of an inaugural cohort. The *Introduction to IPE* event was designed to focus on two of the IPEC competencies, Teams and Teamwork and Roles/Responsibilities, and to be at the exposure level.^{2, 20} Two learning objectives for the *Introduction to IPE* were as follows: (1) Clearly communicate one's roles and responsibilities to others (Roles/Responsibilities); (2) Explore past experiences and recognize the value of a strong OT/PT team within the clinic. (Teams and Teamwork). The event was a required activity for both the OT and PT students and was included as a course expectation in the respective syllabi. *Introduction to IPE* also was designed to be time efficient for both students and faculty. Student time was estimated to be between 1-2 hours to complete all components of the activity. Faculty time was estimated to be 4-5 hours total (creation, execution, and student assessment). There was no cost to prepare or execute the *Introduction to IPE* activity. Any resource utilized to create and execute the activity was readily available to all faculty on campus (i.e., media studio for filming the video, university learning management system for dedicated course shell). This study received exempt status by the University of Michigan – Flint's Institutional Review Board.

Students were divided into small groups with two physical therapy students and one to two occupational therapy students. A dedicated course shell for the *Introduction to IPE* offering was created in the university's Learning Management System (LMS). Within this LMS course, students could access the instructions, links to the survey, and find contact information for their groups. Students were introduced to *Introduction to IPE* separately during their respective courses. This included orientation to the activity and where to locate items within the LMS course. Refer to Table 1 for timeline of events. The event took place in fall 2019.

Table 1: Timeline of *Introduction to IPE* Event

When	Event
Week 3 of semester	Orientation to <i>Introduction to IPE</i> Students completed Pre-RIPLS
Weeks 4 & 5 of semester	Small group meetings and completion of group activities
Week 6 of semester	Post-meeting reflections completed Post-RIPLS completed

Students completed the pre-RIPLS during class time after the initial introduction to the event. After completing the pre-RIPLS, students watched a video (five minutes in length) developed by two of the authors (ST and JW) describing their clinical experience with interprofessional collaboration with members of the other profession. The emphasis was on Teams and Teamwork and Roles/Responsibilities.² This brief video was intended to serve as an introduction of the course instructors to students and to model a positive and collaborative OT/PT relationship. Students reviewed the introductory video on their own time, outside class time.

Students were responsible for making contact with their group to arrange a time and location to meet face-to-face and complete the assigned activity. The rationale for student-driven arrangements was to develop early professional behaviors of responsibility and foster a social connection that is not always possible in a formal classroom setting.

During the meetings, students introduced themselves using a “camera phone” icebreaker, whereby students described themselves in relation to a meaningful picture already located on their camera phone. This icebreaker activity was intended to engage the students socially to allow for increased interpersonal comfort when engaging in an interview focused on professional identity and interprofessional interactions.

Students then completed a brief interview of each other using the following questions: (1) Why are you pursuing a career in occupational/physical therapy?; (2) What do you know about OT/PT? (OT answers about PT, PT answers about OT); (3) During your observations prior to entering school, did you observe an OT and PT working together? What type of interaction was it? How did the OT/PT team work together, yet still address their unique scope of practice?; (4) If no one observed an OT/PT team, then how do you think OT and PT would collaborate in the clinical setting? These questions were developed to address the IPEC competencies of Roles and Responsibilities (question 1 & 2) and Teams and Teamwork (questions 3 and 4).² See Table 2 for specific IPEC subcompetencies addressed during this activity.²

