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Exploring simulation design for mental health practice preparation: a pilot study with learners and preceptors

Abstract

The purpose of this exploratory pilot study was to determine the feasibility of delivering mental health practice simulations for occupational therapy learners, and whether different debriefing approaches yielded performance differences over successive simulations. Five clinical preceptors and nine first year MScOT students participated in this mixed-method study. In week one simulations, one student group received preceptor facilitated debriefing while the other group used self-debriefing. Both groups used the same scripted questions informed by an advocacy-inquiry approach. In the second week, both groups received the preceptor-led debriefing. Preceptors rated student performances while students self-rated their confidence, competence screen, and satisfaction using standardized tools. Ratings of simulation performance revealed gaps in practice knowledge and the process of practice. Preceptor-led debriefing for both groups resulted in greater depth of reflection and insight into learning gaps and opportunities for continued improvement. The self-debriefing group reported feeling less confident in the simulations. Preceptors reported the scripted advocacy inquiry debriefing approach helped draw out clinical reasoning that could not be observed from performance alone. Simulation may be an effective teaching tool for developing core practice competencies. Design and debriefing styles appear to impact preceptor feedback and the depth of learner critical reflection. Further study is required for generalization.

Comments

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

Keywords

competency-based education, debriefing, advocacy inquiry, mental health, occupational therapy, simulation

Cover Page Footnote

We would like to acknowledge Dr. Cathy White and Kait Sullivan for their assistance with simulation organization, and thank all the student volunteer participants, clinical preceptors and simulated patients.

Credentials Display

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Simulation-based education may positively influence high quality learning in the health professions while maximizing educational opportunities otherwise only afforded during clinical fieldwork (Bearman et al., 2019; Haracz et al., 2015; Imms et al., 2018). In addition, simulation-based education centers on debriefing opportunities that are not always possible in fast-paced clinical environments, but which are described by learners and instructors as key to learning and skill development (Krogh et al., 2016). Scholars in health profession disciplines cite similar rationale for integrating simulated learning activities in entry-to-practice curricula (Hayden et al., 2014).

The degree to which simulated encounters realistically match real-world clinical experiences (i.e., fidelity) is of great importance in the learning encounter (Imms et al., 2018; Mori et al., 2015). To maximize experiential learning through simulation, a realistic environment with opportunities for debriefing is essential, as it allows students to suspend disbelief, interact in real time, and capitalize on the simulated experience (Hamstra et al., 2014). The debriefing process, in particular, is central to developing critical thinking and reinforcing clinical reasoning (e.g., Eppich et al., 2015), but less is known about the impact of facilitator led versus student self-directed debriefing (Kang & Yu, 2018). The aims of this pilot study were to explore if core competency mental health practice skills required for introductory occupational therapy fieldwork could be evaluated through simulation, and what impact different debriefing styles may have on students' perceptions of performance.

Literature Review

Simulation using different modalities, including use of standardized patients, has been reported in the occupational therapy literature (e.g., Bennet et al., 2017; Haracz, 2015). However, little has been explored from the perspective of simulation debriefing methods outside fieldwork preparation (e.g., Mackenzie, 2002) and students' perceptions of simulated learning experiences (e.g., Walls et al., 2019).

Engaging with simulated patients provides learners opportunity to interact with patients or clients in a safe learning environment while providing learners with uniform, consistent, and targeted learning experiences at times in the curriculum that make sense (Bokken et al., 2009; Imms et al., 2018). The debriefing process is a core component of simulation-based education. While there are several approaches to facilitation, one of the most used in health care simulation remains the advocacy-inquiry approach (Eppich & Cheng, 2015; Rudolph et al., 2007). Advocacy-inquiry debriefing in a simulated experience focuses on non-judgementally eliciting the learner and facilitator's frame of reference, or how they made sense of external stimuli through internal cognitive frames (Rudolph et al., 2007).

The facilitator's first step is to allow emotional responses from the learner arising from the simulated learning experience to help inform the advocacy-inquiry debriefing. Next, to prompt further reflection, the facilitator objectively shares their observations of the events or actions that were the focus of emotional responses of the student. Finally, the facilitator embarks on an inquiry that starts from the student's emotional response and tracks their specific interpretations of the simulation that informed their actions or behaviors (Sawyer et al., 2016). Content-driven feedback or evaluations are not immediately offered by the facilitator and are replaced with a transparent conversation about the student's reasoning behind observable actions. Recognizing that the only person who truly knows what the learner was thinking is the learner, the goal is to increase open communication about why the learner approached a simulated situation in the way they did to identify areas where the learner may need additional practice and/or development (Sawyer et al., 2016).

