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## Enhancing Student Perceptions of the Role of Occupational Therapy in the Intensive Care Unit: An Interprofessional Simulation

Elizabeth Yost

*University of Michigan - Flint*

Julie Jacob

*University of Michigan-Flint*

Denise Campbell

*University of Michigan-Flint*

Nicholas Prush

*University of Michigan-Flint*

Leslie M. Smith

*University of Michigan Flint*Follow this and additional works at: <https://encompass.eku.edu/jote>Part of the [Interprofessional Education Commons](#), and the [Occupational Therapy Commons](#)

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## Abstract

Early mobility in the Intensive Care Unit (ICU) can improve a multitude of patient outcomes, and occupational therapists (OTs) play a valuable role as part of the interprofessional team, with the ability to address activities of daily living, functional cognition, psychological and communication needs, and more. In 2022, the first iteration of an ICU interprofessional education simulation (Sim-IPE) yielded poor outcomes for OT students. This study aimed to modify existing pre-learning activities in the Sim-IPE's second iteration to improve OT students' perceptions and professional role awareness in interprofessional ICU care. Students from Doctor of OT, Bachelor of Science Nursing, Doctor of Physical Therapy (PT), and Associate Program Respiratory Therapy programs from one university participated in an ICU Early Mobility Sim-IPE with enhanced pre-learning activities and environmental modifications targeting OT student outcomes. Investigators employed a mixed methods approach, including pre/post quantitative analysis through the SPICE-R2 instrument and qualitative analysis of OT students' written reflections. Quantitatively, OT students (n = 12) demonstrated significant improvement in SPICE-R2 scores from pre- to post-Sim-IPE, as well as significant improvements when compared to OT student scores from the first iteration. Qualitatively, OT students reflected improved role awareness when compared to OT students from the first Sim-IPE, however, continue to struggle with role assertion and ambiguity, particularly with PT students. This study improved the OT students' Sim-IPE experience; specifically, role awareness and perceptions of interprofessional practice. Residual challenges in role assertion and ambiguity offer opportunities for future intervention and research.

## Keywords

Interprofessional education, early mobility, simulation, intensive care unit

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Elizabeth Yost, OTD, OTRL

Julie Jacob, DHSc, MSOT, OTRL

Denise Campbell, DNP, APRN, ACNS-BC, CEN, CHSE-A

Nicholas Prush, Ph.D., MHA, RRT, RRT-ACCS

Leslie M. Smith, PT, DPT, CCS, WCS

University of Michigan-Flint

United States

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### ABSTRACT

Early mobility in the Intensive Care Unit (ICU) can improve a multitude of patient outcomes, and occupational therapists (OTs) play a valuable role as part of the interprofessional team, with the ability to address activities of daily living, functional cognition, psychological and communication needs, and more. In 2022, the first iteration of an ICU interprofessional education simulation (Sim-IPE) yielded poor outcomes for OT students. This study aimed to modify existing pre-learning activities in the Sim-IPE's second iteration to improve OT students' perceptions and professional role awareness in interprofessional ICU care. Students from Doctor of OT, Bachelor of Science Nursing, Doctor of Physical Therapy (PT), and Associate Program Respiratory Therapy programs from one university participated in an ICU Early Mobility Sim-IPE with enhanced pre-learning activities and environmental modifications targeting OT student outcomes. Investigators employed a mixed methods approach, including pre/post quantitative analysis through the SPICE-R2 instrument and qualitative analysis of OT students' written reflections. Quantitatively, OT students ( $n = 12$ ) demonstrated significant improvement in SPICE-R2 scores from pre- to post-Sim-IPE, as well as significant improvements when compared to OT student scores from the first iteration. Qualitatively, OT students reflected improved role awareness when compared to OT students from the first Sim-IPE, however, continue to struggle with role assertion and ambiguity, particularly with PT students. This study improved the OT students' Sim-IPE experience; specifically, role awareness and perceptions of interprofessional practice. Residual challenges in role assertion and ambiguity offer opportunities for future intervention and research.