Table 2: Mapping of Interview Questions to IPEC Subcompetencies

Question	IPEC Subcompetency
(1) Why are you pursuing a career in occupational/physical therapy?	RR1. Communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals.
(2) What do you know about OT/PT? (OT answers about PT, PT answers about OT).	RR1. Communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals.
	RR2. Recognize one's limitations in skills, knowledge, and abilities.
	RR4. Explain the roles and responsibilities of other providers and how the team works together to provide care, promote health, and prevent disease.
	RR7. Forge interdependent relationships with other professions within and outside of the health system to improve care and advance learning.
(3) During your observations prior to entering school, did you observe an OT and PT working together? What type of interaction was it? How did the OT/PT team work together, yet still address their unique scope of practice?	TT1. Describe the process of team development and the roles and practices of effective teams.
	TT8. Reflect on individual and team performance for individual, as well as team, performance improvement.
(4) If no one observed an OT/PT team, then how do you think OT and PT would collaborate in the clinical setting?	TT1. Describe the process of team development and the roles and practices of effective teams.
	TT8. Reflect on individual and team performance for individual, as well as team, performance improvement.

Post-meeting students completed a reflection assignment. Both groups of students responded to the same reflection questions. Questions included: (1) Summarize the icebreaker and interview; (2) How has your knowledge increased about the OT/PT

profession?; (3) How has your knowledge increased regarding interprofessional collaboration? This required reflection assignment was a graded assignment for the student's individual course. Students then completed a Post-RIPLS survey to gauge change in attitudes to interprofessional learning. The Post-RIPLS survey was completed outside of class time.

DATA ANALYSIS

Descriptive statistics were used to describe the sample characteristics. Statistical analysis of the pre- and post- score RIPLS measures was performed using the Wilcoxon signed rank test. The post-meeting reflections were reviewed for themes by the authors. Themes were identified separately and then agreed upon by the authors. The P value for statistical significance was set at $P < 0.05$. Statistical analyses were computed with SPSS 26® (IBM Corp, Armonk, New York).

Qualitative analysis of the students' reflections was performed using a thematic analysis approach.¹⁸ Reflections were first categorized based on professional program (i.e., OTD or DPT). All authors manually read the post learning reflections then identified initial codes. Authors then met to collate the codes into themes. These themes were reviewed, named, and defined through a collaborative consensus process. The reflections were then re-assessed to identify compelling examples of the identified themes.

RESULTS

Ninety-one students completed the Pre-RIPLS survey (OT = 31, PT = 60). Eighty-seven students agreed to have their data analyzed, and of those, 67 were female and 20 were male, while only 58 Post-RIPLS were completed (OT = 13, PT = 45). The response rate was 63.7% overall with 41.9% OT response and 75% PT response rate. The average ages of PT/OT were 23.6/23.5 years respectively. The cohorts consisted of 13 males (OT = 2, PT = 11) and 45 females (OT = 11 PT = 34). The average RIPLS scores for the OT students was 86.0 for the pre-test and 85.9 for the post-test. The PT students average RIPLS score was 85.8 pre-test and 87.6 post-test. Full RIPLS results, including subscale results, are found in Table 3. Utilizing the Wilcoxon Signed Ranks Test, there was a significant difference when looking at the pre and post RIPLS score of the entire sample ($p = 0.013$) and the DPT students ($p = 0.020$), but not the OTD students ($p = 0.414$).

Table 3: Readiness for Interprofessional Learning Scale (RIPLS) Total and Subscale Score for Entire Sample OTD and DPT Students

	Entire Sample (n = 58)		OTD (n = 13)		DPT (n = 45)	
	Pre-Mean (SD)	Post-Mean (SD)	Pre-Mean (SD)	Post-Mean (SD)	Pre-Mean (SD)	Post-Mean (SD)
RIPLS Total	85.8 (7.4)	87.1 (7.1)	86.0 (7.4)	85.9 (8.2)	85.8 (7.6)	87.6 (6.8)
Teamwork	41.0 (3.9)	42.0 (3.7)	41.6 (3.5)	42.9 (3.4)	40.8 (4.0)	41.7(3.8)
Negative professional identity	13.8 (1.3)	13.8 (1.6)	13.3 (1.6)	13.3 (2.1)	14.0 (1.1)	14.0 (1.4)
Positive professional identity	17.2 (2.6)	17.6 (2.3)	18.2 (1.7)	18.0 (2.0)	16.9 (2.8)	17.5 (2.4)
Roles and responsibilities	12.9 (1.2)	13.1 (1.4)	12.5 (1.9)	12.3 (1.2)	13.0 (1.1)	13.3 (1.4)

Ninety-one post-event reflections were analyzed. Students provided consent through the electronic survey and their names were not collected to ensure anonymity. All students completed the reflection as part of the class assignment; therefore, were all included in the qualitative analysis since there was no way for the researchers to know which four students did not give consent.