In our occupational therapy curricula, students participate in classroom and experiential learning labs, with simulation integrated into courses, practice consolidation seminars, and competency

evaluations. Types of simulations range from procedural and communication skills development to complex patient interactions, including some opportunity for instructor-student co-created simulations (MacKenzie et al., 2018). In addition to the training they receive through simulation to assist with preparation and transition to practical fieldwork, students are also required to complete more than 1000 hr of fieldwork education (Dalwood et al., 2018; World Federation of Occupational Therapists, 2016). Given the diverse scope of occupational therapy practice sites (e.g., primary care, rehabilitation, community, homelessness outreach) and inconsistent access to clients and scenarios that align with curriculum content or timing, there may be limited consistency in guaranteed essential learning opportunities for all students. Incorporating simulation for practice preparation can offer consistent and targeted learning experiences that are more likely to guarantee alignment with curriculum content (Imms et al., 2018).

To advance our knowledge of simulation and debriefing as an effective pedagogical approach for Master of Science in Occupational Therapy (MSc[OT]) students, we approached our curriculum reform from a research perspective. To identify the practice content for simulation, our research team analyzed preceptors' fieldwork evaluations (Competency Based Fieldwork Evaluation for Occupational Therapists [CBFE-OT]; Bossers, 2002) from two cohorts of entry to practice MSc(OT) students (N = 118) at three different time points in their curricula. The CBFE-OT encompasses core competencies that MSc(OT) students are expected to demonstrate for entry into clinical practice. Our CBFE-OT review (manuscript in preparation) identified common learning gaps where students' performance as well as preceptor feedback could be targeted for improvement.

For the introductory-level learners involved in this pilot project, communication-based simulated patient scenarios were employed. Specific areas identified for assessment included practice knowledge, clinical reasoning, and facilitating change with a practice process with clients in a mental health setting. In targeting these areas, we were also interested in exploring how preceptor facilitated debriefing versus self-debriefing would impact the students' performance over subsequent simulations (Boet et al., 2011; Kang & Yu, 2018). The purpose of this pilot study was to explore: whether (a) simulation can be used to evaluate enduring competencies and practice skills expected from MSc(OT) students for mental health practice following their first semester of academic preparation, and (b) whether performance differences over successive simulations were linked to the students' perceptions of preceptor-facilitated debriefing versus self-directed debriefing methods.

Method

A mixed-method, two group, random selection, pre/posttest pilot study was designed to test the feasibility of the simulation design in an entry to practice occupational therapy educational setting. The design increased the ability to collect data in a short time frame with limited resources and facilitated analysis of between-group descriptive quantitative and qualitative data. It was not designed to estimate a sample size of a future study (Leon et al., 2011), so it was important to use the smallest sample possible to limit human and financial resources while still completing a quality study. This study was reviewed and approved by the University's Office of Human Research Ethics Administration (2017–4306). All participants in this study provided written informed consent.

Participants

Our goal was to recruit 20 student participants from a first year MSc(OT) cohort of 66 students who successfully completed all first semester curriculum, which emphasizes professional practice, theory, and mental health intervention. Based on past work on qualitative research methodology, a

sample size of 20 falls within acceptable limits (Dworkin, 2012). Because of the pilot/exploratory nature of the study, we balanced sample size with the availability of resources.

Five licensed occupational therapists were recruited for the preceptor role from the school's tutor pool of clinicians and through the provincial regulatory college. The preceptors were eligible to participate if they were not in a clinical supervision or teaching capacity with the targeted cohort of students during the study.

Simulation Design

Two simulation cases were created by the research team drawing on best practices in simulation design (e.g., Chiniara, 2013), experiential learning (Yardley et al., 2012), self-regulated engagement and learning (Brydges, 2015), debriefing where students identify simulation performance gaps and the desired performance (Eppich & Cheng, 2015), self-assessment limitations (Sears et al., 2014), and educational accreditation standards (e.g., Canadian Association of Occupational Therapy, 2016; Occupational Therapy Council, 2013). Both simulation scenarios presented a client (enacted by a trained and standardized simulated patient) who may be encountered in an array of mental health practice settings. Given authenticity and fidelity (realism) are key components of simulation (Lewis et al., 2017), the case content was derived from experience in working with clients across mental health contexts. A simulated patient educator recruited, trained, and standardized simulated patients for the authentic portrayal aligned with lived experience. The preceptors were oriented and trained to facilitate the post simulation structured debrief using an advocacy-inquiry approach specific to the case simulation.

The simulation scenarios were designed to evaluate enduring competencies and practice skills expected from MSc(OT) students for mental health practice following their first semester of academic preparation. Key features included the abilities to: articulate clinical reasoning from an occupational therapy theoretical lens, respond to unexpected changes in patient behavior and mental status, apply evidence-based practice in a therapeutic interaction, and use a facilitated or cued self-debriefing for a change in performance. The scenarios intentionally integrated complex and challenging situations that would elicit a need for clinical reasoning and decision-making.

