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# Interprofessional Collaboration Practice Between Nurses and Occupational Therapists

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Interprofessional Collaboration Practice Between Nurses and Occupational Therapists

Presented in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Occupational Therapy

Eastern Kentucky University  
College of Health Sciences  
Department of Occupational Science and Occupational Therapy

Kimberly Lamke  
2022

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## Executive Summary

**Background:** There is limited research on the interprofessional relationship between occupational therapists and nurses in pediatric outpatient settings, as well as the understanding nurses have of occupational therapy. Interprofessional collaboration is a key component in pediatric client care, regardless of the setting. Interprofessional collaboration is imperative to ensure that health care teams are efficient and able to provide clients with the highest quality of care (Loy et al., 2015).

**Purpose:** The purpose of this Capstone is to determine how nursing students perceive occupational therapy in a pediatric setting and to examine their perceptions of the interprofessional relationship. Further, it will determine the effectiveness of a training to educate nursing students about pediatric occupational therapy and interprofessional collaboration and communication. By evaluating pre and post understanding by nursing students about occupational therapy, the importance of interprofessional relationships may be enhanced.

**Theoretical Framework.** The Interprofessional Collaborative Practice Model (ICP) was a guiding framework for this Capstone Project. The competencies of values and ethics, roles, and responsibilities, interprofessional communication, and teams and teamwork are a part of the ICP (IPEC, 2016).

**Methods.** A quantitative survey design yielded a description and understanding of nursing students' perceptions and attitudes of occupational therapy and interprofessional communication. The Readiness for Interprofessional Learning Scale (RIPLS) was used pre and post training to examine the readiness of nursing students for interprofessional education, along with additional open-ended questions to yield in-depth understanding of content. Surveys were created using Qualtrics online software. Qualtrics was chosen as it is a user-friendly, web-based tool to conduct survey research.

**Results:** This study revealed a lack of in-depth knowledge on the role of occupational therapy by nursing students and the need to educate healthcare professionals on interprofessional collaboration and communication. Quantitative analysis of the data obtained in this Capstone revealed that the objectives of the study were largely met. Mean scores for 78.9% of the Likert scale questions improved from the pre to post-test. Based on these findings, the educational module was found to increase knowledge of therapy services, occupational therapy services in pediatrics, and interprofessional collaboration and communication.

**Conclusions:** Pre-service educational modules are a strategy to impact other profession's understanding of interpersonal communication and collaboration. Occupational therapy focuses on client-centered care and has a role in being influential in various environments and as a part of team to produce effective patient outcome. Educating other professions on interprofessional collaboration and communication and occupational therapy will improve referrals to occupational therapy, allowing more clients to benefit from skilled intervention and services.

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Choosing to begin this post professional doctoral program shortly after a global pandemic began was no easy feat. There were challenges all along this journey: long days, working on papers during baseball tournaments and a fight against cancer. This is dedicated to my children: I hope that one day you will look back on this and realize that you can achieve your dreams no matter the circumstances.

**EASTERN KENTUCKY UNIVERSITY  
COLLEGE OF HEALTH SCIENCES  
DEPARTMENT OF OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY**

**CERTIFICATION OF AUTHORSHIP**

Submitted to (Faculty Mentor's Name): Shirley O'Brien, Ph.D., OTR/L, FAOTA

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Title of Submission: Interprofessional Collaboration Practice Between Nurses and Occupational Therapists

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Date of Submission: November 10, 2022

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## **Section 1: Nature of the Project and Problem Identification**

Interprofessional teamwork is a key component in pediatric client care, regardless of the setting. Working within an interprofessional team requires many skills such as understanding one's own role and understanding the role of other healthcare professionals. Interprofessional and interdisciplinary as terms are often used interchangeably in healthcare settings. To prevent role confusion in an interdisciplinary team, occupational therapists must define their role clearly. Interprofessional team members benefit from continuing interprofessional education to best understand other discipline's roles and maximize collaboration efforts (Atwal, 2002).

Interprofessional collaboration is imperative to ensure that health care teams are efficient and able to provide clients with the highest quality of care (Loy et al., 2015). Many interdisciplinary referrals originate from the nursing profession, as the various nurse practitioners hold key roles in primary client care. Nurses often play a prominent role for client care and make referrals in the outpatient healthcare setting (Bauer & Bodenheimer, 2016). Understanding the role and scope of various healthcare professions, such as occupational therapy, can provide optimum services and expertise to pediatric clients.

Health care professionals have many misperceptions and limited views about the profession of occupational therapy and its scope of practice in pediatrics. The broad nature of occupational therapy based upon lifespan considerations and practice settings such as medical, community and school systems add to the role confusion by others, including the public. Meny and Hayat (2017) found that health care professionals such as physicians, nurses, physical therapists, and social workers had mixed understanding of the roles of OT in a medical setting. Other professionals must have an understanding of professional roles and expertise to refer for

services appropriately. Peranich and colleagues (2010) reinforced the need for nurse practitioners to understand the breadth and depth of allied health services in primary care.

Role blurring is another issue that comes to the forefront with occupational therapy and other health professions. Ciccia and Radakowski (2021) highlighted the overlap of speech language pathology and occupational therapy. They reiterated the importance of knowledge of professional scope of practice and trust within professional expertise. Without such understanding, barriers to effective referral and role collaboration exist. Barriers to collaboration between nurses and occupational therapists is another aspect for consideration. Identified barriers included lack of time, personality factors, and the need for occupational therapists to advocate for their profession and educate team members (Loy et al., 2015). Appreciating the value of the role and scope of other professions by nurses requires intentional educational training for intervention planning and implementation (Alhamidi et al, 2021)

The role of occupational therapy is to facilitate independence in all facets of life for people of all ages so that they can engage in skills for daily living and occupational engagement. Within the realm of pediatric services, occupational therapists help children develop skills needed to grow into functioning, contributing members of society. Many healthcare professionals frequently work together to serve pediatric clients (Stephenson & Costello, 2020). Pediatric occupational therapy practitioners support the role of play within a variety of settings and promote play and independence. Occupational therapists use play as a tool that influences all aspects of a child's life; play is how children make sense of their environment (AOTA, 2012). Nurses often lack adequate understanding of what occupational therapy is and how their services benefit clients. As a result, occupational therapists often feel unappreciated and undervalued by nurses; thereby causing poor interprofessional relationships (Fortune & Fitzgerald, 2009; Loy et

al., 2015, Smith & Mackenzie, 2011). According to Loy et al., 2015, when nurses and occupational therapists understand the roles and responsibilities of each other, more positive outcomes will occur; including an increase in appropriate referrals. Due to the overlapping roles in inpatient client care with occupational therapists and nurses, as well as the relationship nurses develop with clients and families, collaboration between these two disciplines is key to a positive prognosis for their clients (Smith & Mackenzie, 2011).