Qualitative analysis of post-event reflections demonstrated several themes. One of the themes being a large number of students were inspired to pursue a career in PT and OT because of a personal or family member's injury or condition that necessitated seeking PT and/or OT services. OT students also expressed interest in the holistic view of OT as well as being able to be creative when assisting others. PT students commonly reported having an interest in fitness and general health, which led them to the PT profession. Many students during their prerequisite observation experiences had observed PT and OT collaboration in the clinic environment, primarily in a pediatric or inpatient setting. This ranged from intermittent communication to extensive collaboration and co-treatment. Most students had a basic understanding of the other's profession but furthered their knowledge of the full breadth of the other's profession. Students acknowledged how important collaboration is in healthcare and overall described this *Introduction to IPE* offering as a positive experience.

Table 4: Summary of Themes and Illustrative Quotes Taken From Reflection Papers

Theme	Illustrative Quotes
<p>Personal experiences led me to become an occupational therapist or physical therapist.</p>	<p><i>DPT Student: [OTD student name] said she was inspired by her grandfather who benefited greatly from an occupational therapist that worked with him....I shared my background of going through two ACL reconstructions, which peaked my interest in the field after going through therapy.</i></p> <p><i>DPT Student: Each of us is pursuing a career in either OT or PT because at some point in our lives, we had an impactful personal experience that led us to our relative career paths.</i></p>
<p>Observation experiences have shaped my knowledge of occupational therapy and/or physical therapy and interprofessional collaboration.</p>	<p><i>OTD Student: [DPT student name] experience, the occupational therapist was always performing hand therapy....I was surprised to learn that physical therapy students had a very limited idea of what occupational therapy was...it increased my ability to explain what occupational therapy is.</i></p> <p><i>OTD Student: In the past, I used to think that physical therapists never wanted to collaborate with occupational therapists and enjoyed being their own separate entity and not collaborating.</i></p> <p><i>DPT Student: None of us had seen OTs and PTs working collaboratively, though we had seen them working in the same area or with the same patients.</i></p> <p><i>DPT Student: Before this interview, my knowledge of OT was very minimal. I had no experience with OT's and had never been exposed to a PT/OT relationship.</i></p> <p><i>DPT Student: I thought OT's were generally CHTs (certified hand therapists) and primarily worked with hands--because that was my personal experience with an OT.</i></p> <p><i>DPT Student: I witnessed an unnecessary divide between the physical therapists and occupational therapists at an outpatient clinic I worked at, and I believe if they could establish mutual respect among the professions, patient experience would elevate.</i></p>
<p>Occupational therapy and physical therapy have similarities.</p>	<p><i>OTD Student: I learned that our similarities go deeper than just what we physically do with patients. We choose this route as a profession because we have hearts and minds that want to positively impact others.</i></p> <p><i>OTD Student: We both learn evidence based, client centered care for patients in an altruistic and scientific way.</i></p>