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## **Introduction**

Early mobility in the intensive care unit (ICU) has been shown to improve a multitude of patient outcomes, including increased functional capacity and quality of life, as well as decreased duration of hospital stay, delirium, and mechanical ventilation (Daum et al., 2024; Escalon et al., 2020; Zhang et al., 2019). The complexities of implementing early mobilization in the ICU warrant the need for interprofessional collaboration among healthcare professionals (Donovan et al., 2018; Gilbert et al., 2010). This can include nursing (RN), occupational therapy (OT), physical therapy (PT), respiratory therapy (RT), and others (Boehm et al., 2016).

The recommendation of interprofessional practice in the ICU setting calls upon healthcare education programs to offer similar opportunities to prepare future practitioners (American Occupational Therapy Association [AOTA], 2022; Case, 2020; Spaulding et al., 2021). Interprofessional education (IPE) is a pedagogical strategy in which learners from two or more healthcare disciplines engage in joint activities to foster effective teamwork to improve patient outcomes (World Health Organization, 2010). It is supported in the university setting to enhance collaborative care and skill acquisition among health professions students (Spaulding et al., 2021). Interprofessional education is recommended by numerous healthcare professional organizations, many of which are part of an Interprofessional Education Collaborative (IPEC; American Association of Colleges of Nursing, n.d.; American Physical Therapy Association, 2019; Coker-Bolt et al., 2022; IPEC, 2023; World Health Organization, 2010). The IPEC developed competencies that promote effective collaboration among healthcare professionals. There are four core competencies identified by IPEC: (1) Values/Ethics for Interprofessional Practice; (2) Roles/Responsibilities; (3) Interprofessional Communication; and (4) Teams and Teamwork (IPEC, 2023).

In 2022, the research team delivered the first iteration of a simulation-based ICU Early Mobility IPE (Sim-IPE) to university students from OT, PT, RN, and RT programs (Smith et al., 2024). Simulation-based IPE experiences have been shown to bolster experiential, active learning by mirroring real-life teamwork scenarios and offering hands-on practice opportunities (Case, 2020). Quantitative results from this Sim-IPE revealed statistically significant improvement in perceptions of interprofessional practice for PT and RN students, whereas OT and RT scores were not statistically significantly different. Qualitatively, OT students reported challenges with the Roles/Responsibilities IPEC competency, specifically awareness, knowledge, and difficulty articulating their distinct professional roles (Smith et al., 2024).

Findings from the first Sim-IPE mirrored current literature describing OT as possessing a less definitive professional role than other healthcare disciplines (Algeo & Aitken, 2019; Costigan et al., 2019; Weinreich et al., 2017). While ICU care often utilizes and benefits from a team-based, interprofessional approach, additional opportunities exist for OTs to highlight their distinct professional value. Occupational therapists can address a variety of intervention areas, including activities of daily living, sleep, functional cognition, delirium management, psychosocial and emotional sequelae,

environmental modifications, application of assistive technologies to support communication, and others (Algeo & Aitken, 2019; Costigan et al., 2019; Leveille et al., 2021; Margetis et al., 2023).

For the second Sim-IPE in 2023, with a new cohort of students, investigators focused on improving OT student outcomes, specifically role awareness and interprofessional practice perceptions, by modifying pre-learning activities and the simulated ICU environment. The purpose of this study was to evaluate the impact of these changes on OT student learning outcomes.

### Methods

Both Sim-IPEs occurred at a regional public university in the Midwest, and each involved a separate cohort of students. The university's Institutional Review Board (IRB) determined that the study was exempt from IRB oversight in the first Sim-IPE (HUM00173234). It was renewed for the second Sim-IPE with a focus on OT student outcomes (HUM00229382).