### **Problem Statement**

There is limited research on the interprofessional relationship between occupational therapists and nurses in pediatric outpatient settings, as well as the understanding nurses have of occupational therapy. Identified sources of literature that show evidence is focused on nurses and occupational therapists in psychiatric, acute care, inpatient, and long-term care settings. Several studies (Fortune & Fitzgerald, 2009; Smith & Mackenzie, 2011) have examined the relationship between occupational therapists and nurses in acute psychiatric settings using an interview method. Smith and Mackenzie (2011) discovered that nurses have trouble defining occupational therapy. The results indicated a need for improved and increased communication and collaboration between nurses and occupational therapists. This study also identified a need to clearly define the role of occupational therapy and to educate nurses on how to better work with occupational therapists within the acute psychiatric setting. The same holds true in other settings such as inpatient pediatric care. However, within pediatric outpatient areas, literature is scant.

A needs assessment survey conducted for this Capstone Project used a convenience sample of four nurses currently working in the field in Florida, in pediatrics, hospitals and home health settings. Findings indicated that 25% of the survey respondents did not feel comfortable explaining what occupational therapy was to other healthcare professionals. In addition, 25% of

the respondents did not feel that nurses and occupational therapists had an interprofessional relationship in their setting. The overarching themes uncovered when describing occupational therapy to another professional or family member by nursing staff was that occupational therapy works to improve daily living/self-care skills and is involved after an accident or injury. This narrow view of occupational therapy is limiting to the profession, particularly in the area of pediatric outpatient services. In evaluating the encounters between nurses and occupational therapists regarding client centered care, it was discovered that 50% of respondents viewed occupational therapists to be in a hurry and often telling the nurse what to do with a client as they were exiting a client's room in the hospital setting. This example indicates that there is opportunity to improve interprofessional communication. When identifying supportive job factors for collaboration between nurses and occupational therapists, 25% stated there is no opportunity for collaboration and another 25% says it only occurs during case management meetings. This again indicates an opportunity to improve interprofessional collaboration with nurses and occupational therapists. In looking at how nurses view occupational therapy's benefit with children, the findings indicated occupational therapy works on self-care, fine motor skill development and handwriting, with one respondent stating that occupational therapy is beneficial to children in a school setting. This is a narrow view of the benefit of occupational therapy with children, not appreciating the depth of expertise in the pediatric population.

According to the Accreditation Council of Occupational Therapy Education, all occupational therapists possess a baseline knowledge related to children and youth, conditions, and well-being (ACOTE, 2022). This includes the blending of physical and mental health components needed for success in daily living within a context. Occupational therapists use top-down assessment and intervention planning to provide effective services in medical, community

and school settings (AOTA, 2022). According to a study conducted by Novak & Hornan (2019), there are several interventions proven to be effective, such as parent partnerships with the occupational therapist, using top-down approaches to interventions, and the use of collaboration. The proven effectiveness of using collaboration within occupational therapy practice with children and their families suggests that collaboration between nurses who care for pediatric clients and occupational therapists will add to the effectiveness of client-centered care.

It is the experience of this researcher that nurses in the Florida market are deficient in their understanding of the benefit of occupational therapy, the use of effective interprofessional collaboration strategies, and the reasons to refer to occupational therapy. Nurses play a pivotal role for client-centered care and are often the gatekeepers to the physician. The problem this Capstone will address is the lack of knowledge nurses have about occupational therapy and the need for effective interprofessional collaboration and communication between nurses and occupational therapists in pediatric outpatient settings.

### **Purpose**

The purpose of this Capstone is to determine how nursing students perceive occupational therapy in a pediatric setting and to examine their perceptions of the interprofessional relationship. Further, it will determine the effectiveness of a training to educate nursing students about pediatric occupational therapy and interprofessional relationships. By evaluating pre and post understanding by nursing students about occupational therapy, the importance of interprofessional relationships may be enhanced. Examining the relationship between nurses and occupational therapists, and how occupational therapy is perceived aligns with the Occupational Therapy Centennial Vision 2025 (AOTA, 2020) of combining client advocacy with the

professional advocacy approach to stay competitive in today's healthcare market of outpatient therapy services.

## **Objectives**

The following objectives were utilized to create and implement this Capstone Project.

1. How does formal training impact a nursing student's knowledge of the role of occupational therapy?
2. How does formal training impact a nursing student's knowledge of interprofessional relationships?
3. How does a formal training impact a nursing student's ability to articulate the role of occupational therapy to other healthcare disciplines?
4. How does a formal training impact a nursing student's knowledge of the core competencies of interprofessional collaboration and communication?

## **Conceptual Framework**

The Interprofessional Collaborative Practice Model (ICP) was a guiding framework for this Capstone Project. The competencies of values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork are a part of the ICP (IPEC, 2016). Within each core competency are a list of sub-competencies. The following ICP sub-competencies were influential in the development of this Capstone Project (IPEC, 2016):

- Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services and programs
- Communicate one's roles and responsibilities clearly to clients, families, community members, and other professionals

- Describe how professionals in health and other fields can collaborate and integrate clinical care and public health interventions to optimize population health
- Communicate the importance of teamwork in client-centered care and population health programs and policies

### **Significance of the Study**

The significance of this Capstone will impact both the professions of nursing and occupational therapy as well as the client centered care for pediatric clients. A formal training could be one method to educate nurses on occupational therapy and impact the interprofessional relationship. Furthermore, a formal training could affect how nurses make referrals to occupational therapy and advocate for therapy services for their pediatric clients. Educating nurses, and other healthcare professions, about occupational therapy and interprofessional communication is beneficial in maintaining stakeholder status in today's competitive health care market and benefit the longevity of our profession as well. In the outpatient pediatric context, interprofessional education can allow for a more holistic and all-encompassing approach to client care.

### **Operational Definitions**

For the purpose of this Capstone Project, interprofessional is defined as interactions occurring between two or more professions or professionals (Merriam-Webster, 2022). Collaborative is defined as working jointly with other disciplines or professionals (Merriam-Webster, 2022). Interprofessional collaborative practice is defined as multiple healthcare workers from different professional backgrounds providing comprehensive health services working with

patients/clients, families, caregivers, and communities to deliver quality health care across settings (WHO, 2020). Multidisciplinary collaboration is defined as when two or more disciplines work jointly and cooperatively with each other (Merriam-Webster, 2022)

## **Section 2: Literature Review**

This literature review focused on articles relevant to occupational therapy, interprofessional education, the relationship between nurses and occupational therapists, and the perception of occupational therapy. The information was gathered through a search of academic journals using key words such as interprofessional collaboration, perception of occupational therapy in healthcare, nurses' perception of OT, and interprofessional communication. The American Occupational Therapy Association (AOTA)'s website was utilized to support content knowledge about the topic. In addition, Google Scholar, Research Gate, and ECU's library database search engines were used.

### **Interprofessional Education**

Interprofessional education (IPE) is an approach that prepares students to enter the healthcare workforce with an enhanced awareness of teamwork and collaboration (van Diggele, et al, 2020). Pre-service training and early exposure experiences to IPE have the potential to improve leadership, collaboration and communication between healthcare disciplines and ultimately improve patient outcomes (van Diggele et al, 2020). The goal of IPE should be to expose students to various disciplines in order to educate them on the importance of collaborative practice within the healthcare system and to improve patient outcomes and healthcare services (Shakhman et al., 2020; IPEC, 2016).

