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Abstract

Simulation is increasingly used in occupational therapy education with the objectives of developing practice skill competency and enhancing clinical reasoning. Debriefing, an integral part of the simulation process, is critical to achieving these objectives. This study sought to determine the types of debrief feedback Master of Science in Occupational Therapy (MScOT) students perceived as most useful and why, and how the advocacy inquiry model of debriefing influenced self-reported increases in clinical reasoning, client care, and planned implementation of feedback in practice. Using an embedded mixed method design with secondary data analysis, sixty-three first-year MScOT students provided 357 descriptions of the most useful feedback they received during 10-minute, facilitator-led debrief sessions after six simulations. Qualitative analysis revealed useful feedback was related to specific skills, interviewing and communication, the process of practice, strengths and encouragement, and client-centeredness. The advocacy inquiry approach was a useful delivery method of feedback. Logistic regression indicated that reported use of the advocacy inquiry model increased the likelihood by 4.7 times that students reported the debrief facilitated clinical reasoning. When advocacy inquiry was used in conjunction with providing feedback on specific skills, students were 5.3 times more likely to report planned implementation of the feedback in practice. Students value a variety of types of feedback during simulation debriefs. Debriefs using the advocacy inquiry method may be particularly useful for facilitating the development of clinical reasoning in the context of simulation-based fieldwork education.

Keywords

Simulation, debrief, advocacy inquiry, fieldwork, occupational therapy

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ABSTRACT

Simulation is increasingly used in occupational therapy education with the objectives of developing practice skill competency and enhancing clinical reasoning. Debriefing, an integral part of the simulation process, is critical to achieving these objectives. This study sought to determine the types of debrief feedback Master of Science in Occupational Therapy (MScOT) students perceived as most useful and why, and how the advocacy inquiry model of debriefing influenced self-reported increases in clinical reasoning, client care, and planned implementation of feedback in practice. Using an embedded mixed method design with secondary data analysis, sixty-three first-year MScOT students provided 357 descriptions of the most useful feedback they received during 10-minute, facilitator-led debrief sessions after six simulations. Qualitative analysis revealed useful feedback was related to specific skills, interviewing and communication, the process of practice, strengths and encouragement, and client-centeredness. The advocacy inquiry approach was a useful delivery method of feedback. Logistic regression indicated that reported use of the advocacy inquiry model increased the likelihood by 4.7 times that students reported the debrief facilitated clinical reasoning. When advocacy inquiry was used in conjunction with providing feedback on specific skills, students were 5.3 times more likely to report planned implementation of the feedback in practice. Students value a variety of types of feedback during simulation debriefs. Debriefs using the advocacy inquiry method may be particularly useful for facilitating the development of clinical reasoning in the context of simulation-based fieldwork education.

Introduction

Simulation is used internationally in occupational therapy education (Grant et al., 2021). Found to help prepare students for the complexities of practice (Gibbs et al., 2017), simulation has been used to develop assessment, clinical reasoning, communication, and collaboration skills (Bennett et al., 2017; Cahill, 2015). Simulation has been used to prepare students for practice in a variety of contexts, including stroke rehabilitation (MacKenzie et al., 2017), acute care, and mental health (Haracz et al., 2015). In addition, simulation is being recognized as an alternative to some components of conventional fieldwork placements (Accreditation Council for Occupational Therapy Education [ACOTE], 2022; Harris et al., 2022; Occupational Therapy Council of Australia (OTC), 2020; Ozelie et al., 2022). Significant correlations have been found between student performance in simulations and success in conventional fieldwork (Molitor & Nissen, 2020). During the COVID-19 pandemic, a variety of types of simulation were used to achieve fieldwork hours, including computer-based simulation (Harris et al., 2022; Mattila et al., 2020) and interprofessional simulation (de Sam Lazaro, 2021).

Best practice guidelines for the use of simulation in healthcare include the use of pre-brief, simulation design, and debrief components (INACSL, 2021). In addition, guidelines for simulation in occupational therapy by Chu et al. (2019) highlighted the importance of scenarios designed to include simulated clients, while echoing the importance of debriefing and reflection. The importance of simulations unfolding over time, occurring sequentially, is also being recognized (Chu et al., 2019; Sibbald & MacKenzie, in press).