	<p><i>OTD Student: [DPT student name] reemphasized her interest in horse therapy. I thought this was fantastic since two women in our OT cohort expressed interest in horse therapy as well.</i></p> <p><i>DPT Student:...observed OT and PT working together, usually with the same patients to achieve a common goal of helping the client improve.</i></p> <p><i>DPT Student: We basically want to see people reach their greatest potential and live a better life by being able to move free of pain.</i></p> <p><i>DPT Student: There is a very large overlap in roles of occupational therapists and physical therapists. Each wants the patient to be able to function as independently as possible and live a full life whatever that means for the patient.</i></p>
Occupational therapy and physical therapy have differences.	<p><i>OTD Student: Physical therapists deal more with movement dysfunctions and mobility whereas occupational therapists deal more with occupations of daily living such as bathing, grooming, dressing, eating, and equipment modification.</i></p> <p><i>DPT Student: We agreed that OT focuses more on fine motor skills while PT focuses on gross motor skills...OT improves the patient's ability to perform activities of daily living...PT focuses on improving the patient's ability to perform movement of the human body.</i></p> <p><i>DPT Student: Despite working closely together to treat a patient, the OT and PT were able to address their unique scope of practice by developing treatment plans based on the integration of their individual techniques and interventions, and spending time working independently with a patient.</i></p> <p><i>DPT Student: The main basis for occupational therapy is that it deals with "occupations". These occupations have or give meaning to life and that is the primary goal of the OT, to make sure that you can take part in these activities.</i></p>
Future opportunities	<p><i>OTD Student: It made me realize that PT's and OT's should not be in competition with each other or have any sort of animosity towards each other, when we are both on the same team and have the same common goal in mind.....the relationship between members of an interprofessional team is built on and strengthened through communication. Good communication increased productivity and efficiency throughout the rehab process, while also allowing all team members to focus on what's most important, the patient.</i></p> <p><i>DPT Student: I think my mindset has changed in the area of thinking all occupational therapists didn't like physical therapists. This activity was very uplifting ...that all three of us believed the care from two health professionals of different disciplines would be better than one.</i></p> <p><i>DPT Student: The teamwork created between the two professionals greatly increases the quality of care....we must work together...and hold each other accountable to keep up this high standard.</i></p> <p><i>DPT Student: Just by getting together for a short amount of time we were able to learn from each other. I cannot wait to see what else we can learn from each other as we continue to learn in our programs...[and] when we all start doing clinicals and working.</i></p>

	<i>DPT Student: I am excited to learn more about occupational therapy and other health care professions in order to become a more well-rounded physical therapist...</i>
--	--

DISCUSSION

The purpose of this study was to describe the process and outcomes of implementing an IPE experience with first year OT and PT students completed within the first six weeks of the first semester of their respective programs. Integrating IPE experiences early in the professional education of OTD and DPT students is achievable with minimal resources, both time and monetary, with positive outcomes. The previously stated learning objectives were met as demonstrated in the written reflections. While OT and PT share similar roles and responsibilities and commonly work as a team, each profession has its own unique identity. As students move forward in their education, they will be developing both a uniprofessional identity as well as an interprofessional identity. Understanding the unique scope of practice and the overlap between the OT and PT professions is important for students to learn.

Student development of their professional identity and role on an interprofessional healthcare team can begin early in their professional education. It is feasible for students to engage in IPE activities without direct supervision from faculty. This creates a more social environment, potentially with less stress and anxiety for the students. At the time of the event, OT and PT students were enrolled in a common anatomy lecture course; however, several students reported that students sat in lecture with their respective professions. Students reported enjoying meeting each other through this *Introduction to IPE* activity in a formalized way that traditional lecture classes do not facilitate. This social engagement with other health professional students may assist in future formalized IPE activities, where knowing the team members can support collaborative care. The *Introduction to IPE* event was scheduled to occur early in the semester to promote social engagement as well as to prepare the students for participation in a large-scale IPE offering, involving additional health care professional students, occurring later in the semester. *Introduction to IPE* allowed students to explain their individual profession's skill set and how it fit within an interprofessional team.