Interprofessional education is defined by the World Health Organization as “an experience that occurs when students from two (or more) professions learn about, from and with



each other” (2010). According to the Accreditation Council for Occupational Therapy Education (ACOTE) guidelines and policy statement on educational quality, academic programs must ensure that they “address the role of occupational therapy in interprofessional collaborative practice and clearly articulate the unique nature of occupational therapy, its professional foundations, intervention approaches and rationales, and expected outcomes using occupation as a therapeutic medium” (ACOTE, 2021).

This educational program is also based on the cognitive constructivism theory and social learning theory. The central idea behind cognitive constructivism is that human learning is constructed; learners build new knowledge upon the foundation of previous learning (McLeod, 2019). A learner constructs meaning only through active engagement with the world. A learner has a distinctive point of view, based on existing knowledge and values (McLeod, 2019). The constructivist theory believes that individuals learn by creating meaning from experiences, thus the focus of learning is on developing meaning, achieving understanding, and assigning significance to experiences (Torre et al, 2006). This means that same lesson, lecture, or activity may result in different learning by each student, as their subjective interpretations differ (Torre et al, 2006).

The social learning theory is based on an educator’s ability to be a role model as well as a leader. With the social learning theory, the educator’s role is to influence students’ learned behaviors through modeling and opportunities of practice (Torre et al., 2006). This social learning theory is built on relationships rather than cognitive factors, such as memorization or critical thinking, that can be difficult for some students (Torre et al, 2006). Combining these two theories for this educational project will be beneficial to all types of student learners.

## **Role Identification**

Loy et al. (2015) has demonstrated the most in-depth study of the interprofessional relationship between nurses and occupational therapists in an acute care setting. In this study, five barriers to collaboration were identified: time, lack of understanding about the other discipline, role confusion, role overlap, and lack of communication. The lack of understanding about the role of occupational therapy led to frustration, lack of referrals, or lack of use of occupational therapy as a resource; thereby indicating a need for interprofessional education to increase interprofessional collaboration.

In 2017, Meny and Hayat found that health care professionals had poor knowledge about occupational therapy. It also found that the highest percentage of knowledge about occupational therapy within the four groups (with a study sample size of 320 participants) was in physicians (51.97%) followed by physical therapists (50.81%) and nurses (48.32); Social Workers had the lowest percentage of knowledge (47.17%) (Meny & Hayat, 2017). Health care professionals in this study lack adequate knowledge about occupational therapy, its goals and treatment methods, as well as reasons to refer to occupational therapy. This indicates a void in knowledge.

A study conducted by Patel & Shriber in 2001 in western New York, found that nurse practitioners demonstrate a broad general knowledge of occupational therapy but could not identify specific aspects of occupational therapy, patient goals for occupational therapy, referring to occupational therapy or how occupational therapy is funded. These authors concluded that to bridge this gap of knowledge, it would be beneficial to develop strategies such as presenting at nursing conferences or lecturing in nursing education programs to increase the understanding of occupational therapy (Patel & Shriber, 2001).

## **Perception of Occupational Therapy**

The perception of occupational therapy by other healthcare professionals is mixed. A study conducted in 2018 by Walsh investigated the visibility and perception of the profession of occupational therapy in three media outlets (LexisNexus, Google Image search and Twitter). This study concluded that there is not only a lack of exposure for occupational therapy in all three types of media, but also detrimental effects on occupational therapy. In this study, Google images searches found pictures that depict occupational therapists to be practitioners who are casually dressed hospital workers whose focus is exercise. Twitter language (searching AOTA) found during this study's investigation found apprehensive and negative language, which can be misconstrued as instability and uncertainty within an organization like AOTA (Walsh, 2018). The implication of this study is that the profession of occupational therapy needs to do more to create a stronger, more positive presence on social, media sites. Given that the Vision 2025 (AOTA, 2020) value of occupational therapy is to maximize "health, well-being, and quality of life for all people, populations, and communities...", the study would then lead to the conclusion that this is a call to action for clinicians, scholars, and researchers to improve and increase our social media presence. Having a strong media presence in the public eye is beneficial to the longevity of occupational therapy as a profession. Knowing how occupational therapy is viewed among registered nurses will be beneficial in maintaining stakeholder status in today's competitive health care market and benefit the longevity of the profession of occupational therapy as well.

These studies support this Capstone Project in that they provide an in depth look at how nurses, as well as other healthcare professions perceive occupational therapy (Karaman, 2011; Meny et.al, 2017; Smith & MacKenzie, 2011; Walsh, 2018). Several studies also explored the interprofessional relationship of nurses and occupational therapists as well as healthcare

professions and occupational therapists (Busari, 2017; Loy et.al, 2015; Magasi et al, 2021; Reeves et al, 2017). One study reviewed the use of online education with nurses (Dalhem & Saleh, 2014). The results widely agree that occupational therapists can and should take initiative by seeking opportunities to develop effective communication and collaboration with nurses, define and promote the occupational therapy role, and promote occupation-based practice

### **Interprofessional Communication and Collaboration**

In 2014, Dalhem and Saleh conducted a study of 70 nurses and the results conveyed the positive impact of integrating e-learning courses as part of the educational opportunities provided for staff. The majority (95.7 %) of those who participated in this study concurred that the courses met their expectations. As a culmination of the e-learning course, communication skills and administrative skills were the most improved skills noted. In relation to the effect of the courses in improving performance in nursing activities, almost half of the participants responded that they were highly effective and approximately half were evenly distributed between moderately effective and effective (Dalhem & Saleh, 2014).

All participants in the study conducted by Smith and McKenzie (2011), identified the need for increased communication and collaboration between occupational therapists and nurses, clear definitions of the occupational therapy role, and education about how they could better work with occupational therapists. Participants indicated that there is a need for occupational therapists to articulate and promote their role more clearly, so that they could benefit from a better understanding of the occupational therapists' contribution to the team. Participants suggested that interprofessional education, clear job descriptions, increased team contact with nursing staff, thorough explanations about rationale for interventions, and being involved in collaborative projects, would improve collaboration.

The way in which primary care services are delivered is changing in the United States (Bauer & Bodenheimer, 2016). Registered nurses are one of the nation's largest healthcare professions, and with shortages in primary care doctors as cited in this study, nurses will become increasingly important members of the primary care team. It will be necessary for nurses to possess knowledge of healthcare professional roles, understand barriers to healthcare delivery and gain additional knowledge on interprofessional collaboration so that they may fulfill these primary care leadership roles (Bauer & Bodenheimer, 2016).

### **Summary of Literature Review**

In reviewing the literature, the overarching key points indicated that to improve interprofessional collaboration, barriers need to be broken down, individuals need to communicate with greater effectiveness, and that occupational therapists need to clearly identify their roles. These studies are applicable to this Capstone research project as the research intends to examine nursing students' perception of occupational therapy, the interprofessional relationship between nurses and occupational therapists, and explore the use of a formal educational training to educate nurses on occupational therapy and interprofessional communication and education. The intent is to provide an opportunity to integrate interprofessional education with nurses, define and promote the occupational therapy role, and promote occupation-based practice.