Debriefs accompanying simulation experiences have been found to augment the learning that occurs during the simulation (Grant et al., 2021), and are a critical component of simulations (Rudolph et al., 2006). Debriefing is included in best practice guidelines for simulation in health care to help improve future performance, integrate knowledge, and assist in developing insight and reflection (INACSL, 2021). Debriefing can occur during or after a simulation event, and be self-, peer-, or facilitator-guided (Sawyer et al., 2016; Schreiber et al., 2020). Self-guided debriefs often require cognitive aids to guide the debrief process, and facilitator guided debriefs use intentional conversational structures to support the debrief process (Sawyer et al., 2016). MacKenzie et al. (2021) found occupational therapy students provided deeper clinical reasoning responses during a scripted preceptor lead debrief using an advocacy inquiry approach than a structured self-debrief using the same scripted key questions.

Although there are a variety of ways to structure debriefs (Sawyer et al., 2016), the advocacy inquiry model is one that tends to facilitate explanations of clinical reasoning without judgement (Rudolph et al., 2006, 2007). It is designed to help learners process what facilitators are saying without becoming defensive (Rudolph et al., 2007). Advocacy inquiry consists of stating an observation or assertion (advocacy), followed by a question (inquiry) to prompt students to explain their frame of reference and reasoning behind actions taken (Rudolph et al., 2007). This is often followed by a reframing of the event that may lead to alternate lines of reasoning, and therefore different possibilities

for action (Rudolph et al., 2007). This aligns with best practice guidelines for simulation debriefing, which include feedback provided to the learners, bi-directional debriefing, and guided reflection (INACSL, 2021).

Research suggests that student satisfaction with simulation is high, and that effective feedback is a key contributor to occupational therapy students' satisfaction (Sibbald & MacKenzie, in press). However, it is unknown what types of facilitator/preceptor feedback occupational therapy students find useful and why. This study examines the types of feedback that occupational therapy students identify as useful during simulation debriefs and what they perceive to be the implications of this feedback. This will contribute to understanding critical components of simulation debriefing in occupational therapy.

Methodology

This study used an embedded mixed method design with secondary data analysis. The study was reviewed and approved by the university's Office of Human Research Ethics Administration. Inductive content analysis, as described by Elo and Kyngäs (2008), was used to identify categories of perceived useful feedback in response to the questions: "What was the most useful thing your preceptor said during the debrief?," "How did you respond?," "Why was it useful?," and "What else would you like us to know about the debrief?". Binary logistic regression was used to determine the impact of using the advocacy inquiry model alone, and in conjunction with, certain types of feedback on perceived clinical reasoning, improved client care, and planned implementation in future practice.

Participants

A convenience sample of first-year Master of Science in Occupational Therapy (MScOT) entry to practice students (N=63) participated in the simulations during the final four weeks of their second academic term. The data used in this study were provided voluntarily and collected anonymously by students for the purpose of evaluating the simulations. Students were informed throughout the term that completing the surveys did not affect their course grade.

Debrief Design

Students participated in six simulations, which consisted of two, three-part cases, designed to incorporate various stages of the Canadian Practice Process Framework (CPPF; Polatajko et al., 2013). One case reflected practice in the mental health context, and the other the musculoskeletal context. The learning objectives for the simulations addressed the Level I fieldwork objectives from the Competency Based Fieldwork Evaluation for Occupational Therapists (CBFE-OT); these included 'facilitating change with the practice process' and involved assessment, intervention, reassessment, and discharge planning (Bossers et al., 2007). Simulations were recorded and provided to students and preceptors for review to support reflection on mistakes, identification of success, and improvement (Giles et al., 2014).