In the second Sim-IPE iteration, students from the Bachelor of Science RN (n=37), Doctor of OT (n=21), Doctor of PT (n=58), and Associate RT (n=7) programs participated. For OT students, both Sim-IPE iterations occurred in their second year of didactic coursework, aligning curricular focus on enhanced interprofessional understanding and collaboration skills when working with the adult population. The primary learning objective for all students was to work collaboratively to mobilize a critically ill patient on mechanical ventilation in the ICU setting. A mixed methods analytic approach was used with pre/post survey quantitative analysis for students from all four disciplines, and qualitative analysis of guided reflection papers for the OT students only. Students from all four disciplines were anonymously surveyed via Qualtrics® 9 (Qualtrics, Provo, UT) pre-IPE and post-IPE simulation using the Student Perceptions of Interprofessional Clinical Education-Revised instrument, version 2 (SPICE-R2). The SPICE-R2 is a 10-item validated instrument to assess health professions students' self-reported perceptions of IPE, with subscales of teamwork, roles/responsibilities, and patient outcomes (Brisolara et al., 2019; Zorek et al., 2017). It was chosen as the measurement tool for this study because it offers conciseness, robust psychometrics, as noted by Lockeman et al. (2017), and its subscales aligned well with the Sim-IPE objectives. The reflection paper questions, which were the same for both Sim-IPEs, pertained to early mobility and interprofessional practice:

1. How will early mobility improve patient outcomes?
2. What do we need to mobilize critically ill patients?
3. What insights did you gain regarding early mobilization of intubated ICU patients?
4. Describe some of your interactions with the other people in your simulation-based learning experience.
5. What challenges did you face in your role individually?

6. What challenges did you face in your role as a team member?
7. Describe communication strategies that were utilized in this simulation experience, if any.

The Healthcare Simulation Standards of Best Practice™ were used during development of both Sim-IPEs. These standards include using a theoretical framework, utilizing best practices for design and development, recognizing, and addressing potential barriers, and determining an appropriate evaluation plan (INACSL Standards Committee, 2021). Standardized patients (SPs), the nursing ICU simulation center on campus, and the same Sim-IPE protocol and case scenario (Smith et al., 2024) were used in both Sim-IPE iterations. The Sim-IPE protocol consisted of a 30-minute pre-brief with all disciplines, a 15-minute treatment session in the nursing ICU simulation center with a standardized patient (SP) on mechanical ventilation, and a 30-minute debriefing period. All four professions contributed to Sim-IPE development.

In both Sim-IPEs, students from all four disciplines were given pre-learning activities to complete before the IPE simulation, including reading peer-reviewed journal articles and watching videos on early mobility in ICU settings. In the second Sim-IPE, OT faculty investigators modified the OT students' pre-learning activities to facilitate application of knowledge, drawing upon more complex levels of Bloom's taxonomy. Bloom's taxonomy is a hierarchical framework used in curricular design to help students achieve a deeper understanding of learned material (Anderson et al., 2001; Bloom, 1956). Investigators added a scoping review by Costigan et al. (2019) highlighting OTs' challenges concerning their roles and responsibilities in the ICU setting. The article aimed to assist students in establishing connections between the literature and their forthcoming Sim-IPE activities. To elicit reflection and knowledge application, OT students were also asked to answer the following three questions after their readings:

1. Why is the OT role in acute and ICU care not well understood?
2. What are three areas in which OT could integrate its unique professional role into ICU care?
3. Choose one of the areas identified in Question 2. Think of a way you could address this, using a specific example.

Additionally, environmental modifications were made to the ICU in the second Sim-IPE to increase breadth and applicability of certain OT interventions, including the addition of a washcloth, grooming basin, and non-slip socks.

Quantitative data was analyzed for students who completed the Sim-IPE and both the pre/post survey. Only those that were matched by their identification code for pre/post surveys were used for analysis. The analysis was conducted using IBM SPSS Version 28.0® (Armonk, NY: IBM Corporation) software, and the Wilcoxon signed-rank test was used to assess the impact of the Sim-IPE on the SPICE-R2 pre/post-IPE matched data. A significance level of  $p < 0.05$  was used for all analyses. The analysis examined the following aspects:

1. Mean scores: The average scores on the SPICE-R2 survey were calculated before and after the Sim-IPE, and the changes in mean scores were assessed.
2. Mean scores for each profession: The analysis also included the mean SPICE-R2 survey scores for each profession involved in the Sim-IPE. This allowed for a comparison of the changes in scores across different professions.
3. Mean scores for OT students in the first and second iteration of the Sim-IPE were compared to determine if there was a significant difference in scores between the two cohorts.