## **Section 3: Methods**

### **Project Design**

A quantitative survey design was utilized for this research study. The purpose of quantitative research is to gain information and understanding about a specific topic (Creswell & Creswell, 2018). A quantitative survey design in this study yielded a description and

understanding of nursing students' perceptions and attitudes of occupational therapy and interprofessional communication. The Institutional Review Board at Eastern Kentucky University approved this study (see Appendix A), and all participants signed an informed consent (see Appendix B). In addition, a university in west-central Florida gave written consent for this study to be conducted with students at the university.

### **Participants and Setting**

Participants included undergraduate level nursing students enrolled at a university in west central Florida. This university offers a Doctor of Nursing Practice (DNP), Master of Science (MSN), Bachelor of Science (BSN), Registered Nurse (RN) to BSN, and an Associate Degree in Nursing. Two courses within the Bachelor of Science of Nursing program (Introduction to Nursing and Maternal-Child Nursing) were offered the opportunity to participate in this study. The instructors disseminated the pre-survey, module link and post-survey to the students in their classes. Informed consent was obtained.

### **Participant Recruitment**

Following approval from the Eastern Kentucky University Institutional Review Board, two classes in the nursing program was selected for the study. All nursing students in the Maternal-Child Nursing and Introduction to Nursing classes were invited to participate in the research study. Prior to the class session, an email was distributed by the researcher to the course instructor to be shared with all students enrolled. Students were invited to complete the pretest survey on Qualtrics, with no penalty for non-participation. The pretest survey included the informed consent. Once students agreed to the informed consent and completed the pretest survey, they were then given the link to view the training module. Following the module,

students were invited once again by the course instructor to complete a post-test survey on Qualtrics.

### **Instruments**

A modification of a measurement tool that had been developed and used in previous research was utilized for this study. The Readiness for Interprofessional Learning Scale (RIPLS) examines and assesses the readiness of nursing students for interprofessional education. In addition, the RIPLS measures a change in attitudes, the effect of different interventions, and the effectiveness of interventions on changing perceptions and attitudes. This scale was developed based on the desired outcomes of shared learning amongst disciplines and the readiness to do so. The RIPLS is a 19-item questionnaire that focuses on three different areas: teamwork and collaboration, negative professional identity, and positive professional identity (McFayden et al, 2006; Parsell & Bligh, 1999). Items 1-9 on the RIPLS consists of “teamwork and collaboration,” items 10-12 consist of “negative professional identify,” and items 14- 19 consist of “positive professional identity.” The questionnaire used a 5-point Likert scale ranging from strongly agree to strongly disagree for scoring. Higher scores reflect increased readiness for interprofessional education (McFayden et al, 2006). Several questions on the survey were modified to better reflect U.S. vernacular related to health care practice. Open ended questions were added to better understand the depth of knowledge in the content. The survey as distributed in this capstone project is presented in Table 1.

Table 1: Capstone Survey

Qualtrics Questions
1. Learning with other students/professionals will make me a more effective member of a health and social care team
2. Patients would ultimately benefit if health and social care students/ professionals worked together
3. Shared learning with other health and social care students / professionals will increase my ability to understand clinical problems
4. Communications skills should be learned with other health and social care students / professionals
5. Team-working skills are vital for all health and social care students / professionals to learn
6. Shared learning will help me to understand my own professional limitations
7. Learning between health and social care students before qualification and for professionals after qualification would improve working relationships after qualification / collaborative practice.
8. Shared learning will help me think positively about other health and social care professionals
9. For small group learning to work, students / professionals need to respect and trust each other
10. I don't want to waste time learning with other health and social care students / professionals
11. It is not necessary for undergraduate / postgraduate health and social care students / professionals to learn together
12. Clinical problem solving can only be learned effectively with students / professionals from my own school/organization
13. Shared learning with other health and social care professionals will help me to communicate better with patients and other professionals
14. I would welcome the opportunity to work on small group projects with other health and social care students/professionals
15. I would welcome the opportunity to share some generic lectures, tutorials or workshops with other health and social care students/professionals
16. Shared learning and practice will help me clarify the nature of patients' or clients' problems
17. Shared learning before and after qualification will help me become a better team worker
18. I am not sure what my professional role will be / is
19. I have to acquire much more knowledge and skill than other students / professionals in my own faculty /organization
20. Have you had previous exposure to OT, PT, or Speech Therapy PROFESSIONALLY?
21. Have you had exposure to OT, PT, or Speech therapy PERSONALLY?
22. How would you describe interprofessional collaboration and communication?
23. When you think of working with other healthcare professionals or team members, what stands out?
24. Please describe what an Occupational Therapist does when working with children
25. Please describe what a Physical Therapist does when working with children
26. Please describe what a Speech Therapist does when working with children
27. Are there ways you feel that the collaboration between you and the OT could be different?
28. What type of education, if any, can the occupational therapist provide to make your job better or easier?
29. Please share any additional comments that you may have regarding interprofessional education.



## Project Methods

The survey was created using Qualtrics online software. Qualtrics was chosen as it is a user-friendly, web-based tool to conduct survey research (Qualtrics, 2022). The RIPLS questions were loaded into Qualtrics. In addition, there were 11 open ended questions loaded into Qualtrics. Pilot testing of the survey was conducted by 5 nurses or nursing students who either would not be participating or who were not involved with the study. Based upon the pilot testing, no modifications were made. A training module was developed based upon the clinical expertise of the researcher, literature evidence and review by a panel of experts in the content area. The outline of the guest lecture is found in Appendix C. An overall timeline of the capstone project is presented in Table 2.

One instructor who taught the Introduction to Nursing Class and one instructor who taught Introduction to Nursing as well as Maternal Nursing received an email (Appendix D) containing directions for the students. This email was sent to all students within these classes. The Introduction to Nursing classes had 31 total students and the Maternal Nursing courses had 23 total students. The pre-course survey link, video link and post-course survey link was included (see Appendix D). An informed consent statement was included in the survey link (see Appendix B). The initial instructions were given to students and a reminder email was sent 5 days later. Students were given 10 days to complete the surveys and modules. Surveys were completed by all students who chose to participate. The training module was 35 minutes in length.

*Table 2: Capstone Timeline*

November 2021	903	IRB Application draft and submission of draft sections 1, 2 and 3
December 2021	903	Finalize Capstone Presentation Submission of Sections 1-3

March 2022		Submit IRB for approval Work on Class content Begin pre, post surveys Survey Import surveys into Qualtrics
April 2022		Finalize with Rasmussen
May 2022		OTS 905
June 2022		OTS 905
July 2022		OTS 905 Finalize course content
August 2022	904	Revise 1-3. Add literature Conduct pilot test Conduct pre-module survey Conduct module presentation Conduct post-module survey.
September 2022	904	Finalize revisions to Capstone Sections 1-3 Analyze data through Qualtrics Begin drafting Section 4
October 2022	904/906	Evaluate and Document Results Present activities through Results to Committee
November 2022	906	I'M DONE!

### **Outcome Measures**

The outcomes measured were changes in the perception of occupational therapy, the perception of interprofessional collaboration and communication, and the perception of occupational therapy with pediatrics. The Capstone also measured the use of a virtual education model as an intervention for education on these topics. Descriptive statistics were analyzed for any measurable change in perception. An excel spreadsheet was maintained on a password protected computer.

