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## Abstract

A primary objective of occupational therapy education is to facilitate development of clinical reasoning skills. These skills are complex and difficult to cultivate in classroom settings, therefore educators often use experiential learning activities to support clinical reasoning development. Most of the literature about experiential learning activities aimed at developing clinical reasoning focuses on activities occurring in-person, with individuals in physical disabilities settings. This research addresses the gap in the literature by evaluating the impact of a group based, psychosocial focused experiential learning activity that occurred virtually and in-person on entry-level occupational therapy students' perceived clinical reasoning. Students (*n*=36) completed the Self-Assessment of Clinical Reasoning and Reflection (SACRR) before and after engaging in a six-week experiential learning activity. The mean total score for the SACRR increased after the learning activity (Z=-4.92, p=.00). Mean scores on 25 of 26 subtests increased and the change on 19 of the 26 items was statistically significant. Items about applying theory to practice increased the most, indicating that students' perceived abilities increased related to applying theory. Additionally, the learning activity occurred on virtual platforms, demonstrating the potential role of virtual platforms in experiential learning for clinical reasoning development. Overall, this study found that an experiential learning activity designed to address psychosocial needs of groups, using in-person and virtual delivery, increased occupational therapy students' perceived clinical reasoning. Results add to the literature about clinical reasoning development in students by providing evidence for the use of group based, psychosocial focused learning activities delivered virtually and in person.



## Keywords

Clinical reasoning, experiential learning, telehealth, psychosocial



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# The Impact of a Psychosocial-Focused Experiential Learning Activity on Occupational Therapy Students' Perceived Clinical Reasoning

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## ABSTRACT

A primary objective of occupational therapy education is to facilitate development of clinical reasoning skills. These skills are complex and difficult to cultivate in classroom settings, therefore educators often use experiential learning activities to support clinical reasoning development. Most of the literature about experiential learning activities aimed at developing clinical reasoning focuses on activities occurring in-person, with individuals in physical disabilities settings. This research addresses the gap in the literature by evaluating the impact of a group based, psychosocial focused experiential learning activity that occurred virtually and in-person on entry-level occupational therapy students' perceived clinical reasoning. Students (*n*=36) completed the Self-Assessment of Clinical Reasoning and Reflection (SACRR) before and after engaging in a six-week experiential learning activity. The mean total score for the SACRR increased after the learning activity (Z=-4.92, p=.00). Mean scores on 25 of 26 subtests increased and the change on 19 of the 26 items was statistically significant. Items about applying theory to practice increased the most, indicating that students' perceived abilities increased related to applying theory. Additionally, the learning activity occurred on virtual platforms, demonstrating the potential role of virtual platforms in experiential learning for clinical reasoning development. Overall, this study found that an experiential learning activity designed to address psychosocial needs of groups, using in-person and virtual delivery, increased occupational therapy students' perceived clinical reasoning. Results add to the literature about clinical reasoning development in students by providing evidence for the use of group based, psychosocial focused learning activities delivered virtually and in person.

## Introduction

A primary objective for occupational therapy educational programs is to facilitate the development of students' clinical reasoning skills. Clinical reasoning skills are the ways practitioners integrate foundational knowledge, evidence-based research, theory, and patient information to deliver effective client-centered care (Boyt Schell, 2013). These skills are essential for a competent practitioner because each client and their context is unique, requiring occupational therapy practitioners to adapt evaluation and treatment approaches. Unlike other occupational therapy competencies, clinical reasoning is difficult to teach didactically, as the unpredictable nature of the health care environment is difficult to replicate in a classroom setting (Wall et al., 2019). This challenge requires occupational therapy educational programs to enlist different learning approaches to prepare students to become successful practitioners.

## Literature Review

### Clinical Reasoning

Literature defining clinical reasoning in occupational therapy practice first emerged in 1982 with an initial definition provided by Rogers (Unsworth & Baker, 2016). Fleming (1991a) and Mattingly (1991) refined and expanded the definition, along with recognizing a few specific clinical reasoning types with an emphasis on the unique aspects of reasoning within occupational therapy as compared to medical model reasoning. Subsequently, several publications further defined clinical reasoning and the types of clinical reasoning that occur in occupational therapy practice (Boyt Schell, 2013; Marquez-Alvarez et al., 2019; Unsworth & Baker, 2016). The concept of reasoning has expanded to include the term professional reasoning, which refers to the broad reasoning processes occupational therapy practitioners use in both clinical and non-clinical settings (Unsworth & Baker, 2016). Clinical reasoning and professional reasoning are used somewhat interchangeably in the literature, but clinical reasoning is distinguished from professional reasoning through its sole focus on clinical settings.