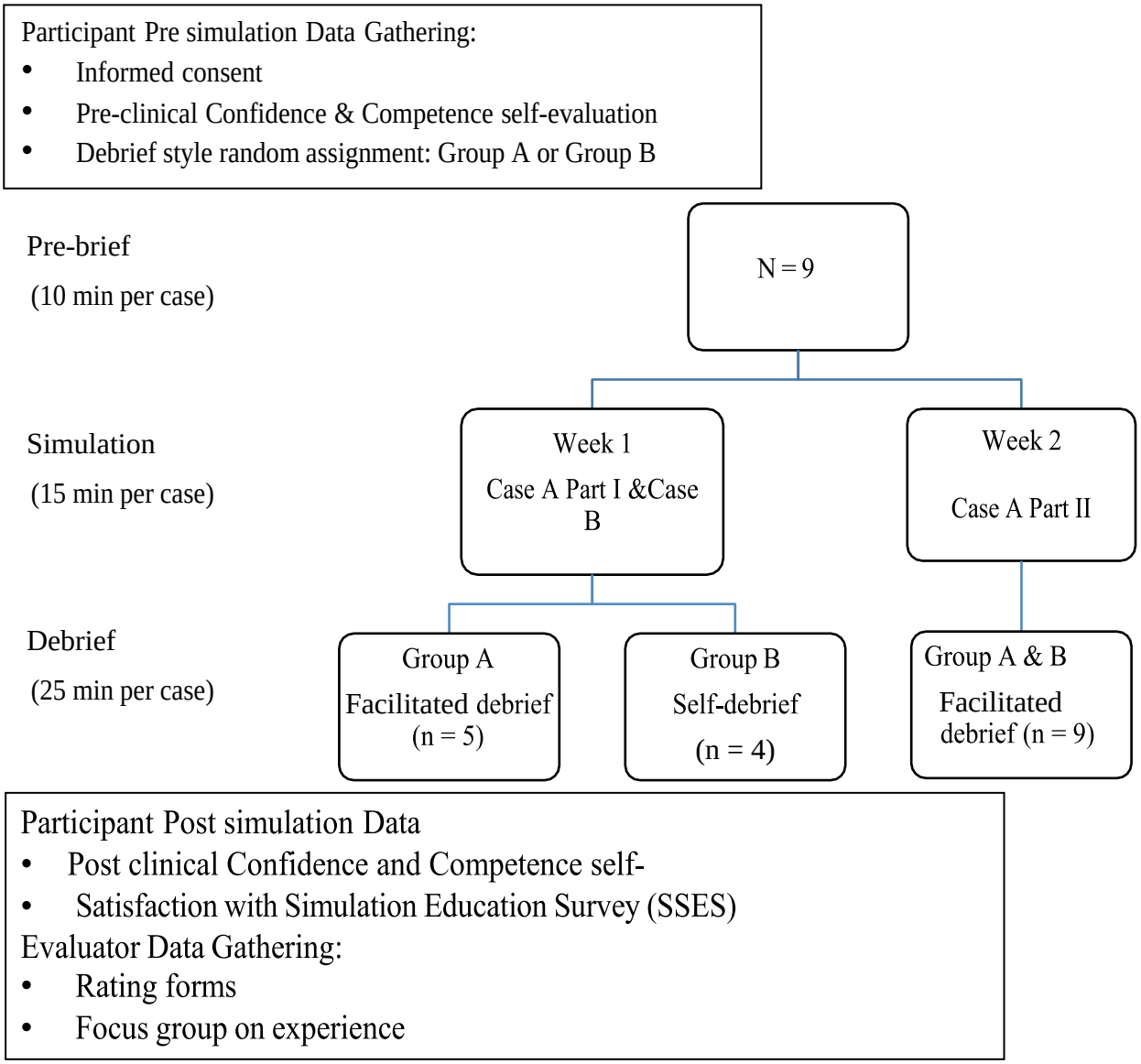
Procedure

Recruitment of student volunteers was completed by members of the team not in teaching contact with the participants. The remaining team members were blinded to recruitment and isolated from the participants during data collection. To avoid any potential influence on term or course grades, data analysis did not occur during the teaching term in which these simulations were held. All simulations took place at a high-fidelity simulation center that offers a rich, realistic, and ecologically valid environment with recording capability. The students were seated in a manner to enhance anonymity in the video recordings. In this study, the simulation and debriefing encounters were viewed in real-time and recorded for additional analysis.

Figure 1 illustrates the experimental procedure participants completed in Week 1. Following the informed written consent process, the students were randomized into two different debriefing style groups. Each group used the same scripted advocacy-inquiry debriefing questions. During Week 1, Group A was exposed to the preceptor facilitated advocacy-inquiry style of debriefing, which could include follow-up probes from the preceptor's observation of their simulation (Rudolph et al., 2007; Sawyer et al., 2016), whereas Group B completed a written self-debriefing with scripted questions to cue a reflective process. In Week 2, both groups interacted with Part II of Case A where the client experienced a change in mental status (i.e., exacerbation of symptoms because of medication change)

necessitating a revision to previously set goals in the Week 1 simulation. The Part II interaction was purposefully designed to challenge the students. During Week 2, both groups received the preceptor facilitated advocacy-inquiry debriefing. It is important to note that the preceptors were trained to use the advocacy-inquiry guide to engage the student and to direct discussion toward advancing articulation of critical thinking and clinical reasoning. The preceptors were specifically asked not to provide content-specific feedback.