As the inaugural OTD cohort develops and more opportunities are created for OT/PT IPE, knowing a cohorts' readiness to engage in interprofessional learning at the start of their didactic program can be helpful. While the RIPLS did demonstrate a statistically significant change from pre- to post-test, we do not believe this a meaningful change. The range of possible scores in the RIPLS is 19-95, and baseline scores in our sample were > 85, indicating an overall positive attitude toward IPE, consistent with other healthcare students, with only a 1.3 change in mean RIPLS score from pre- to post-test.²¹⁻²⁴ Other studies involving OT and/or PT students have not consistently reported a significant change.^{17, 25} Students in our study completed the survey approximately 4 weeks apart. The pre-RIPLS was completed in class using an electronic survey. While there was confidentiality of their individual responses, both cohorts may have demonstrated a desirability bias in wanting to demonstrate overall positive attitudes about their own profession and their attitudes towards other professions.

Engaging the students in reflection allowed for additional assessment. The students engaging in this *Introduction to IPE* demonstrated understanding of key similarities and differences between the professions. Reflections also revealed both positive and negative interprofessional interactions during the students' pre-professional observations or personal work experience. Overall, students had positive expectations of each of the professions and were excited about the ability to collaborate in the future. Some student groups did discuss differences between each other's professions in simplistic language such as OT manages the upper extremity while PT manages the lower extremity. The use of this language is not accurate and undervalues the OT and PT professions.²⁶ Inaccuracies like this could be managed with a follow-up meeting in a larger group with all students.⁹ The focus of this larger group would be to address misconceptions about the professions and to develop language that could be used to explain similarities and differences in scope of practice to patients and clients.⁹ Educating students on the use of the International Classification of Functioning, Disability and Health (ICF) model as a framework for delineating individual scopes of practice could be an addition to future offerings of the *Introduction to IPE* event.^{26, 27}

When examining the results of the qualitative analysis, the first theme (personal experiences led me to become an occupational therapist or physical therapist) reflects IPEC subcompetency RR1 (communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals).² Those personal experiences gave insight into what an OT or PT's role is in the care of a patient/client. Theme number two (observation experiences have shaped my knowledge of occupational therapy and/or physical therapy and interprofessional collaboration) reflects learning in the area of subcompetencies RR4 (explain the roles and responsibilities of other providers and how the team works together to provide care, promote health, and prevent disease); TT1 (describe the process of team development and the roles and practices of effective teams); and TT8 (reflect on individual and team performance for individual, as well as team, performance improvement). Students described observations both of positive team interactions as well as negative team interactions. Theme three (occupational therapy and physical therapy have similarities)

and theme four (occupational therapy and physical therapy have differences) both reflect subcompetencies RR1 (communicate one's roles and responsibilities clearly to patients, families, community members, and other professionals); RR2 (recognize one's limitations in skills, knowledge, and abilities); and RR4 (explain the roles and responsibilities of other providers and how the team works together to provide care, promote health, and prevent disease). Being able to articulate the differences between OT and PT is a common everyday occurrence for clinicians. It is important for students to begin to recognize both the similarities and differences and communicate those in patient-friendly terms. The last theme (future opportunities) really reflects the students' collective desire to learn more and engage in further IPE learning opportunities. Despite a lack of quantitative improvement in the *Introduction to IPE* learning activity, the students expressed wanting future opportunities and recognizing that they have more learning to do in the IPE arena.

In order to prepare for more immersive IPE activities, smaller opportunities that focus on one or two of the IPEC competencies, at the level of exposure, can be useful in student development. Students engaged in the *Introduction to IPE* event gained awareness of components of each other's profession that are not commonly known (i.e. OT's role in mental health). Repeating this activity later in their respective education could produce different results. Furthermore, conclusions about the optimal time in the semester for an event of this nature can be difficult to determine as the *Introduction to IPE* was a new event. The rationale for delivering this event early on in the semester was to assist students in preparing for future IPE events later in the semester. Future research could examine the ideal time in the semester for this event.

Students of both the OTD and DPT program were required to complete observation hours as a condition of application and acceptance into the respective program of study. Observation hours have been reported to allow prospective students to gain sufficient knowledge to make an informed career decision.²⁸ Observation hours also provide an opportunity for students to begin to learn about professional communication, scope of practice, and relationships and interactions.²⁹⁻³¹ These observation experiences appeared as a theme in our qualitative analysis (observation experiences have shaped my knowledge of occupational therapy and/or physical therapy and interprofessional collaboration). This highlights that students are coming to our program already with exposure and learning related to IPE.