Qualitative analysis was performed by three authors, one from nursing and two from OT, who coded the reflection papers from the second Sim-IPE. Due to an emphasis on OT outcomes, coders specifically focused on OT reflections, using deductive analysis to categorize data according to the four IPEC competencies: (1) Values/Ethics for Interprofessional Practice; (2) Roles/Responsibilities; (3) Interprofessional Communication; and (4) Teams and Teamwork. Due to the first iteration Sim-IPE results reflecting OT students' challenges with professional roles and responsibilities, coders used data from the Roles/Responsibilities competency to generate themes. This process was completed individually by each of the three coders, who then met to discuss individual findings. Consensus was achieved to synthesize results, finalize exemplar quotes, and resolve any discrepancies or differences in coding. This step is crucial for establishing intercoder reliability in the analysis (O'Connor & Joffe, 2020).

### **Results**

Demographically, student cohorts from all four disciplines were similar in both Sim-IPEs (see Table 1). In the first Sim-IPE iteration, 119 total students participated, and 47 (39.5%) matched with a pre-survey identification code for quantitative analysis. In the second Sim-IPE iteration, 122 total students participated, with 56 (45.9%) matching with a pre-survey code.

**Table 1***Demographics of All Students (All Disciplines) Who Completed Pre/Post Surveys*

| Demographic Categories                      | Sim-IPE (Iteration 1)<br>Students<br>(n = 47) | Sim-IPE (Iteration 2)<br>Students<br>(n = 56) |
|---|---|---|
| Gender                                      |   |   |
| Male  | 29.8%   | 19.6%   |
| Female                                      | 70.2%   | 78.6%   |
| Prefer not to say                           | 0.0%  | 1.8%  |
| Age ranges                                  |   |   |
| 18-24 years                                 | 51.1%   | 46.4%   |
| 25-34 years                                 | 36.1%   | 41.1%   |
| 35-44 years                                 | 6.4%  | 12.5%   |
| 45-54 years                                 | 6.4%  | 0%  |
| Race  |   |   |
| White                                       | 81.5%   | 75.0%   |
| Black or African American                   | 4.6%  | 5.4%  |
| Asian                                       | 6.2%  | 7.1%  |
| American Indian or Alaska Native            | 1.5%  | 3.6%  |
| Other                                       | 6.2%  | 8.9%  |
| Ethnicity                                   |   |   |
| Hispanic, Latino, or Spanish descent        | 4.6%  | 7.1%  |
| Not of Hispanic, Latino, or Spanish descent | 95.4%   | 87.5%   |
| Prefer not to say                           | 0.0%  | 5.4%  |



### Quantitative Results

In the second Sim-IPE iteration, the average SPICE-R2 pre-scores for all students from all four disciplines was  $42.4 \pm 4.8$  points, and the average post-IPE total score was  $45.3 \pm 5.3$  points ( $p < 0.001$ ). For comparison within the individual professions, nursing ( $n=8$ ,  $p=0.03$ ), PT students ( $n=33$ ,  $p=0.03$ ), and OT students ( $n=12$ ,  $p=0.02$ ) demonstrated statistically significant differences in SPICE-R2 scores from pre/post responses. Neither Sim-IPE scores for RT students were found to be significant. See Table 2 for full details.

**Table 2**

*Pre-Post Comparison of SPICE-R2 Between Sim-IPE Iterations 1 and 2 for All Students*