Figure 1
Procedure



The simulation observation form used by the preceptors included scripted advocacy-inquiry questions, key features of the encounter using a formative Objective Structured Clinical Examination (OSCE) checklist format (Abdulghani et al., 2014), and the three selected CBFE-OT competencies previously identified. In addition to the preceptor scores for the OSCE and CBFE-OT, the participants' recordings were viewed and scored by two research team members. Appendix A contains the categories evaluated in the facilitated and self-debriefing for Case A in Weeks 1 and 2 and the self-debriefing for Case B. Appendix B provides the modified standardized tools the students completed pre and post simulations in Weeks 1 and 2: the Confidence and Competence Screen (Baxter & Norman, 2011) and a modified satisfaction with Simulation Experience Scale (Levett-Jones et al., 2011).

Data Analysis

Our aims were to develop insights that described both the student and preceptor evaluations of the simulation and debriefing, with an over-arching goal of evaluating the educational design. Data sets that were explored included the video and audio transcripts of each simulation and debriefing, the written debriefs, the CBFE-OT and OSCE category scores from the preceptors and video review, the Simulation Experience Scale, and the Confidence and Competence Screen, which enabled a comprehensive exploration of the educational intervention. All written text and survey measures were gathered using Opinio Survey software (Opinio 6.4.1, Copyright 1998–2011 Object Planet) hosted on the university's server. Data was exported from Opinio into Microsoft Excel and cleaned for analysis. All evaluation scores were input into Microsoft Excel. All audio-recordings in the simulation and debriefing sessions were transcribed into Microsoft Word.

Thematic analysis (as per the six-step process described by Braun and Clark [2006]) was performed. Each simulation and debriefing (both in-person and written) transcript was analyzed to explore the students' skills and competencies and to determine how observation of performed skills compared to discussion in the debriefing. Two team members deductively selected a priori codes that were in alignment with the targeted competences from the OSCE form and the CBFE-OT, and then analyzed all simulation and debriefing transcripts to assign the a priori codes.

Simultaneously, two different team members used Braun and Clark's (2006) inductive process of thematic analysis to more deeply explore the participants' experiences, thoughts, and behaviors. They individually reviewed all simulation and debrief transcripts to become familiar with the content, generated initial codes, and searched for themes in each data set. These two team members have different occupations and experiences with occupational therapy as a profession, allowing for different perspectives. Together, along with a third member of the research team, they then compared their independent analysis and evidence (quotes) to attend to validity and reliability (Green & Thorogood, 2014). This process included confirming emergent themes (as supported by quotes), adequately defining the themes, and attending to consistencies, inconsistencies, and contraindications in the data, with the aim of attuning to rigour (Braun & Clark, 2006; Green & Thorogood, 2014; Kiger & Varpio, 2020).

With team members responsible for distinct data analysis, all members of the team met together throughout the process to discuss preliminary findings, discuss interpretations and identify discrepancies, and discuss key messages from the combined findings. This iterative analysis enabled rich exploration of individual data sets and for the educational intervention overall, with the aim of a holistic interpretation of our educational design. As part of our reflexive analysis, we acknowledge our research team as having an interest in the topic, research approach, and outcome. As described above, to mitigate potential biases, we purposefully employed several safeguards during the analysis process. For

example, team members from different disciplines, content knowledge, and simulation experience created the opportunity to be conscious of different perspectives when interacting with the qualitative data. Preliminary findings were discussed collectively and discrepancies resolved through reflective dialogue.

Results

Because of an unanticipated shortening of the recruitment window, we were unable to recruit the intended number of participants that allows us to report only descriptive results. Nine MSc(OT) student participants in their second semester of their first year completed the study. The average age was 26 years (with a range from 23–37 years of age). All identified as female and all reported previous volunteer experiences in a variety of settings from children to adults.

Given the sample size, we are only reporting key descriptive findings. In the preceptor/faculty evaluated CBFE-OT during Week 1 simulations, both groups scored in the average range on the three CBFE-OT categories: practice knowledge (facilitated mean = 3.6, *SD* = 0.6; self-debrief mean = 3.8, *SD* = 0.5), clinical reasoning (facilitated mean = 3.3, *SD* = 0.6; self-debrief mean = 3.4, *SD* = 0.5), and facilitates change with practice process (facilitated mean = 3.5, *SD* = 0.6; self-debrief mean = 3.6, *SD* = 0.5). However, in Week 2, which included the more challenging case, the CBFE-OT group averages decreased for both groups: practice knowledge (facilitated mean = 2.9, *SD* = 0.3; self-debrief mean = 3.1, *SD* = 0.6), clinical reasoning (facilitated mean = 3.1, *SD* = 0.6; self-debrief mean = 3.3, *SD* = 0.5) and facilitates change with practice process (facilitated mean = 2.9, *SD* = 0.3; self-debrief mean = 3.1, *SD* = 0.6.).