### **Ethical Considerations**

Prior to conducting this research study, the researcher first sought approval by the Institutional Review Board and obtained written consent from a university in west central Florida. The privacy of all participants was protected by not requiring demographic information

or names. Surveys were anonymous with no identifying information collected. Potential risks and benefits of participation were given to all those invited to participate in this study such as boredom and eye strain. The survey was not timed, and participants were encouraged to take breaks as necessary to minimize these risks.

### **Clinical Implications**

A formal training module could be one method to educate nursing students on occupational therapy and impact the interprofessional relationship in their future careers. Furthermore, a formal training could affect how nurses make referrals to occupational therapy and advocate for therapy services for their pediatric clients. Nurses would benefit from knowing how occupational therapy can impact their pediatric clients as well as differentiate among therapy services. It would be beneficial in maintaining stakeholder status in today's competitive health care market and benefit the longevity of the occupational therapy profession as well. Ultimately, the benefit of nurses and occupational therapists working together in a cooperative relationship benefit themselves, their colleagues as healthcare providers, clients, families, and caregivers (Thompson, 2017.) This aligns with the Occupational Therapy Centennial Vision 2025 of combining client advocacy with the professional advocacy approach to stay competitive in today's healthcare industry (AOTA, 2020).

## **Section 4: Results and Discussion**

### **Introduction**

This quantitative survey design sought to gain information and understanding of nursing students' perceptions and attitudes of interprofessional communication, collaboration, and occupational therapy. Jamovi (The jamovi project, 2021) was used for statistical analysis of the multiple-choice Likert responses. Open ended questions were tallied and coded for themes in

responses. All participants completed both the Likert and the open-ended questions on both the pre survey and post survey.

Two professors within the nursing program at a west central Florida university distributed a pre-module and post-module survey to 54 nursing students in either the Introduction to Nursing (N=31) or Maternal-Child Nursing class (N=23). A total of 20 pre-module surveys were logged as initiated, with 14 surveys being fully completed (70%). A total of 17 post-module surveys were logged as initiated, with 10 surveys being fully completed (58.8%). The partially completed surveys were not included in the data analysis for this study. Thus, a 18.5% usable response rate was obtained.

### **Participants**

Although there was a potential of 31 students in Introduction to Nursing and 23 students in Maternal-Child Nursing, not all students participated in the voluntary online module. In the pre module survey, 4 participants did not specify which course they were taking and stated “Florida” as their class type. In the post module survey, 1 participant did not specify which course they were in and stated “Florida”. These responses were left as a part of the data pool as they contributed to an overall analysis of capstone objectives. Tables 3 and 4 describe the frequency counts and percentage of participation in the capstone project.

*Table 3: Pre-module Survey Frequency Count*

Class Type	Participants	Percentage of Total
Introduction to Nursing	6	33.3%
Maternal-Child Nursing	8	44.4%
Florida	4	22.2%

*Table 4: Post-module Survey Frequency Count*

Class Type	Participants	Percentage of Total
Introduction to Nursing	4	36.4%
Maternal-Child Nursing	6	54.5%
Florida	1	9.1%

## Results

The objectives of this Capstone Project were to determine how a formal training impacted a nursing student's knowledge of the role of occupational therapy, how a formal training impacted a nursing student's knowledge of interprofessional relationship, how a formal training impacted a nursing student's ability to articulate the role of occupational therapy to other healthcare disciplines, and how a formal training impacted a nursing student's knowledge of the core competencies of interprofessional collaboration and communication.

Pre-test and post-test surveys were used prior to and immediately after students viewed the thirty-five-minute informational training module. To determine the impact on the project's objectives, survey mean scores from all respondents, regardless of class, were compared between pre-module and post-module to determine if the scores were statistically significant. An improvement is noted on 14 items, indicating that viewing an educational module impacted the objectives. Table 5 summarizes the data from pre-module and post-module training.

*Table 5: Pre-module and Post-module Mean Comparisons*

Survey Question from RIPLS	Pre-Module Mean	Post Module Mean
1. Collaborative learning	4.56	5.0
2. Impact on Clients of collaborative learning	4.72	5.0
3. Collaborative learning and understanding of problems	4.56	5.0
4. Interdisciplinary communication	4.67	5.0
5. Teamwork	4.72	5.0
6. Shared learning	4.61	5.0

7. Preservice learning and collaborative practice	4.67	5.0
8. Collaborative learning promotes positive attitudes	4.67	5.0
9. Respect and trust	4.67	5.0
10. Time wasting in collaborative learning	2.06	1.73
11. No need to learn collaboratively	2.0	1.73
12. Problem solving only in my discipline	2.0	2.09
13. Collaboration for problem solving	4.50	5.0
14. Collaborative small group projects	4.56	5.0
15. Generic interprofessional lectures	4.39	4.91
16. Shared learning and practice for problem understanding	4.61	5.0
17. Shared learning for team building	4.67	5.0
18. Professional role understanding in discipline	2.50	2.55
19. Knowledge acquisition in discipline	3.44	3.18

The Introduction to Nursing and the Maternal-Child Nursing class survey mean scores were examined separately to assess the impact on the project's objectives as well. They are presented in Tables 6 and 7.

*Table 6: Introduction to Nursing Pre and Post Survey Mean Scores*

Survey Question from RIPLS	Pre-Module Mean	Post Module Mean
1. Collaborative learning	3.67	5.0
2. Impact on Clients of collaborative learning	4.17	5.0
3. Collaborative learning and understanding of problems	3.67	5.0
4. Interdisciplinary communication	4.17	5.0
5. Teamwork	4.33	5.0
6. Shared learning	4.17	5.0
7. Pre-service learning and collaborative practice	4.17	5.0
8. Collaborative learning promotes positive attitudes	4.17	5.0
9. Respect and trust	4.17	5.0
10. Time wasting in collaborative learning	2.50	2.0
11. No need to learn collaboratively	2.50	2.0

12. Problem solving only in my discipline	2.33	2.0
13. Collaboration for problem solving	3.67	5.0
14. Collaborative small group projects	4.17	5.0
15. Generic interprofessional lectures	3.83	5.0
16. Shared learning and practice for problem understanding	4.0	5.0
17. Shared learning for team building	4.17	5.0
18. Professional role understanding in discipline	2.50	3.50
19. Knowledge acquisition in discipline	3.17	3.50

*Table 7: Maternal-Child Nursing Pre and Post Survey Mean Scores*

Survey Question from RIPLS	Pre-Module Mean	Post Module Mean
1. Collaborative learning	5.0	5.0
2. Impact on Clients of collaborative learning	5.0	5.0
3. Collaborative learning and understanding of problems	5.0	5.0
4. Interdisciplinary communication	4.88	5.0
5. Teamwork	4.88	5.0
6. Shared learning	4.75	5.0
7. Preservice learning and collaborative practice	4.88	5.0
8. Collaborative learning promotes positive attitudes	4.88	5.0
9. Respect and trust	4.88	5.0
10. Time wasting in collaborative learning	1.63	1.67
11. No need to learn collaboratively	1.63	1.67
12. Problem solving only in my discipline	1.75	2.33
13. Collaboration for problem solving	4.88	5.0
14. Collaborative small group projects	4.88	5.0

15. Generic interprofessional lectures	4.75	4.83
16. Shared learning and practice for problem understanding	4.88	5.0
17. Shared learning for team building	4.88	5.0
18. Professional role understanding in discipline	2.13	1.83
19. Knowledge acquisition in	3.75	3.0

In analyzing this data set, the Introduction to Nursing students reflected lower pre-survey means for 14 items (see Table 6). They also showed an increased mean on the post survey for 16 items. This indicated that potentially these students have had less exposure and experience to occupational therapy as well as with interprofessional collaboration and communication. The Maternal-Child Nursing students (see Table 7) pre survey means were higher than that of the Introduction to Nursing students for 15 items. This potentially could be because they have had more exposure to occupational therapy and interprofessional education through their prior courses. Post survey means showed an improvement for 14 areas. This data demonstrated that a positive impact was made on the capstone objectives.