Students participated in a multi-stage debrief process after each simulation. This involved a student pair-based, post-event, self-guided debrief using the plus/delta framework (Sawyer et al., 2016), an opportunity to review the video of their simulation (Giles et al., 2014), followed by a 10-minute virtual preceptor-facilitated debrief using the advocacy inquiry method of debriefing (Rudolph et al., 2006, 2007). The clinical preceptors were trained to use the advocacy inquiry method of debriefing during a virtual onboarding session in preparation for the course. Training involved reviewing the assumptions behind the advocacy inquiry model, the types of questions used to elicit student reasoning, and an opportunity to reflect and build on previous use of the model in other preceptor-student feedback encounters external to the study. The clinical preceptors were also provided with a guide of key points relevant to the objectives of each simulation to guide their observation and debrief sessions. Debriefs were conducted virtually using Microsoft Teams within one week of each simulation, prior to engaging in the next simulation for each case. Within 24 hours of the virtual facilitator-led debrief, students were asked to respond to the open-ended questions on the course's online learning management system: "What was the most useful thing your preceptor said during the debrief? How did you respond? Why was it useful?" and "What else would you like us to know about the debrief?"

Data Analysis

Anonymously collected data were exported from the learning platform into Microsoft Excel (2021) for the purpose of program evaluation. The data was reviewed and cleaned to ensure all identifying information was removed prior to review and use by authors for research purposes. All responses were pooled across all simulations and questions for analysis. Iterative, inductive coding by one researcher was used to understand the different types of feedback students described as useful and their responses; a second team member reviewed codes to ensure saturation and accuracy. Once codes were developed by two researchers (KS, DM), they then independently coded each response in binary to identify the presence or absence of each type of feedback and the result of the feedback described in each comment. Where there were coding discrepancies, discussion was used to reach consensus. Qualitative content analysis was used to determine the main themes emerging within each code. Codes related to specific skills and the CPPF process of practice were further coded to determine whether feedback was related to simulation objectives. Two researchers (KS, JH) independently coded these data, and discussion was used to reach consensus. The total occurrences of each theme were summed across comments.

Binary logistic regression was used to explore the relationship between the type of useful feedback provided to students and the noted effects of this feedback. Coded data were exported from Excel into StataSE.16 for statistical analysis. Responses that did not indicate at least one type of feedback and one response – for example, comments such as "That was great!" or "I enjoyed the debrief" – were removed using listwise deletion. Long's (1997) and Peduzzi et al.'s (1996) recommendations for determining sample size for multiple logistic regression were used to ensure suitability for analysis. The following questions were explored using binary logistic regression: when controlling for other types of feedback provided, does the reported use of advocacy inquiry

influence the likelihood of students reporting that feedback: 1) facilitated clinical reasoning?; 2) will improve client care/avoid harm?; and 3) will be implemented in future practice? In addition, does the use of advocacy inquiry, in conjunction with types of feedback that significantly affect the likelihood of each outcome variable, significantly improve the fit of each model?

Results

Content Analysis

Of the 357 comments provided, 21% (n=75) could be identified as feedback pertaining to the mental health simulations, and 17% (n=61) could be identified as feedback pertaining to the musculoskeletal simulations. The remaining 62% (n=221) included feedback content that could apply to either simulation series. While most data described the feedback provided as useful, 25% (n=89) of the debrief experience comments did not provide depth or specificity on the type of feedback they found useful.

Qualitative analysis of the responses revealed six themes pertaining to receiving feedback and seven themes pertaining to the effects of feedback received. Themes pertaining to receiving feedback included: highlighting strengths, specific skills, the process of practice, client centeredness, interviewing and communication, and feedback provided using advocacy inquiry. Seven themes emerged from descriptions of effects of receiving feedback: avoiding harm/improving client care, facilitating clinical reasoning and reflection, content clarification, reassurance/confidence, negative emotions, further independent learning, and implementing feedback in practice. Table 1 contains the frequency of comments found in the respective categorical coding for types of useful feedback identified and the result of the useful feedback received.

Simulation objectives were referenced in useful feedback on specific skills 123 times in 134 comments. The most common objectives referenced included choosing/administering assessments (n=28), conducting a safe transfer (n=25), documentation (n=20), teaching motor skills (n=15), and measuring and fitting adaptive equipment (n=12).