No specific concerns were raised from the Week 1 OSCE checklist with the facilitated group receiving a lower overall rating (mean = 3.6, *SD* = 0.6) than the self-debrief group (mean = 3.9, *SD* = 0.4). However, in Week 2, with means below three, concern was raised in the facilitated group's ability to obtain consent (mean = 2.8, *SD* = 1.3) and the self-debrief group's ability to assess the needs of the client (mean = 2.9, *SD* = 0.6).

The students' self-ratings of confidence and competency perception were fairly consistent from Weeks 1 to 2 with the exception of the self-debriefing group feeling less confident with mental health situations. The self-rating for ability to manage a challenging clinical situation showed a marked increase between weeks (Week 1 facilitated mean = 3.6, *SD* = 1.1; self-debrief mean = 3.3, *SD* = 1.5 versus Week 2 facilitated mean = 4.3, *SD* = 1.7; self-debrief mean = 3.8, *SD* = 1.5) as well as the ability to manage a challenging clinical situation (Week 1 facilitated mean = 3.2, *SD* = 1.6; self-debrief mean = 3.8, *SD* = 0.5 versus Week 2 facilitated mean = 4.0, *SD* = 1.8; self-debrief mean = 4.0, *SD* = 2.3), though the SD indicates a wide variability in respondents. In terms of their satisfaction of simulation, the self-debriefing group rated a much higher satisfaction with the facilitator and feedback in their only experience in Week 2 (mean = 3.8, *SD* = 1.7) compared to lower overall ratings in both weeks from students in the facilitated group (Week 1 mean = 2.4; *SD* = 1.9; Week 2 mean = 3.5, *SD* = 1.9). The large SD notes the variability in ratings in the small group. Self-rating scores are related to student self-awareness and confidence with noted disparity between high performers underestimating ability and overconfident students overestimating ability (Sears et al., 2014). Understanding the context for these ratings together with the overall simulation experience was explored through transcript analysis for both the occupational therapy student (OTS) participants and the occupational therapy preceptors perspectives. Five core themes emerged.

Clinical Reasoning Revealed

The overall observation-based ratings found that the occupational therapy student participants had challenges with safety (OSCE checklist) and clinical reasoning (CBFE-OT), which was expected because of where they were in the 2-year program and curriculum at that time. This is also consistent with our other work which found lower ratings for clinical reasoning not only at the introductory level, but across all levels together with fewer overall written comments related to understanding the student's reasoning (MacKenzie et al., 2018). However, the facilitator-led advocacy-inquiry scripted debriefing session elicited information from the occupational therapy students about their tacit thinking processes not obvious from the observable interactions used to obtain these ratings.

The advocacy-inquiry debriefing method created opportunity for the occupational therapy student participants to learn by reflection-on-action (Fenwick, 2000; Kolb, 1984; Schön, 1983) while the occupational therapy preceptor participants were exposed to the internal thought processes of a student, therefore allowing a more fair and thorough evaluation of clinical reasoning. In fact, one occupational therapy preceptor participant felt that previous experience of providing content-specific feedback during fieldwork may have detracted from the students' self-reflection and learning opportunity:

> I don't think they would have gone through the theory and why they made the decisions that they did because I would have just given them clinical feedback and they would have most likely taken it for what it was and then, that was it. Like this was a lot of, this was very self-directed, which is what sort of practice is, so I think it got at a lot more clinical reasoning that it would have if it was clinical, or, ah, practical. (OTP 2)

The structured debriefing also allowed the preceptors to guide the students to uncover contributing factors of their decision-making, critical thinking, and clinical reasoning process. Advocacy-inquiry debriefing training and the opportunity to use the method during the simulations made one preceptor "reflect as much [on my debriefing style] as I asked some of these questions; when I'm working with students that I'm too yappy … I fill in too many spaces, and that [the students can get] most of the answers all on their own." (OTP 4). This preceptor also noted that:

> Both of my students identified the debriefing part of it as extremely helpful and how I helped them to, kind of, come up with these answers … And really, I don't think I was guiding them much at all, but they felt like it was a really great experience to, kind of, help them identify things that they had done differently or they would, or why they had done something … which was particularly interesting because I didn't give them a bit of [content-specific] feedback. (OTP 4)

Reflection to Realization

Questions used to cue the self-debriefing process were identical to the scripted preceptor-led debriefing questions. Differences were evident between students across the two debriefing styles regarding depth of reflection on performance, tendency toward negative sense of self, and guided time to contextualize learning needs.