A paired sample t-test was used to compare overall means of all survey questions. This is represented in Table 8. No statistical significance was found using all questions from the pre and post module survey data.

*Table 8: Paired Samples T-Test of Overall Mean Scores*

Pre-module Mean	Post-module Mean	Statistic	df	p
4.03	4.27	-0.119	18.0	0.907



A paired sample t-test was used to compare questions 1-9 on the RIPLS. These questions explored the topic of teamwork and collaboration. A statistical significance was found for these items. This data is presented in Table 9.

*Table 9: Paired Samples T-Test (Q 1-9)*

Pre-module Mean	Post-module Mean	Statistic	df	p
4.65	5.0	-0.174	8.0	<.001

A paired sample t-test was used to compare questions 14-19 on the RIPLS which examined positive professional identity. Table 10 presents this data. No statistical significance was found for these items.

*Table 10: Paired Samples T-Test (Q 14-19)*

Pre-Module Mean	Post-Module Mean	Statistic	df	p
4.02	4.27	.420	5.0	0.692

### ***Formal training and articulating the role of occupational therapy***

Results indicated that there was a slight increase from the pre module means to the post module means for RIPLS questions 1, 2, 3, 8 and 16 (see Table 5). These questions addressed the Capstone objective of “how does a formal training impact a nursing student’s knowledge of the role of occupational therapy” and “how does a formal training impact a nursing student’s ability to articulate the role of occupational therapy”. This data shows that there was a positive impact on a nursing student’s knowledge of the role of occupational therapy and the ability of a nursing student to articulate that role.

Prior to viewing the online module, responses to the survey question “please describe what an occupational therapist does when working with children” were superficial. There were 17 responses to this question. The following examples reiterate the broad nature of responses:

“OTs work with patients to regain/train motor skills and activities of daily living”

“OT teaches children how to perform basic movements after recovering from major surgery or illness”

“OT would assist the patient to gain their function back post-surgery or injury, such as if they were to have a broken hand,”

Thus, participants demonstrated basic understanding, general knowledge and a glimpse of what OT can do for pediatric clients. This limited understanding may impact future referrals and support for OT services as students join their professional discipline.

After viewing the online module, responses to the same survey question yielded more in-depth responses. There were 11 responses to this question. For example:

“Occupational Therapists who work with children help the child build the necessary skills needed to participate in their occupation which is playing. The main focus is to develop fine motor, eye coordination, self-help, and sensory processing skills.”

“Helps a child to build the necessary skills needed to participate in play. Play is important because it promotes language, social and cognitive skills. Focuses on developing fine motor, eye-hand coordination, self-help and sensory processing skills. Promotes self-confidence and self-esteem.”

“They help build necessary skills for the child's occupation, which is play! So, this helps with several different diagnoses to help build a plan for a child to be able to partake in the activities they need to be able to be a kid and have fun.”

Thus, after viewing the online educational module, participants were able provide specific examples with detailed information describing what OT can provide for the pediatric population. This deeper knowledge will allow future nurses to advocate for their clients to receive OT services and potentially generate additional referrals for services.

***Formal training and knowledge of professional relationships***

Results indicated that there was a slight increase from the pre module means to the post module means for RIPLS questions 1-9, which assesses teamwork and collaboration, and 15-18, which assesses professional identity (See Table 5). There was a slight decrease in the means for the remaining questions; three of which assess the negative professional identity. These questions correlate to the capstone objective of “how does a formal training impact a nursing student’s knowledge of interprofessional relationships”. This data shows that there was a positive impact on a nursing student’s knowledge of interprofessional collaboration and teamwork.

Prior to viewing the online module, when asked the question, “When you think of working with other healthcare professionals, what stands out?”, superficial answers were given by 17 participants. For example:

“Working as a team. It takes multiple departments to take care of patients, not just one.”

“teamwork”

“When they meet the care plan goal of the patient.”

Thus, this simplified understanding of interprofessional collaboration and teamwork could create barriers to engaging with others when on the job. This leads to less-than-optimal patient care.

After viewing the online module, responses again reflected more in-depth responses. 11 participants responded to this question. For example:

“What stands out to me when I think of other healthcare professionals or team members is professionalism, communication, teamwork, understanding each other's role, and doing your part to provide quality care to the patient.”

“everyone needs to work together, for the sake of the business, health care and the patient. If you do not work together, then something can be missed and that would be a disservice to the patient.”

“Needing to be respectful, patient-centered care, access to information for everyone involved, and education for all the specialties involved.”

Thus, after viewing the online educational module, participants were able to provide more concrete and succinct examples describing how teamwork and interprofessional collaboration can affect patient care. This deeper knowledge will allow future nurses to engage as a part of a team to reach optimal patient outcomes.

***Formal training and the core competencies of interprofessional collaboration and communication***

Prior to viewing the online module, when asked the question, “How would you describe interprofessional collaboration and communication”, superficial responses were recorded by 17 participants that answered the question. Their responses are exemplified by the following:

“they work together on the same level to meet the needs of the patient”

“a team of healthcare professionals who work together and appropriately communicate important patient information”

“each discipline explained what they needed to do and what the plan and goal was”

Thus, these simplistic examples demonstrate a lack of knowledge of the importance of interprofessional collaboration and communication, leading to a lack of awareness of the need it possesses for patients.

After viewing the online module, once again, more in depth responses emerged by all or most participants. 11 people responded to this question. The elaboration on roles and collaboration is noted:

“Clear and effective communication in patient care from every aspect and team member providing care so the patient understands their diagnoses and is a part of their care plan”

“Interprofessional collaboration and communication are adequate communication amongst all specialties and areas that may benefit a patient. For example, if a patient is coming in for knee surgery, the doctor, nurse, dietician, and physical therapy all need to communicate together and be on the same page to benefit the patient and not bring anymore complications.”

“Interprofessional communication and collaboration reflect common goals and is often used as a means for solving various problems and complex issues.”

These in-depth examples demonstrate an increased understanding of the need that interprofessional collaboration and communication has in patient care.

## **Discussion**

The purpose of this capstone project was to evaluate how nursing students perceive occupational therapy in a pediatric setting, examine their perceptions of the interprofessional relationship, and assess the effectiveness of an educational module. Supporting previous literature review findings, the results of this study revealed a lack of in-depth knowledge on the role of occupational therapy and the need to educate healthcare professionals on interprofessional collaboration and communication. The majority of respondents revealed a basic understanding connecting interprofessional collaboration and communication to quality patient care. In

addition, the majority of respondents demonstrated general knowledge of occupational therapy, but not specifically what the role of OT is with children.