Feedback on interviewing and communication skills was related to communicating the structure of the session to the client, and process of practice; this included introducing assessments, providing instructions, suggestions of questions to include in interviews, and what to do when you get 'stuck', among others. These skills supported the performance of the simulation objectives.

Useful feedback about the process of practice, based on the CPPF, included both macro level feedback, regarding the stage in the practice process in which the simulation occurred (n=33), as well as micro level feedback, regarding how the practice process plays out within a single encounter (n=54). Students frequently commented about the utility of feedback pertaining to effectively organizing a session and the relationship of this structure to the broader process of practice in the same comment

(n=24). Useful feedback about client centeredness included strategies for tailoring assessments, explanations, and interventions to the specific needs of a client, as well as challenging biases, and keeping discussions focused on what was important to the client.

Table 1

Frequency of Themes

Qualitative Theme	Number of Occurrences (N=357*)	Frequency
Themes of Useful Feedback		
Specific Skills	134	37.5%
Interviewing/Communication	94	26.3%
Providing Encouragement and Highlighting	69	19.3%
Strengths		
Process of Practice	59	16.5%
Using Advocacy Inquiry	53	14.8%
Client Centeredness	35	9.8%
Result of Useful Feedback		
Implementation in Future Practice	105	29.4%
Facilitating Clinical Reasoning and Reflection	82	22.3%
Improving Client Care/Avoid Harm	60	16.8%
Reassurance/Confidence	57	16.0%
Further Independent Learning	27	7.5%
Content Clarification	27	7.6%
Negative Emotions	6	1.6%

Note. As the same comment often mentioned multiple themes, the number of occurrences is greater than N.

Table 2 provides example quotations for themes describing receiving feedback and themes pertaining to the reported result. Italicized text indicates the component of the comment reflecting the theme.

Students noted specific components of the advocacy inquiry model of debriefing were particularly useful, including having the opportunity to explain what they thought went well and why, the reasoning behind the decisions they made, what they would do differently next time, and using this as a starting point to provide constructive criticism.

Table 2*Types of Useful Feedback and Reported Result*

Theme	Sample Comments
Useful Feedback	
Specific Skills	<i>He said that we did well supporting our client when measuring and fitting her for a walker by ensuring that she was able to balance before moving away from her, and by ensuring that we were on both sides of her for support when walking with the walker just in case she lost her balance.</i>
Interviewing/ Communication	<i>There was a lot of good feedback provided by the preceptor with regards to my performance. One of the things mentioned was regarding the use of appropriate language in a situation where I had asked the client about what they "enjoyed" doing at the hospital. I explained how the response from the client during the simulation was already an indicator that I used the wrong language and found it helpful that the preceptor outlined some other ways I could have asked my question and gotten my point across.</i>
Strengths and Encouragement	<i>We felt like we didn't do well on it since we didn't get to finish the session on time, but he encouraged us to keep on doing what we are doing which was helpful for us to gain more confidence in the next session.</i>
Process of Practice	<i>She said to think about the order of things in the introduction so that when you explain the plan, description of occupational therapy, and consent and confidentiality, it is all relevant to the client.</i> <i>I found it helpful to discuss interventions in mental health. I realized that having conversations about mental health and developing client-centered strategies as a means of intervention. This helped break down a barrier I was experiencing in the planning and intervention stages of interactions.</i>
Using Advocacy Inquiry	<i>I found it very helpful that my preceptor always approached the debriefs by asking how we thought it went. This allowed for us to reflect and walk through the simulation in full. I also liked how instead of saying "you need to do this better" our preceptor asked us why we did something a certain way and suggested that there may be a better way of doing it. This was very helpful and allowed us to see where we can improve our clinical skills for placement.</i>

Client Centeredness I found it helpful when our preceptor reminded us that we should be carrying in previous information that we learned from our first session even though... *It's a good reminder that even though these are simulations, it's good practice to bring forth information we learned from clients to stay focused on what the client needs/wants to ensure we are client-centered.*

Effect of Feedback

Implementing in Future Practice Overall it was a great learning experience for me as *my preceptor provided us with great feedback that we can apply to future interactions with clients during future simulations and OSCE's [objective simulated client encounters], as well as once we are on our fieldwork placement.*