In general, the occupational therapy student participants' written self-debriefing responses were superficial and generic. In response to the question "How does OT specific knowledge contribute to prioritizing occupational performance issues?", a student responded, "it helped me by giving me a general outline to follow in my head" (OTS 2). They did not elaborate on how specific theoretical or

conceptual tools to which they were referring guided their actions or helped them understand a specific client interaction. Even at times where a student could identify a challenge they could meet, such as identifying occupational performance issues, "breaking those down to an initial goal level was very difficult despite having been trained" (OTS 2). Further reflection about why that challenge existed or what they might need to think about to overcome that challenge was absent in the written response. In contrast to the written debriefing, one preceptor described the occupational therapy student participant:

> could actually talk through some of the examples, and it then also led her [the student] to think about something else, which again lead her to think about something else … so she kind of went down that track on her own without needing too much encouragement. (OTP 2)

In general, the students reported a preference for the preceptor facilitated advocacy-inquiry debriefing compared to cued self-debriefing. One of the reasons why they preferred a preceptor facilitated debriefing was that when left alone to self-reflect with guided questions they were often "harder on (them)self than possibly a grader might be and … I might just like dig myself into a hole if I'm like, yeah so I did this, this, and this wrong" (OTS 1). Instead of focusing on thoughts such as "that went terrible and I need to practice," preceptor-facilitated debriefings helped the occupational therapy student participants conceptualize the experience as a learning opportunity where "after the debrief, I was like, I actually didn't do that bad." Even though the simulations created space to deepen learning free of evaluation grade stress, without the preceptor-led debriefing, some key learning points may be missed, and student perceptions of their performance may be skewed toward a negative self-evaluation with no opportunity for further guided reflection and learning. The debriefings were "helpful from one sim to the next—I used what I reflected on in the first one to better my second sim, which I felt went better" (OTS 5). As such, the implementation of a preceptor-led advocacy-inquiry debriefing promoted positive learning experiences and opportunities for growth while potentially impacting self-esteem and motivation for continued learning.

Finally, debriefing duration time was an important factor in reflection. Typically, in summative evaluations, feedback (if any) is provided in a few minutes and reported to feel as though "it was just the marker telling us this is what you did wrong. There was no justification, you know?" (OTS 1). Previous experience with this shorter feedback time was also reported to be all positive and not well-rounded or justified which "gave me poor judgement I think" (OTS 3). Many articulated the longer debriefing time "allows you to actually take the time to reflect" helping to "come to the conclusion that I need to work on something [which made] it easier to accept when I know that I've done something wrong" (OTS 1). Taken together, the students' perceptions are in keeping with guidelines regarding the duration of a preceptor-facilitated debriefing related to level of learner (Sawyer et al., 2016). It is important that sufficient time is provided for learner reflection to draw conclusions about their experiences and set goals for their own learning.

Deliberate Practice Toward Competence

The students articulated many benefits to participating in realistic simulations as learning experiences prior to the added pressure of formal assessment simulations that occur as part of their regular curriculum. The pilot's simulation design created opportunities to practice, self-reflect, and "synthesise the information … learning it in theory, in a textbook and talking about it or listening to somebody speak about it in class has a completely different effect than having somebody who can

actually put you in a situation and then debrief with you" (OTS 6). The formative design contributed to the occupational therapy student participants feeling "a lot more relaxed and [I] could be in the moment with the client and not feel rushed" (OTS 1). While the simulation was structured very similarly to an OSCE, removing the stress of a summative evaluation reportedly gave the occupational therapy student participants space to explore different ways of interacting with a client and to practice theory they learned in class.

Providing two different simulations a few weeks apart was viewed positively by the occupational therapy student participants. It was seen as an opportunity to help them develop an awareness of "where I'm at and then going forward; I can look back and be like … what would I do now versus then and then I can self-reflect and then weave that [in-class] content in and to me, it's easier to apply [skills in the second scenario] because I've had that situation and now I can go and think about it" (OTS 4). Using an evolving case design over time allowed the students time to reflect on strengths and areas to improve, build on in-class material, and apply new insights to deepen learning. This progression between simulations was noted by a preceptor who said:

> [I] saw the same student twice and she was far better the second time around than the first. Some of it I suspect is nerves and some of it the feedback that she thinks I gave her … that she gave herself! (OTP 4)

Similar to learning how to apply content knowledge and clinical reasoning skills in a client interaction, learning to cope with stress and other feelings of doubt in a safe learning environment may be an important outcome of using simulation as a learning tool.

Our simulations also uncovered gaps in knowledge and scope of practice understanding. For instance, when the client in Week 2 presented with an exacerbation of symptoms marked by an increased rate of speech, flight of ideas, and impulsivity, many of the occupational therapy student participants were challenged to redirect the client away from acting on maladaptive goals (e.g., hitchhike across the country and attempt to find a job with no final destination). This lack of redirection resulted from an apparent misconception about client-centered practice. While they knew the client's new goal was unsafe, unlikely to be successful, and likely emerged from uncontrolled psychiatric symptoms, they did not know how to dissuade the client from this goal without feeling they were contravening client-centered practice principles, such as respecting autonomy while balancing risks. In addition, the occupational therapy student participants expressed they recognized poor pharmacological management of symptoms as a factor, but voiced uncertainty whether directly addressing medications with the client was within the scope of occupational therapy practice.