|                           | Survey   | n<br>Sim-IPE 1 | Mean<br>(SD)<br>Sim-IPE<br>1 | p-value<br>Sim-IPE<br>1 | n<br>Sim-IPE<br>2 | Mean<br>(SD)<br>Sim-IPE 2 | p-value<br>Sim-IPE 2 |
|---------------------------|----------|----------------|------------------------------|-------------------------|-------------------|---------------------------|----------------------|
| Total SPICE-R2 Instrument | Pre-IPE  | 47             | 41.7<br>(4.6)                | *0.002                  | 56                | 42.3 (4.8)                | * < 0.001            |
|                           | Post-IPE | 47             | 44.3<br>(4.0)                |                         | 56                | 45.3 (5.4)                |                      |
| Occupational therapy      | Pre-IPE  | 12             | 43 (5.1)                     | 0.683                   | 12                | 44 (4.3)                  | *0.017               |
|                           | Post-IPE | 12             | 43.6<br>(4.1)                |                         | 12                | 48.1 (3.3)                |                      |
| Physical therapy          | Pre-IPE  | 22             | 42.8<br>(4.2)                | *0.032                  | 33                | 42.2 (4.4)                | *0.025               |
|                           | Post-IPE | 22             | 45.3<br>(9.3)                |                         | 33                | 44.4 (5.7)                |                      |
| Respiratory therapy       | Pre-IPE  | 1              | 37 (0.0)                     | 0.317                   | 3                 | 44.3 (5.8)                | 0.180                |
|                           | Post-IPE | 1              | 47 (0.0)                     |                         | 3                 | 48.3 (2.1)                |                      |
| Nursing                   | Pre-IPE  | 12             | 38.8<br>(3.8)                | *0.041                  | 8                 | 39.8 (6.1)                | *0.034               |
|                           | Post-IPE | 12             | 43.1<br>(4.4)                |                         | 8                 | 43.7 (6.2)                |                      |

\* Significant difference with  $p < 0.05$  from the Wilcoxon Sign test; SD=Standard deviation.

In the first Sim-IPE, a total of 24 OT students participated, with 12 (50%) matching pre/post survey codes. In the second Sim-IPE, 21 OT students took part, with 12 (50%) matching pre/post-survey codes.

When comparing the first iteration Sim-IPE to the second, OT students' pre-scores were not statistically significant ( $p=0.532$ ). However, there was a statistically significant difference in the post-scores ( $p=0.02$ ). The average change in scores (out of 50 points) from pre-to post-IPE in the first iteration Sim-IPE was 0.6 points  $\pm$  4.6, and in the second iteration Sim-IPE, that change was an improvement of 4.1 points  $\pm$  4.6. See Table 3 for full details.

**Table 3**

*Comparison of SPICE-R2 Average Scores for OT Students in Sim-IPE Iterations 1 and 2*

|                          | Sim-IPE 1 (n = 12) | Sim-IPE 2 (n =12) | p-value |
|--------------------------|--------------------|-------------------|---------|
| Pre-score mean $\pm$ SD  | 4.30 $\pm$ 0.05    | 4.40 $\pm$ 0.43   | 0.532   |
| Post-score mean $\pm$ SD | 4.35 $\pm$ 0.41    | 4.81 $\pm$ 0.33   | *0.023  |

\* Significant difference with  $p < 0.05$  from the Wilcoxon Sign test; SD=Standard deviation.

### Qualitative Results

The OT students' written reflections in the second Sim-IPE iteration conveyed improved role awareness and knowledge when compared to OT students from the first iteration. However, they also highlighted persisting themes of role ambiguity in relation to PT and challenges in asserting their role confidently within the simulated ICU setting.

#### ***Theme 1: Improved Role Awareness and Knowledge in ICU Care***

Students identified a variety of unique contributions OTs could make as part of an interprofessional team in the ICU, with several referencing content from their pre-learning readings:

Occupational therapy (OT) has a role in the ICU, even though there is a paucity of research; OT can provide interventions that focus on mobility, sensory stimulation, delirium prevention, environmental modifications, assistive devices, activities of daily living (ADLs), and mental health, to name a few. - OT 6

...I think personal hygiene is a good option for OT treatment, in addition to functional mobility for safe transfers. Intubated patients often lack control and routine, so allowing the patient to complete self-care tasks is helpful from both a physical and mental health standpoint. - OT 14

As an occupational therapy student, I was interested in observing how much assistance the patient requires in terms of self-care. - OT 11

**Theme 2 - Role Ambiguity Between OT and PT**

While professional role awareness and knowledge improved, challenges with role ambiguity persisted in the second Sim-IPE iteration, particularly as it related to the dynamic between OT and PT:

My role as the OT and the PT student got a little mixed up during the session about who wanted to do what or what was the best way to do certain things...As an OT student, I felt like my role was slightly overshadowed by the PT student. - OT 17

As an occupational therapist, it was difficult to distinguish the difference in role compared to the physical therapist, but upon reflection afterwards it would be easy to establish ADL [activity of daily living] strategies that are doable for patients in early mobility. - OT 8