Limitations

The results of this study are on one cohort each of OTD and DPT students at a Midwestern university, limiting its generalizability to other educational programs. Because of the difference in cohort size, the groups were created with an unequal number of students (1 OTD student to 2 DPT students). This may have created a power differential that influenced group discussion or perception. In addition, the pre-RIPLS was completed in class using an electronic survey; however, the post-RIPLS was not completed in class leading to decreased response rate. The use of class time to facilitate completion of surveys can be beneficial in improving response rate. Because the *Introduction to IPE* event occurred in an unsupervised, extended classroom space, there was less control over the way students asked each other the specified questions. During orientation to the event, students were instructed to ask the questions as written, but no author was present during the small group meetings. The lack of instructor presence at these meetings was intentionally designed to allow for more authentic interpersonal connections that could potentially be carried forward to future IPE events. The students were required to complete a written reflection of their encounter which promoted the need to ask the prescribed interview questions as written.

IMPLICATIONS FOR EDUCATIONAL PRACTICE AND FUTURE RESEARCH

In practice, OT and PT are frequent collaborators in the care of patients across many practice settings. Because of this collaboration, OT and PT students should be provided the opportunity to develop strong interprofessional relationships with each other early and throughout their professional didactic and clinical educational experiences. This will ensure that students have the tools they need to become effective collaborators by understanding scope of practice commonalities and differences. Executing quality IPE experiences over time to develop the IPEC competencies adds resource demands on students and faculty. OT and PT faculty need to have adequate skills and training, as well as resources to assist in the development of interprofessional competencies of their students. Fortunately, many high-quality resources are available online and without charge. A sample of resources is found in Table 5.

Table 5: List of Key Interprofessional Resources

Name and Website	Description
National Center for Interprofessional Education and Practice: https://nexusipe.org/	Provides evidence and resources to guide faculty and practitioners on interprofessional education and collaborative practice.
Centre for Advancement of Interprofessional Education: https://www.caipe.org/	United Kingdom based center that promotes and develops IPE and collaborative practice. Provides IPE resources.
Interprofessional Education Collaborative: https://www.ipecollaborative.org/	A collaborative of 21 national education associations of schools of health professions and includes a variety of IPE resources.
MedEd Portal: https://www.mededportal.org/interprofessional-education	Compendium of medical and interprofessional curricula.

If individual colleges or universities do not have PT or OT present on their campus, faculty should work to connect with each other outside of their institution. Utilizing technology, such as virtual meeting rooms, can assist in developing collaborative behaviors across programs, faculty, and most importantly in our students, which would hopefully lead to stronger relationships as clinicians and improve patient care. In light of current restrictions on face-to-face learning, as a result of the COVID-19 pandemic, virtual IPE events allow for the continuation of development of interprofessional skills. Future research could compare face-to-face to virtual delivery of IPE events.

IPE needs to begin somewhere, and attitudes and beliefs begin to form prior to formal education. Small, low-stakes events, such as the *Introduction to IPE* event described here, are an important first step in developing interprofessional collaborative practitioners. Being intentional in the development of these activities regarding assessment of learning is critical. Qualitative analysis of learning can often elucidate subtle learning that cannot be captured in quantitative analysis alone.

Future research should continue to focus on the impact of IPE on patient care. Since PT and OT commonly work side-by-side, interprofessional clinical experiences between OT/PT students may move students past the learning level of exposure toward competence. In addition, because there are often misconceptions about the unique aspects of OT and PT scope of practice, research focused on how OT and PT students, as well as practitioners, convey both similarities and differences of the professional to key stakeholders (patients, prescribers) can help guide educational offerings around this topic.