Self-Doubt

The theme of student self-doubt (e.g., uncertainty, lack of confidence, lack of knowledge) was prominent from the preceptor observations and student comments. The advocacy-inquiry debrief was purposefully devoid of content-specific feedback to focus on eliciting information about the student's reasoning process. But students still were uncertain about the scope of their practice and sought content feedback (e.g., "are you allowed to ask about medications?" [OTS 4]). They also struggled with boundaries knowing when or how to share resources with a client; not being able to "find the medium between being client-centered and being suggestive" (OTS 7).

The occupational therapy student participants often misconceived the sharing of a resource as being overbearing in what is meant to be a client-centered process or demonstrating difficulty in prioritizing what to focus on in the simulation. For example, they did not want to be seen as "a scary person or something that, you know, just wants to go in and, like, fix everything but not take into consideration what the client feels or wants kind of thing" (OTS 8). A combination of learning about the concept of client-centered and collaborative practice with limited knowledge about the scope of occupational therapy practice and limited experience developing rapport made it challenging for the occupational therapy student participants to know when they were "imposing my own ideas" (OTS 7) versus providing a helpful resource. Structuring a debriefing to focus students on achieving the expected goals for their level of learning, thereby reducing tendencies to compare to skill levels they do not yet possess, may contribute to self-confidence during the learning process.

Guide on the Side

While the occupational therapy student participants reported deeper learning and felt more positive about their experiences in a preceptor-led debriefing, there was still an expressed need that they would "like to learn from an expert. That's what my thoughts will be when I leave from here: Would an expert do this? What would an expert face? How much did I screw up?" (OTS 5). Another student felt

> It was a very one-sided conversation, reflecting on my own performance [and while] I think it's good to an extent but then I just kind of want answers. I want to know that my track, like, my thought process is going in the right direction. (OTS 6)

These student perceptions were in line with observations that students did not understand that asking clients about the effects of medication changes was in their scope of practice and that students thought client-centered practice required them to defer exclusively to client goals, even when unsafe. Without the facilitated debriefing, learners felt as though they could not clarify content-specific questions that arose during the simulation. This was reinforced with some of the students expressing that they would like more procedural type feedback, such as "what might be the best way to approach the situation" (OTP 5) and "we spend a lot of time self-reflecting (here and in every class) which is valuable until I am completely stumped and just need a suggestion or direction" (OTP 1).

The instructions in the self-debriefing simulations were aligned with the structured advocacy-inquiry facilitated debriefing, but perhaps did not provide enough guidance for the level of learner. Self-debriefing is an expectation throughout an occupational therapist's career, whereas the opportunity for facilitated debriefing may be limited. The students preferred to receive facilitated debriefing, so it is important that the facilitated method serves as a guide on the side, particularly in early training stages to assist the learner to develop effective self-debriefing skills, which will be drawn on throughout their training and practice.

Discussion

The purpose of this pilot study was to explore learner ability to demonstrate introductory occupational therapy mental health practice skills in simulation and explore students' perceptions of debriefing methods on their learning experiences. As noted previously, fieldwork competencies frequently identified as areas for improvement include practice knowledge, clinical reasoning, and facilitating change with a practice process.

Our findings indicate that observation of student performance was not sufficient for evaluating clinical reasoning, but rather an advocacy-inquiry facilitated debriefing drew out the students' ability to articulate clinical reasoning when reflecting-on-action and describing their reflection-in-action (Sawyer et al., 2016). This is an instructive finding for educators, tutors, and preceptors for developing their approaches to elicit, assess, and build competence and confidence, particularly in early learning stages of clinical reasoning. Further, formative simulations with facilitated debriefing combined with content specific feedback is critical to shaping self-debriefing abilities, identifying errors early, and avoiding tacit reinforcement of these errors (Boet et al., 2011; Kang & Yu, 2018). As supported by the literature, both a prebriefing and a debriefing are important to place the student in context, outline the learning objectives, provide opportunities for reflection, and determine how to apply their learning to future clinical encounters (Decker et al., 2013, Rudolph et al., 2014). Experience, in our case simulation, may have provided motivation for learning, and reflection on experience constructed new knowledge and meaning (Fenwick, 2000; Schön, 1983).

Case scenarios were deliberately designed to build on existing learner strengths identified through the CBFE-OT (e.g., communication, establishing a therapeutic rapport), while introducing tasks that would stretch the students' application of knowledge and require them to demonstrate clinical reasoning. However, when observing the student interactions, we noticed the students struggled with some case components that were unexpected from a designer perspective. For instance, a client scenario about a newcomer to the country was meant to be straight-forward, but this client did not read or write in any language. The students were novices about developing interventions, so they tended to draw on instinctual recommendations and strategies that were largely language based. The students also struggled with developing goals relevant for the client's ability. We therefore recommend writing scenarios that align with learner level objectives, and piloting simulation scenarios before delivering to identify and mitigate potential issues, as recommended by good simulation design (Lewis et al., 2017; Nestel et al., 2015).