Facilitating clinical reasoning and reflection Overall, this debrief was very helpful as *I received constructive feedback in a way that allowed me to dive deeper into the reason behind making certain clinical decisions.*

Improving client care/avoid harm The most helpful thing my preceptor shared during this debrief is the idea of taking time to "reset" part of an encounter if it is not going well... My preceptor suggested asking client to sit down, having everyone take a moment to pause and regroup, and then starting again from the beginning. This was helpful advice because *I understand how this can feel natural in a real life setting and I understand how this promotes client safety.*

Reassurance/ Confidence During our debrief, our preceptor commended us on our ability to take the feedback that was given to us during our last debrief and then implement that into future interactions. It was great to hear this and that she recognized this, as when we were planning for our MSK1 [Musculoskeletal simulation 1] simulation, we took the notes that we made during our first debrief and implemented that feedback into how we would approach following sessions. *It was helpful because it reassured us that we approached and incorporated our feedback in the right way.*

Further Independent Learning I have found these debriefs very helpful and *will continue to ask questions and learn from others around me to further my skills as a student OT.*

I thought it was really helpful that our preceptor started off the debrief by asking how we thought it went. This allowed us to reflect back on our interview and discuss certain areas that went well and also areas that we thought could be improved on for our next session. *I also found it beneficial to re-watch the interview after the*

debrief so I could pinpoint the exact areas my preceptor referred to. I am more of a visual learner so it was helpful to have access to my simulation to further enhance my learning.

Content Clarification	There were two things I found particularly helpful. <i>1. the preceptor was able to clear up the level of explanation needed when introducing an assessment...</i>
Negative Emotions	I think I would have benefited from receiving specific feedback on things I did well, because <i>I left a little unsure of what techniques and skills I am already doing well.</i>

Note. As some comments reflect multiple codes, italicized sections indicate themes.

Most often, as a result of the feedback provided, students noted the intent to use the feedback provided in future practice, that they achieved a greater depth of clinical reasoning, and that they felt the feedback would lead to improved client care and minimize potential harm. Students also described how the feedback spurred them to do further learning, practice, reflection, and clarified content questions. Students rarely described negative emotions such as feeling confused or discouraged.

Statistical Analysis

After listwise deletion, 248 observations were retained, leading to sufficient data to use logistic regression with six independent variables – the six themes of useful feedback – for the outcome variables: implementation in future practice, facilitating clinical reasoning and reflection, and improving client care/avoiding harm. Sufficiency was based on recommendations by Long (1997) and Peduzzi et al. (1996).

A series of three binary logistic regression models were used to test the hypothesis that reported use of advocacy inquiry would increase the likelihood of reporting each that the debrief facilitated clinical reasoning, was perceived to lead to improved client care, and led to planned implementation in future practice, when controlling for the content of feedback provided. Independent variables were the six themes of feedback students reported as useful. The dependent variables were the presence/absence of each of the three outcomes: facilitating clinical reasoning for Model 1, improved client care/avoidance of harm for Model 2, and implementation in future practice for Model 3. Table 3 contains the results of the statistical modelling.

Model 1 explained 14.6% of the variance in reports that feedback facilitated clinical reasoning. When controlling for other types of feedback provided, feedback using the advocacy inquiry model increased the likelihood that students reported feedback facilitated clinical reasoning by 4.71 times ($p < .001$). Feedback about encouragement and strengths decreased the likelihood that students reported feedback facilitated

clinical reasoning by 81% ($p < .001$). Providing feedback on interviewing/communication skills decreased the likelihood that students reported feedback facilitated clinical reasoning by 50% ($p = .04$). When controlling for other types of feedback provided, feedback on client centeredness, specific skills, or the process of practice, did not significantly influence the likelihood students reported feedback facilitated clinical reasoning. Additional models were explored testing for interaction between advocacy inquiry and input variables that had significant effects: encouragement and strengths, and interviewing/communication. Log ratio tests did not indicate including interactions significantly improved the fit of Model 1.