### ***The Role of OT***

Two objectives of this capstone project were to assess how a formal training impacted a nursing student's knowledge of the role of occupational therapy and their ability to articulate that role. Previous literature reflected that there was a lack of understanding of the role of occupational therapy, its purpose in patient care, and reasons to refer to OT (Loy et al., 2014; Meny & Hayat, 2017; Patel & Shriber, 2001). Other studies have shown that nurses possess a broad, general knowledge of OT and have suggested that occupational therapists need to articulate their role (Meny & Hayat, 2017; Patel & Shriber, 2001; Smith & MacKenzie, 2011). This Capstone supported previous findings in that nursing students possessed a general, broad knowledge of occupational therapy and the contribution OT has in the interprofessional team. Two nursing students' responses recorded in the post survey reflected an improvement in the depth of knowledge about occupational therapy. One student stated that the module benefitted them "on the process of occupational therapy; it was good to see the video about what kind of goes on during sessions, but I think all nurses need to know how it helps". Another student stated, "watching a video like this helped me understand the role of OT". This lack of in-depth knowledge and understanding about the role of occupational therapy reflects a need for interprofessional education to increase interprofessional collaboration (Loy et al., 2014). Thus, through pre-service training within an entry level curriculum, interprofessional understanding of team roles should increase, along with the focus to work collaboratively for better patient outcomes.

### ***Interprofessional Collaboration and Communication***

Another study objective was to assess how a formal training impacted a nursing student's knowledge of interprofessional relationship. Previous literature reviewed identified a need for increased communication and collaboration between occupational therapists and nurses. Through this practice, the knowledge of the value and scope that other professions possess would be positively impacted. (Patel & Shriber, 2001; Smith & Mackenzie, 2001;). This capstone project demonstrated a positive impact of nursing students' knowledge of the scope of practice and relationship that exists with occupational therapists and nurses. Possessing increased knowledge of the role and scope of other professions requires intentional educational training (Alhamidi et al, 2021).

The last capstone project objective was to assess how a formal training impacted a nursing student's knowledge of the core competencies of interprofessional collaboration and communication. Core competencies of interprofessional collaboration uses key topics such as values, roles, and teamwork to yield safe, high-quality, and patient-centered care (IPEC, 2016). Previous studies have found that interprofessional education improves the understanding of professional roles, the value other professions have to the interprofessional team, and using effective collaboration and communication strategies to address healthcare needs (Bauer & Bodenheimer, 2016; Smith & Mackenzie, 2001;). Working with other professions maintains a climate of mutual respect and shared values (IPEC, 2016). Based on the results from this Capstone, the online educational module was found to increase knowledge of therapy services, occupational therapy services in pediatrics, and interprofessional collaboration and communication.

This capstone discovered statistical significance on a paired sample t-test that compared questions 1-9 on the RIPLS (see Table 9). These questions explored the topic of teamwork and

collaboration. Questions looked at topics such as shared learning, communication skills, and learning from other professionals. Teamwork and collaboration are important skills to possess in the current healthcare environment, validating issues identified in the literature (Bodenheimer & Bauer, 2016; Reeves et al., 2017; Shakhman et al., 2020; Stephenson & Costello, 2020). Findings in this capstone study are reflective of students gaining knowledge through the use of an interprofessional educational module.

Using pre-service educational modules such as this can impact the future profession's understanding of interpersonal communication and collaboration. Nurses, as well as other interprofessional team members, could benefit from continuing interprofessional education to best understand other discipline's roles and maximize collaboration efforts (Atwal, 2002). Repetitive exposure to educational modules will reinforce the understanding of occupational therapy's role in interprofessional collaboration as well as the impact interprofessional collaboration and communication has on patient care. With the growing need for collaborative practice, the educational curriculum must be designed to promote competencies required for interprofessional collaboration and communication (IPEC, 2016; Shakhman et al., 2020). Interprofessional Collaborative Practice Model (ICP) competencies of values and ethics, roles and responsibilities, interprofessional communication, and teamwork must be incorporated into curricula for all healthcare workers. Opportunities for collaborative practice should reflect the concepts of introduction, ongoing development and mastery for building confidence and understanding within the various disciplinary roles.

### **Strengths**

This capstone project collected nursing student perceptions related to interprofessional collaboration and communication as well as perceptions related to pediatric occupational



therapists in one geographic area, gaining information to achieve the proposed study objectives. By distributing this quantitative survey design via email to students, they were given the freedom to complete it at a convenient time with the 10-day allotted time frame. This study can be easily replicated.

Limitations must be considered while evaluating the results of this Capstone Project. The module was not required in either class, as students were given the choice to view the module. The small convenience sample of this study impacts its ability to be generalized. The useable response rate of 18.5% is lower than anticipated, as this was not a course requirement to watch the module. Thus, students had the freedom to add to their knowledge if desired. As a result of these limitations, the data collected in this study may not represent the general perceptions of all nursing students.

### **Implications for healthcare**

This capstone project demonstrated the benefit of an online module for nursing student education on interprofessional collaboration and communication and occupational therapy. This Capstone aligned with AOTA's Centennial Vision 2025 of combining client advocacy with the professional advocacy approach to stay competitive in today's healthcare industry (AOTA, 2020). Occupational therapy focuses on client-centered care and has a role in being influential in various environments and as a part of team to produce effective patient outcome. In addition, educating other professions on interprofessional collaboration and communication and occupational therapy will improve referrals to occupational therapy, allowing more clients to benefit from skilled intervention and services.

## **Future research**

The results of this study provide data to substantiate the need for further research into several areas. By conducting additional research, the impact of how interprofessional education is integrated into all health care professional curricula can be studied. Within occupational therapy, ACOTE currently has a standard set to include interprofessional education into curricula, but no link to best practice. Current standards state the requirements for interprofessional education are “Demonstrate knowledge of the principles of interprofessional team dynamics to perform effectively in different team roles to plan, deliver, and evaluate...” (ACOTE, 2022). Academic programs must ensure that they “address the role of occupational therapy in interprofessional collaborative practice and clearly articulate the unique nature of occupational therapy, its professional foundations, intervention approaches and rationales, and expected outcomes using occupation as a therapeutic medium” (ACOTE, 2022). Conducting research into best practice methods for infusing interprofessional core competencies into curricula would support ACOTE standards.

In addition, further research into tracking referral-based percentages within private practice settings would yield information into the benefit of using educational modules to increase referrals longitudinally. Evaluating a change in referrals to occupational therapy based on nurses’ exposure to interprofessional education in practice could have an impact on future delivery of occupational therapy practice.