Limitations

The small number of occupational therapy student participants did not allow for statistical analysis between groups or pre/post quantitative measures. While the results of the pilot study are instructive, they are not generalizable. To protect student privacy, further demographic data was not collected, so we cannot determine the representativeness of this sample. Our design purposefully did not include an opportunity for the simulated patients to provide feedback to the students. The students reported wanting feedback on their communication skills; specifically, on the structure of their interview, rapport and relationship building, the level of language and jargon used, and the patient's understanding of confidentiality and goals established. We found that in the student-led debriefing, some of the students made declarative statements about how the client must have felt. Providing simulated patient feedback may have helped to examine their assumptions and facilitate deeper self-reflection.

Implications for Practice

While educational scholars often note experiential learning in their occupational therapy curriculum and fieldwork (Bennett et al., 2017), exploration of how simulation debriefing techniques affect learning and skill development for both students and preceptors has been largely absent. Our key findings may help inform curriculum developers in both simulation design and selection of debriefing methods that target and safely prepare learners for practice. Important elements to consider include pre-determined debriefing structures to help learners analyze and reflect on their clinical reasoning and

decision-making, facilitated debriefing with content experts is preferred and provides deeper reflection than a self-guided debriefing, and consecutive formative simulations with feedback and less high-stake assessment stress. We anticipate that this pilot project will guide the andragogy for developing a standardized approach for core mental health practice skill acquisition and clinical competency development for MSc(OT) learners.

While our exploratory pilot study findings are promising, larger size studies are advised. Future studies should explore if learner debriefing style preferences and observed abilities change during the course of training as the learner gains more experience throughout the entire MSc(OT) curriculum and across different practice domains. In addition, further study into how self-directed debriefing versus advocacy-inquiry debriefing could be used by preceptors to encourage student reflection and to observe clinical reasoning during fieldwork placements are needed.

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Appendix A

Simulation Evaluations by Preceptor

Simulation-Specific Objective Structured Clinical Examination (OSCE) checklist [a]

- Obtained consent to participate [b,c]
- Initiated / maintained a collaborative relationship [b, c]
- Occupational performance issues identified [b]
- Interview / review of Canadian Occupational Performance Measure [b]
- Occupational goals established in partnership [b]
- Reviewed previous goals[c]
- Assessed needs of client [c]
- Recognized change of health status[c]
- Appropriately monitored & modified intervention [c]
- Demonstrated open body language, tone & pacing to meet client's needs [b, c]
- Practiced in a safe manner [b, c]

[a] Likert Rating Scale (1 = *expectations not met*; 3 = *expectations met*; 5 = *expectations exceeded*); [b] Week 1 Case 1 and 2 checklist items; [c] Week 2 follow-up case checklist items

Selected Categories from the Competency Based Fieldwork Evaluation for Occupational Therapists (CBFE-OT; Bossers, 2002)[d]

- Practice knowledge
- Clinical reasoning
- Facilitates change with a practice process

[d] Likert Rating Scale (1 = *expectations not met*; 3 = *expectations met*; 5 = *expectations exceeded*)

Appendix B

Student Self-Rated Evaluations

Self-Assessment Confidence and Competency (Baxter & Norman, 2011) [a]

1. How do you rate your performance?
2. Level of confidence in dealing with mental health situations
3. Level of competence in dealing with a mental health situation
4. Ability to assess a critical incident
5. Ability to make sound decisions
6. Ability to communicate with client
7. Ability to collaborate with client
8. Ability to manage a challenging clinical situation

[a]7-Point Likert Scale Rating (1 = *strongly disagree*; 7 = *strongly agree)*

Satisfaction with Simulation (Levett-Jones et al., 2011)[b] modified [c]

1. The facilitator provided constructive criticism during the debriefing
2. The facilitator summarized important issues during the debriefing
3. I had the opportunity to reflect on and discuss my performance during the debriefing
    - *I had the opportunity to reflect on my performance during the debriefing* [c]
4. The debriefing provided an opportunity to ask questions
5. The facilitator provided feedback that helped me to develop my clinical reasoning skills
    - *The prompted questions helped me to develop my clinical reasoning skills* [c]
6. Reflecting on and discussing the simulation enhanced my learning
    - *Reflecting on the simulation enhanced my learning* [c]
7. The facilitator's questions helped me to learn
    - *The debriefing process helped me to learn* [c]

8. I received feedback during the debriefing that helped me to learn
9. The facilitator made me feel comfortable and at ease during the debriefing
    - *I felt comfortable and at ease during the debriefing* [c]
10. The simulation developed my clinical reasoning skills
11. The simulation developed my clinical decision-making ability
12. The simulation enabled me to demonstrate my clinical reasoning skills
13. The simulation helped me to recognize patient deterioration early
14. This was a valuable learning experience
15. The simulation caused me to reflect on my clinical ability
16. The simulation tested my clinical ability
17. The simulation helped me to apply what I learned from the case study
18. The simulation helped me to recognize my clinical strengths and weaknesses

[b] 5-Point Likert Scale Rating (1 = *strongly disagree*; 5 = *strongly agree*); [c] Modified question for those in the Week 1 self-debrief group