Model 2 explained 8.3% of reports of feedback that resulted in perceived improved client care. When controlling for other types of feedback provided, providing feedback on interviewing/communication skills increased the likelihood that students reported the feedback would improve care and avoid harm by 2.14 times ($p = .02$). Providing encouragement and highlighting strengths decreased the likelihood students reported the feedback would improve care by 75% ($p = .01$). When controlling for other types of feedback provided, neither using the advocacy inquiry model, nor feedback on client centeredness, the process of practice, or specific skills significantly influenced the likelihood of students reporting the feedback would improve client care. Additional models were explored testing for interaction between advocacy inquiry and encouragement and strengths, and advocacy inquiry and interviewing/communication, none of which log ratio tests indicated significantly improved the fit of Model 2.

Model 3, which predicts implementation in future practice when controlling for each independent variable, was not significant; however, feedback on specific skills trended towards significance. An additional model was explored to test whether advocacy inquiry interacted with feedback on specific skills to influence implementation in future practice when controlling for other types of feedback provided. Log ratio tests indicated that Model 3.1 ($p > \chi^2 = .024$), which accounted for an interaction between advocacy inquiry and specific skills, offered a significant improvement over Model 3 ($p = 0.023$), explaining 4.9% of implementation in future practice. When controlling for other types of feedback provided, providing feedback on specific skills concurrently with using the advocacy inquiry model increased the likelihood students reported planned implementation of the feedback in future practice by 5.34 times ($p = .03$). When controlling for other types of feedback provided, providing encouragement and highlighting strengths decreased the likelihood students reported planned implementation in future practice by 55% ($p = .03$).

Table 3*Logistic Regression Predicting Outcomes by Feedback Type*

Model 1: Facilitating Clinical Reasoning (N=248; Prob>chi2 = .000*; Pseudo R² = .146)			
Independent Variable	Odds Ratio	P-value	95% CI
Advocacy Inquiry	4.71	.00*	(2.23, 9.94)
Encouragement and Strengths	.19	.00*	(.08, .48)
Interviewing/Communication	.50	.04*	(.25, .98)
Client Centeredness	1.19	.70	(.49, 2.87)
Specific Skills	.74	.36	(.38, 1.42)
Process of Practice	.87	.36	(.38, 1.42)
Model 2: Improved Care/Avoiding Harm (N=248; prob>Chi2=.001*; Pseudo R² =.083)			
	Odds Ratio	P-Value	95% CI
Advocacy Inquiry	.41	.07	(.16, 1.08)
Encouragement and Strengths	.25	.01*	(.09, .65)
Interviewing/Communication	2.14	.02*	(1.12, 4.08)
Client Centeredness	1.29	.84	(.47, 2.51)
Specific Skills	.92	.80	(.47, 1.77)
Process of Practice	.94	.87	(.46, 1.92)
Model 3: Implementation in Future Practice (N=248; prob>chi2=.17; Pseudo R²= .027)			
	Odds Ratio	P-Value	95% CI
Advocacy Inquiry	.91	.78	(.45, 1.83)
Specific Skills	.49	.04*	(.23, .97)
Interviewing/Communication	.69	.20	(.39, 1.23)
Client Centeredness	.70	.39	(.31, 1.58)
Encouragement and Strengths	.97	.92	(.55, 1.72)
Process of Practice	.60	.13	(.31, 1.16)
Model 3.1: Implementation in Future Practice (N=348; prob?chi2=.05; Pseudo R²= .043)			
	Odds Ratio	P-Value	95% CI
Advocacy Inquiry	.49	.12	(.20, 1.21)
Specific Skills	.72	.31	(.38, 1.36)
Advocacy Inquiry # Specific Skills	5.34	.03*	(1.2, 23.61)
Interviewing/Communication	.63	.13	(.35, 1.15)
Client Centeredness	.66	.32	(.29, 1.50)
Encouragement and Strengths	.45	.03*	(.23, 0.93)
Process of Practice	.56	.10	(.29, 1.11)
Log Ratio Test Model 3 and Model 3.1: prob>chi2=.023*			
*Significant at a=.05			

Discussion

The purpose of this secondary data analysis study was to explore the types of post-simulation debrief feedback MScOT students felt was useful during pre-fieldwork simulation debriefs and its consequences. Overall, students' reviews of the debriefing process were positive with useful feedback identified as that pertaining to specific skills, interviewing and communication, the process of practice, strengths and encouragement, and client-centeredness. In addition, students reported the advocacy inquiry model was a useful method for delivering feedback. Students reported that this feedback was useful because it facilitated their clinical reasoning, provided reassurance and increased confidence, would help them to avoid future negative consequences and improve client care, furthered their independent learning, and could be integrated into their future practice and simulations.