As the inaugural cohort of the OTD program moves forward, mapping the development of OT-PT-specific IPE competencies could be beneficial for both programs. Development of higher-level skills regarding professional collaboration could be a focus of future IPE events and research. Furthermore, research can focus on how Doctoral level OT students develop IPE skills compared to Master's level OT students.

CONCLUSION

Implementing an IPE activity early in the education of OT and PT students is feasible and has positive initial outcomes. IPE can be conducted in a timely manner without adding stress to faculty or students. This can also be achieved with minimal cost of money and time for both students and faculty involved.

REFERENCE LIST

1. Gilbert JH, Yan J, Hoffman SJ. A WHO report: framework for action on interprofessional education and collaborative practice. *J Allied Health*. 2010;39 Suppl 1:196-197. [PMID: 21174039]
2. Interprofessional Education Collaborative. (2016). Core competencies for interprofessional collaborative practice: 2016 update. Washington, DC: Interprofessional Education Collaborative.
3. American Occupational Therapy Association (AOTA). Occupational therapy practice framework: domain and process. *Am J Occup Ther*. 2014;68:S1-S48. [PMID: 12458855]
4. Guide to Physical Therapist Practice 3.0. APTA.org. <http://guidetoptpractice.apta.org/>. Published November 27, 2016. Accessed May 2, 2020.
5. Ashby SE, Adler J, Herbert L. An exploratory international study into occupational therapy students' perceptions of professional identity. *Aust Occup Ther J*. 2016;63(4):233-243. doi:10.1111/1440-1630.12271. [PMID: 27118614]
6. Kim YJ, Radloff JC, Stokes CK, Lysaght CR. Interprofessional education for health science students' attitudes and readiness to work interprofessionally: a prospective cohort study. *Braz J Phys Ther*. 2019;23(4):337-345. doi:10.1016/j.bjpt.2018.09.003 [PMID: 30245041]
7. Woodnorth, J, Davidson HA. (2019). Interprofessional education enhancement: inclusion of occupational therapy. *J Occup Ther Educ*. 3(3). <https://doi.org/10.26681/jote.2019.030310>
8. Olenick M, Flowers M, Muñecas T, Maltseva T. Positive and negative factors that influence health care faculty intent to engage in interprofessional education (IPE). *Healthcare (Basel)*. 2019;7(1):29. Published 2019 Feb 16. doi:10.3390/healthcare7010029 [PMID: 30781453]
9. Wynczak KD, Hadley DE, Sen S, Ward JF, Ganetsky VS, Sen S. Pharmacy, physical therapy, occupational therapy, and physician assistant professional students' perspectives on interprofessional roles and responsibilities. *J Interprof Care*. 2019;33(6):832-835. doi:10.1080/13561820.2019.1572599 [PMID: 30686079]
10. Dunleavy K, Galen S, Reid K, Dhar P, DiZazzo-Miller R. (2017). Impact of interprofessional peer teaching on physical and occupational therapy student's professional role identity. *J Interprof Educ Pract*. 2017;6:1-5.
11. 2018 Accreditation Council for Occupational Therapy Education (ACOTE®) Standards and Interpretive Guide (effective July 31, 2020). *Am J Occup Ther*. 2018;72(Supplement_2):7212410005p1-7212410005p83. doi:10.5014/ajot.2018.72S217
12. CAPTE Standards and Required Elements for Accreditation of Physical Therapist Education Programs. CAPTEonline.org. http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Accreditation_Handbook/CAPTE_PTS_tandardsEvidence.pdf. Published May 30, 2019. Accessed May 2, 2020.
13. Gibbs D, Dahlgren L, Greenwalt S, Hahn L. (2018). Effects of a short interprofessional education orientation program on student attitudes towards interprofessional education. *Am J Occup Ther*. 2018; 71(4_Supplement_1):7111510183p1. <https://doi.org/10.5014/ajot.2017.71S1-PO3034>
14. Shoemaker MJ, Platko CM, Cleghorn SM, Booth A. Virtual patient care: an interprofessional education approach for physician assistant, physical therapy and occupational therapy students. *J Interprof Care*. 2014;28(4):365-367. doi:10.3109/13561820.2014.891978 [PMID: 24593330]
15. Bondoc S, Wall T. Interprofessional educational experience to assist in student readiness toward neurorehabilitation. *Occup Ther Health Care*. 2015;29(2):153-164. doi:10.3109/07380577.2015.1012775 [PMID: 25821885]
16. McFadyen AK, Webster VS, Maclaren WM. The test-retest reliability of a revised version of the Readiness for Interprofessional Learning Scale (RIPLS). *J Interprof Care*. 2006;20(6):633-639. doi:10.1080/13561820600991181 [PMID: 17095441]
17. Knecht-Sabres LJ, Wallingford M, Lee MM, Gunn JF, Anaya EM, Getch SE, Krumdick ND, Workman GM. The impact of an interprofessional geriatric training experience: attitudes of future healthcare providers. *J Occup Ther Educ*. 2018;2. <https://doi.org/10.26681/jote.2018.020305>
18. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psych*. 2006;3:77-101.
19. Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. *Med Teach*. 2020;42(8):846-854. doi:10.1080/0142159X.2020.1755030
20. Charles G, Bainbridge L, Gilbert J. The University of British Columbia model of interprofessional education. *J Interprof Care*. 2010;24(1):9-18. doi:10.3109/13561820903294549
21. Hood K, Cant R, Baulch J, et al. Prior experience of interprofessional learning enhances undergraduate nursing and healthcare students' professional identity and attitudes to teamwork. *Nurse Educ Pract*. 2014;14(2):117-122.