While introducing the group the nursing student continued to refer to me as a physical therapist. I learned to be a bit more firm about the role of occupational therapy in the ICU and to advocate for our profession. I know that this is something that I will have to continue doing in the future. - OT 5

**Theme 3 - Confidence with Role Assertion During Simulation**

Confidence during the Sim-IPE experience emerged as a shared hurdle for all disciplines, with sentiments of nervousness and apprehension evenly distributed throughout reflections. OT students reported specific challenges with asserting their professional role during the simulation:

A challenge that I faced in my role individually was voicing some changes that I thought would be helpful during the simulation. This is something I want to improve for my future practice and have the confidence to express thoughts based on my knowledge and skills during sessions. - OT 12

I felt overwhelmed and hesitant about the entire simulation and what was expected of me; unfortunately, this impacted my role as the occupational therapist. I should have focused more on occupation-based interventions to engage the patient. OT 7

I think I tend to draw back once I hear someone else take charge of the situation. For example, the physical therapist immediately initiated conversation and I assumed that she was more knowledgeable, and she may have been, but doubting myself or assuming that someone is "leading" makes me think that I should just assist the whole activity instead of leading individual tasks for our specific profession. - OT 3

In my personal role, I felt a bit intimidated by the lack of knowledge I had about lines. The other students, even the physical therapy student, seemed to have a better understanding of types of lines and what they were for, than I did. - OT 13

In my role individually I wish I would have spoken up a little more. - OT 6

## **Discussion**

### **Improvements in IPE Perceptions and Role Awareness**

With this study, investigators aimed to enhance the existing Sim-IPE to improve OT student learning outcomes, including perceptions of interprofessional practice and professional role awareness in the ICU. Quantitative results indicated that the second Sim-IPE iteration provided a learning experience that positively impacted OT students' perceptions of IPE, more so than the first iteration (Smith et al., 2024), as evidenced by statistically significant improvements in SPICE-R2 scores (Smith et al., 2024). These improvements were isolated for OT, as the other disciplines had similar results in both Sim-IPEs. This finding aligns with existing evidence that such collaborative learning experiences can strengthen teamwork skills and that OT students see the advantages of hands-on interprofessional ICU learning experiences (Gibbs et al., 2017; Thomas et al., 2017).

Qualitative results indicated emerging professional role awareness, an improvement from the first iteration, although opportunities for growth are described in the following section. With the isolated improvement in SPICE-R2 scores and in the absence of other changes to the Sim-IPE, the improved OT student outcomes may be attributed to enhancements made to the pre-learning activities and simulation environment to highlight the unique OT role in the ICU.

### **Opportunities for Growth: Navigating Role Assertion and Ambiguity**

While qualitative findings indicated improved OT students' role awareness, there remain opportunities for growth, particularly as it relates to confident role assertion and navigating role ambiguity with PT students. This perception may stem from several sources, such as differences in curriculum and the similar role ambiguity in real-world ICU practice.

Thomas et al. (2017) reported on results from an ICU simulation-based IPE, finding that OT students felt less prepared for ICU-specific tasks than their PT counterparts. This was attributed to less prior experience in ICU settings and less coursework dedicated to ICU care, prompting this analysis of PT and OT curricula at this university. At the time of both Sim-IPE iterations, OT and PT students were in the second year of their respective graduate programs. However, PT students had been exposed to coursework that was more specific to ICU and acute care than the OT students. For example, the PT students had taken three classes that encompassed medical, surgical, and pulmonary conditions, two of which included labs for hands-on practice. Occupational therapy students, on the other hand, had taken more general assessment and intervention classes that spanned a wide range of settings, in part due to a lifespan curriculum design. Additionally, PT students had spent more concentrated time in the clinical environment prior to the Sim-IPEs, having completed one full-time six-week rotation (240 hours). Conversely, the OT students had completed two clinical rotations, but with a lower frequency, structured as once weekly across a 10-week period for each (160 hours). The increased full-time clinical experience may have impacted role confidence and assertion.