## **Summary**

This capstone project was conducted with nursing students to provide education on interprofessional communication and collaboration, to provide education to help nursing students differentiate occupational therapy, speech therapy, and physical therapy, and to increase their

knowledge of occupational therapy services with pediatric clients. Quantitative analysis of the data revealed that the objectives of the study were largely met. Mean scores for 78.9% of the Likert scale questions improved from the pre to posttest, where pre-test questions ranged from 2.0 to 4.72 and the post-test questions ranged from 1.73 to 5.0. Based on these findings, the educational module was found to increase knowledge of therapy services, occupational therapy services in pediatrics, and interprofessional collaboration and communication. Clinically, this is relevant to occupational therapy. However, additional longitudinal research is needed as continued support of knowledge advancement and validation of the use of interprofessional collaboration and communication for nurses about occupational therapy practitioners.

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## Appendices

### Appendix A

Application  
Management

Hello Kimberly Lamke,

Congratulations! Using a limited review process, the Institutional Review Board at Eastern Kentucky University (FWA00003332) has approved your request for an exemption determination for your study entitled, "Interprofessional Collaborative Practice Between Nurses and Occupational Therapists" This status is effective immediately and is valid for a period of three years as long as no changes are made to the study as outlined in your limited review application. If your study will continue beyond three years, you are required to reapply for exemption and receive approval from the IRB prior to continuing the study.

As the principal investigator for this study, it is your responsibility to ensure that all investigators and staff associated with this study meet the training requirements for conducting research involving human subjects and comply with applicable University policies and state and federal regulations. Please read through the remainder of this notification for specific details on these requirements.

**Adverse Events:** Any adverse or unexpected events that occur in conjunction with this study should reported to the IRB immediately and must be reported within ten calendar days of the occurrence.

**Changes to Approved Research Protocol:** If changes to the approved research protocol become necessary, a Protocol Revision Request must be submitted for IRB review, and approval must be granted prior to the implementation of changes. If the proposed changes result in a change in your project's exempt status, you will be required to submit an application for expedited or full review and receive approval from the IRB prior to implementing changes to the study. Changes include, but are not limited to, those involving study personnel, subjects, recruitment materials and procedures, and data collection instruments and procedures.

**Registration at ClinicalTrials.gov:** If your study is classified as a clinical trial, you may be required by the terms of an externally sponsored award to register it at ClinicalTrials.gov. In addition, some medical journals require registration as a condition for publication. In the case of journals with membership in the International Committee of Medical Journal Editors, clinical trials must be registered prior to enrolling subjects. It is important that investigators understand the requirements for specific journals in which they intend to publish. In the case of sponsored project awards, timeline requirements will vary for awards that require registration. Approved consent forms must be uploaded in the system for all

Federally funded clinical trials after subject enrollment has closed, but earlier registration is not required for all agencies. If you have questions about whether a sponsored project award requires registration and on what timeline, please send an email to [tiffany.hamblin@eku.edu](mailto:tiffany.hamblin@eku.edu) before beginning recruitment so that the specific terms of the award can be reviewed. If you have a need to register your study and do not have an account in the system, please send an email to [lisa.royalty@eku.edu](mailto:lisa.royalty@eku.edu) and request to have a user account created.

If you have questions about this approval or reporting requirements, contact the IRB administrator at [lisa.royalty@eku.edu](mailto:lisa.royalty@eku.edu) or 859-622-3636.

For your reference, comments that were submitted during the review process are included below. Any comments that do not accompany an “I approve” response have been provided to you previously and were addressed prior to the review process being completed.

## **Appendix B**

### **Informed Consent Statement for Survey Online**

You are being invited to take part in a research study about the effectiveness of a formal training on occupational therapy and interprofessional collaboration and communication. The purpose of this study is to determine how nursing students perceive occupational therapy in a pediatric setting and to examine their perceptions of the interprofessional relationship. Further, it will determine the effectiveness of a training to educate nursing students about pediatric occupational therapy and interprofessional relationships. By doing this study, we hope to learn more about nursing student's perceptions of occupational therapy and interprofessional collaboration and communication. There is no guarantee that you will get any benefit from taking part in this study. However, by completing the survey, you are providing the researchers with the unique opportunity to gather important information regarding nursing and occupational therapists. Using these data, the researchers will be able to potentially influence the interprofessional relationships of healthcare professional. Again, there is no guarantee that the information you provide will be able to directly benefit you.

If you decide to take part in the study, it should be because you really want to volunteer. You will not lose any benefits or rights you would normally have if you chose not to volunteer. You can stop at any time during the study and keep the benefits and rights you had before volunteering. If you do not want to be in the study, you are under no obligation to participate. You will not receive any payment or reward for taking part in this study.

This survey should take approximately 10 minutes to complete. As with any electronic survey, potential risks of participating in this study include boredom and eye strain. The survey is not timed, and participants are encouraged to take breaks as necessary to minimize these risks. Your information will be combined with information from other people taking part in the study. When we write up the study to share with other researchers, we will write about this aggregated information. You will not be identified in these written materials, nor will the university be named in the study. We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information, or what that information is. For example, your name will be kept separate from the information you give, and these two things will be stored securely in different places.

Before you decide whether or not to accept this invitation to take part in the study, please ask any questions that might come to mind now. Questions about this study can be e-mailed to the investigators at [Kimberly\\_lamke@mymail.eku.edu](mailto:Kimberly_lamke@mymail.eku.edu). If you have questions about your rights as a research volunteer, contact the staff in the Division of Sponsored Programs at Eastern Kentucky University at 859-622-3636.

By clicking yes below, you are indicating that you have thoroughly read this document, understand its contents, have been given an opportunity to have your questions answered, and agree to participate in this research project. Otherwise, click no, and you will be exited from the survey.

## **Appendix C**

### **Outline of Video Module**

Introduction of speaker

How this project developed

Course objectives

What is Speech Therapy (common diagnoses seen, reasons to refer, video)

What is Physical Therapy (common diagnoses seen, reasons to refer, video)

What is Occupational Therapy (common diagnoses seen, reasons to refer, video)

American Nurses Association

American Occupational Therapy Association

Definitions

Interprofessional Collaborative Practice and Core Competencies

Video

Barriers to Interprofessional Collaboration and video

Benefits of Interprofessional Collaboration

Video on negative experiences

Effective Communication Strategies

Implications

## Appendix D

Dear Students;

You have been invited to participate in a voluntary research study on Interprofessional Collaboration and Pediatric Therapy Services. Your **participation is voluntary**. This study will open Monday 8/29/22 and must be completed by Thursday 9/1/22.

Please click on this link: [https://eku.co1.qualtrics.com/jfe/form/SV\\_1RdiBMyKIy9JEq](https://eku.co1.qualtrics.com/jfe/form/SV_1RdiBMyKIy9JEq) to take a preliminary survey on your current knowledge of this topic. You must view this prior to watching the 35-minute training module.

Once you have completed the survey, please click on this link to view the video: [Interprofessional Collaborative Practice and Communication: Nurses and O.T.s In Pediatrics - YouTube](#)

Once you have watched the online module, please click the following link to complete the final survey that will be used to compare initial results:  
[https://eku.co1.qualtrics.com/jfe/form/SV\\_1EUSGiGxqTEr9SS](https://eku.co1.qualtrics.com/jfe/form/SV_1EUSGiGxqTEr9SS)

This is a **voluntary study** and your time is greatly appreciated!  
**Please complete this research study by Thursday 9/1/22.**

Thank you.