22. Rose MA, Smith K, Veloski JJ, Lyons KJ, Umland E, Arenson CA. Attitudes of students in medicine, nursing, occupational therapy, and physical therapy toward interprofessional education. *J Allied Health*. 2009;38(4):196-200.
23. McCrorie P, Roberts PA, Sainsbury D, Boldy D, Gower S. Perceptions of nursing and physical therapy students toward peer-led interprofessional education in manual handling. *Nurse Educ*. 2017;42(1):E1-E6.
24. Turkelson C, Keiser M, Yorke AM, Smith L. Piloting a multifaceted interprofessional education program to improve physical therapy and nursing students' communication and teamwork skills. *J Acute Care Phys Ther*. 2018;9(3):107-120. doi:10.1097/JAT.0000000000000077
25. Schreiber J, Goreczny A, Bednarek ML, Hawkins SR, Hertweck ML, Sterrett SE. The effects of a single event interprofessional education (IPE) experience on occupational therapy students' attitudes toward IPE. *Internet J Allied Health Sci Pract*. 2014;12(1):1-8.
26. Schwab SM, Zeleznik AJ. Using the language of the ICF to distinguish physical therapy and occupational therapy services in the acute care setting. *J Acute Care Phys Ther*. 2020;11(1):40-43.
27. Towards a common language for functioning, disability and health: The International Classification of Functioning, Disability and Health. www.who.int. <https://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1>. Published 2002. Accessed May 2, 2020.
28. Wheeler E, Finucane S, Soper S, Mayhew T. Perceived value of preadmission physical therapy observation hours and their ability to predict academic performance. *J Phys Ther Educ*. 2018;32(1):17-25. doi:10.1097/JTE.0000000000000029
29. Irby BT, Sue CA, Smith KM, Alwan M. Maximizing the shadowing experience: a guidance document. *Hosp Pharm*. 2016;51(1):54-59.
30. Kitsis EA, Goldsammler M. Physician shadowing: a review of the literature and proposal for guidelines. *Acad Med*. 2013;88(1):102-110.
31. Wang YJ, Lin YH, Lewis MP, Fetterman MD, Gesundheit MN. Is a career in medicine the right choice? The impact of a physician shadowing program on undergraduate premedical students. *Acad Med*. 2015;90(5):629-633.