The student-reported use of the advocacy inquiry model by their preceptors increased the likelihood by 4.7 times that the debrief was reported to facilitate clinical reasoning, regardless of the content of feedback they received. This is consistent with the intent of the advocacy inquiry model's structure, which provides students with the opportunity to share their clinical reasoning, followed by prompting for depth and reframing by the facilitator (Rudolph et al., 2006, 2007). As such, using advocacy inquiry may be one strategy for ensuring the feedback process is dynamic and co-constructed, facilitating a mutually respectful relationship important for useful feedback (Ajjawi & Regher, 2019).

Student-reported use of the advocacy inquiry model by their preceptor, in conjunction with feedback on specific skills, increased the likelihood by 5.3 times that students reported plans to implement feedback in future practice. This may be because the advocacy inquiry model begins by identifying specific observable actions which occurred during the simulation followed by opportunities for preceptors and students to explain the clinical reasoning behind alternative actions and/or performance of skills (Rudolph et al., 2007). This finding supports Lefroy et al.'s (2015) recommendation to treat feedback as a conversation, while adding the importance of identifying specific, task-focused areas for improvement. These recommendations were both strongly encouraged in Lefroy's (2015) guidelines, and our results suggest that in conjunction they may have a stronger effect on plans to implement feedback than if used individually. Receiving feedback on the skill in conjunction with facilitating clinical reasoning behind its use may provide students with a clear rationale for when and how to use these skills in future practice. In addition, of the top five objective-specific skills identified as the subject of useful feedback, three were skills involving physical interaction with the client. This suggests simulation and subsequent debrief feedback may be a particularly important method of developing hands-on skills.

Using advocacy inquiry did not significantly affect the likelihood that students reported feedback was likely to improve client care or avoid harm. However, feedback on communication and interviewing skills increased the likelihood that students reported it

would prevent harm and improve care by 2.14 times, suggesting that it was useful for enhancing safety. Facilitating safety in communication may have been particularly salient as half of the simulations occurred in the mental health context, where safety is often facilitated through conversation.

In contrast, when controlling for other types of feedback provided, feedback on interviewing and communication, and strengths and encouragement decreased the likelihood that students reported feedback facilitated clinical reasoning by 81% and 50%, respectively. The decreased likelihood of increased clinical reasoning resulting from encouragement and identifying strengths suggests that this type of feedback may not have encouraged students to push further into clinical reasoning on their strengths, but rather validated clinical reasoning at its current level. In describing feedback related to communication, students often provided examples and quotes of ways their preceptor recommended phrasing concepts and asking questions. It is possible that because students were provided feedback that included examples of what to say, they were not required to engage in deeper clinical reasoning to determine their own phrasing, decreasing the likelihood of this feedback facilitating clinical reasoning.

Previous research suggests that effective feedback, along with reflection, preparation for and relevance to clinical practice, authenticity, and opportunities to practice clinical skills, is an important contributor to student satisfaction with simulation experiences for first-year occupational students (Sibbald & MacKenzie, in press). This research adds depth to what that feedback consists of and how it relates to other components of satisfaction. Our thematic findings directly relate to components associated with satisfaction with simulation in occupational therapy: opportunities to practice clinical skills (feedback on clinical skills and communication); reflection (feedback using advocacy inquiry); authentic clinical experience (feedback on process of practice); and preparation and relevance to clinical practice (feedback for implementation in future practice).