It may be worth noting that findings from this study mirrored the current state of OT role ambiguity in real-world ICU environments (Costigan et al., 2019). Historically, PTs have had a more established presence in the physical rehabilitation sphere within ICU settings, possibly contributing to a more defined professional identity in such environments (Alego & Aitken, 2019). A systematic review by Weinreich et al. (2017) found that the OT role in the ICU was often not differentiated from PT, making specific conclusions regarding OTs' unique contribution to these results difficult to identify. Costigan et al. (2019) also concluded that the role of OT in ICU rehabilitation has not been well established and is often combined with PT, particularly in the domains of mobility and physical rehabilitation. Occupational therapy clinicians, while recognizing the value of their contribution to patient care, may still be navigating the nuances of asserting and exemplifying their unique role in a traditionally PT-dominated space (Alego & Aitken, 2019).

### **Role of OT Education in Preparing Students for ICU**

Findings from this study highlight the role of OT education programs in preparing OT students for professional self-efficacy and advocacy in interprofessional ICU settings, particularly as the need for OTs in critical care grows. The COVID-19 pandemic resulted in an unprecedented demand for OTs to participate in interprofessional healthcare teams in acute and critical care environments (Margetis et al., 2023). Margetis and colleagues (2021) called for increased training in critical care for OTs to strengthen their professional capacity for meeting the needs of patients in critical care units. This situation calls for the OT field to bolster training for new practitioners in this practice area and raise awareness of the significant role and impact OT has on patient outcomes in the critical care setting (Margetis et al., 2021).

There is ongoing need for curricular developments that not only clarify the distinct value of OT in critical care but also equip students with strategies to assert their roles confidently in interprofessional teams (Margetis et al., 2023). In recognition by Davis et al. (2021), "Interprofessional education (IPE) is essential for reinforcing professionals' appreciation of other disciplines" (p. 175). In order to foster this appreciation among other healthcare disciplines, it is crucial to instill in OT students a sense of value and uniqueness within the context of their role in the ICU's interprofessional team. This internal sense of self-worth and confidence is fundamental in advocating for the profession within the broader healthcare landscape. Incorporating critical care specificity in the Accreditation Council for Occupational Therapy Education (ACOTE) standards may be another proactive step, as currently, these standards do not address rehabilitation strategies specific to critical care (ACOTE, 2023).

### **Limitations**

This study had several limitations, one being a small sample size. Twelve OT students completed the pre-and post-SPICE-R2, while eighteen completed the qualitative reflections. All students were from one university, limiting the generalizability of these findings to other OT students and programs. The time limitation of a 15-minute simulation may have affected the comprehensive demonstration of the OT role. Additionally, the cohort of OT students from the second Sim-IPE iteration had

completed in-person fieldwork rotations, whereas students from the first Sim-IPE iteration completed a virtual alternative due to the constraints of the COVID-19 pandemic. Finally, this study's outcome measures assessed students' self-reported perception, not observed performance, during both Sim-IPEs.

### Future Research

Future research investigating methods to enhance OT student role assertion within the Sim-IPE may be valuable. A focus on implementing teaching strategies that encourage OT students to confidently apply OT-specific interventions in the ICU as part of an interprofessional team may improve learning outcomes. Additionally, future studies that assess the actual performance of OT students during the Sim-IPE may be beneficial in determining the need for future skill-specific competencies in this OT program's curriculum. Research assessing the impact of a Sim-IPE experience on fieldwork performance and clinical practice could help determine longitudinal, real-world impact. A deeper examination of OT curricular activities may be warranted to capture the changing landscape of healthcare demands. Finally, future research could explore ways to improve the RT student outcomes, which were not addressed in this study.

### Conclusions

The ICU Early Mobility Sim-IPE provided a valuable learning experience that positively impacted OT students' perceptions of interprofessional practice and awareness of their unique role in an ICU setting. Modifying the OT pre-learning activities and simulation environment to facilitate reflection and action planning improved OT student outcomes in the second iteration. Occupational therapy students' assertion and application of their role during the Sim-IPE remains an opportunity for growth. This study acknowledged the significance of OT education programs in prioritizing role awareness and assertion to equip OT students with the necessary skills for professional advocacy within an interprofessional ICU setting.

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