In addition, students valued encouragement and having their strengths highlighted. As previous research indicates that occupational therapy students at this stage of learning have difficulty identifying their strengths (MacKenzie et al., 2021), encouragement may be beneficial for making these clear. However, novice students also often lack the metacognitive skills necessary to accurately assess their performance, and may overestimate their competence (Jansen et al., 2021; Kruger & Dunning, 1999). The results of the research presented here suggest encouragement and identifying strengths alone makes it significantly less likely that students report increased clinical reasoning, improved client care, and planned implementation of feedback in future practice. While providing encouragement may assist students to identify their strengths, if students are unable to also accurately identify weaknesses, it may not be enough to improve clinical reasoning or change behavior. Similar to findings by Saddawi-Konefka et al. (2021), students may not be able to fill in the gaps to infer weaknesses from overly positive feedback. When providing feedback during occupational therapy education, particularly for novice learners, positive feedback may not shape future behavior in the way intended.

Key objectives of Level I fieldwork include facilitating change with the practice process, communication, and clinical reasoning (Bossers et al., 2007). Students reported receiving useful feedback on facilitating change with the practice process on both a macro (across client encounters) and micro (within encounter) scale. This feedback was likely a result of the simulation design, which allowed students to progress through the macro process of practice with the same client over multiple simulations. Students also reported useful feedback included reference to both the macro and micro practice process simultaneously. This suggests that feedback on the process of practice in the context of sequential simulations helps to facilitate understanding of the connection between these two levels of reasoning, helping to build the “big picture,” which contributes to satisfaction with feedback (Saddawi-Konefka et al., 2021). Using simulations that involve both levels of reasoning in occupational therapy education may facilitate understanding of the practice process.

Students also described opportunities to develop communication and clinical reasoning skills based on feedback provided, which they implemented in subsequent simulations. This aligns with previous research noting students prefer continuous, ongoing feedback from those who have seen their performance over time and with whom they have a good relationship (Alfehaid et al., 2018). This research suggests that feedback provided virtually after video-observation of sequential simulations, limited to 10-minutes in length, is effective for meeting these criteria. This has implications in occupational therapy education when considering the design of simulation and debrief experiences.

Virtual debriefs, with facilitators trained in advocacy inquiry, may be an effective way to increase the quantity and breadth of clinical occupational therapist preceptors available to support student learning. Preceptors were able to observe student performance and provide feedback valued by students specific to the objectives of the simulations. By allowing students and preceptors to schedule debriefs virtually at times that worked for them, clinical schedules could be accommodated and commuting to and from the school was unnecessary. This strategy of debrief may expand options for mentorship and feedback in occupational therapy education.

This study is limited in that it used a convenience sample of a single occupational therapy cohort. While this produced sufficient data to perform relevant statistical analysis, the accuracy of the models is likely to be increased with an increased number of descriptions of useful feedback. In addition, as the study only used first-year occupational therapy students prior to participating in their first full-time fieldwork, it is possible that what feedback is perceived to be most useful changes with experience. Further research is needed to explore this possibility. In addition, it is possible that different types of feedback are perceived as useful in different practice contexts, which is not addressed in this analysis.

Conclusion

This study identified key types of feedback first-year occupational therapy students in pre-fieldwork simulations perceive as useful and why. Feedback about specific skills, strengths and encouragement, the practice process, interviewing and communication skills, and client centeredness were valued by students because they improved clinical reasoning, provided reassurance, could be implemented in future practice, enhanced client care, and clarified content. These directly relate to components of student satisfaction with simulation (Sibbald & MacKenzie, in press). In addition, the advocacy inquiry model (Rudolph et al., 2006, 2007) significantly increased the likelihood that students reported the debrief facilitated clinical reasoning, and in conjunction with feedback on specific skills, increased the likelihood of planned use of feedback in practice. This occurred when advocacy inquiry was used under the realistic conditions of being constrained by a 10-minute debrief time frame and conducted virtually. Feedback about strengths and validation significantly decreased the likelihood that students reported the feedback facilitated clinical reasoning, improved client care, or led to implementation of skills in future practice. Virtual debriefs using the advocacy inquiry model contribute to meeting occupational therapy Level I fieldwork objectives.

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