Occupational therapy literature recognizes eight types of clinical reasoning. These include narrative, scientific, diagnostic, procedural, pragmatic, ethical, interactive, and conditional reasoning as noted in Table 1 (Boyt Schell, 2013). While each clinical reasoning type can be considered independently, the integration of clinical reasoning types is essential for professional decision-making (Boyt Schell, 2013). By using multiple types of clinical reasoning, a practitioner considers a client's life story, their assessment of the client's occupational performance, current evidence, the condition, the standard progression of a diagnosis, theoretical approaches, the practicality, and ethics of treatment, how best to form a therapeutic relationship, and how to integrate all these reasoning types throughout treatment.

Differences in clinical reasoning skills between novice and expert level occupational therapists have been noted, including that novice therapists use procedural reasoning more often while expert level therapists use clinical reasoning styles in combination more often (Unsworth, 2001). The development of clinical reasoning skills is believed to occur through the process of explicit learning, hands-on experience, and reflection (Alers, 2014; Boyt Schell, 2013; Henderson & Coppard, 2018). Boyt Schell (2013)

stated that clinical reasoning develops over years of practice and is influenced by memory. When individuals first begin to work in the field, everything is novel and requires conscious consideration of and reflection on knowledge obtained through didactic teaching, understanding diagnoses, and knowledge of patient and family interactions (Boyt Schell, 2013). This initial process involves relying on active recall and overloading working memory to retrieve information. As practitioners continue to acquire experience in dynamic environments, the information in the working memory is transferred into the long-term memory where schemas, or mental shortcuts, are formed that allow practitioners to access their various streams of knowledge more efficiently. It is through practice that clinical decision-making skills improve (Boyt Schell, 2013). Other models of clinical reasoning development emphasize reflection on practice, seeking and discussing experiences with peers, and reflecting on one's own knowledge, beliefs, and values (Benfield & Johnston, 2019). To assist students in developing clinical reasoning, educators must define the reasoning process and provide learning opportunities for students to develop reasoning skills (Boyt Schell, 2013).

**Table 1**

*Clinical Reasoning in Occupational Therapy*

| **Type** | **Description** |
|---|---|
| Scientific Reasoning | Using diagnostic and procedural knowledge to understand the impact of illness on the client (Higgs et al., 2008) including an understanding of theories to guide assessment and intervention (Boyt Schell, 2013). |
| Diagnostic Reasoning | Science based exploration of cause or nature of condition, sometimes considered a part of Scientific Reasoning (Boyt Schell, 2013). |
| Procedural Reasoning | Using and considering routine interventions for conditions based on science, habits and culture of setting (Boyt Schell, 2013). |
| Narrative Reasoning | Using therapist's and client's beliefs, experiences and assumptions to create a narrative (past, present, and future) about the illness/disability/impairment experience (Boyt Schell, 2013). |
| Interactive Reasoning | Directing efforts toward building positive interpersonal relationships, therapists are conscious of how their feelings and actions impact clients (Boyt Schell, 2013; Fleming, 1991b). |

| **Type** | **Description** |
|---|---|
| Pragmatic Reasoning | Addressing the realities of service delivery and the therapist's competency and ability to negotiate practice culture, personal norms and attitudes (Boyt Schell, 2013) |
| Ethical Reasoning | The prioritization of different beliefs for the better good. It requires a consideration of different ethical principles to determine the morally "right" approach (Boyt Schell, 2013). |
| Conditional Reasoning | Enables flexibility by integrating all forms of reasoning taking into account the "whole condition' of an individual (Boyt Schell, 2013; Fleming, 1991b). |

**Experiential Learning**

In recent years, research has focused on developing student clinical reasoning through case studies, online simulations, and experiential learning opportunities (Henderson & Coppard, 2018). Experiential learning is the process of learning through doing and reflecting on the doing. Experiential learning activities involve hands-on activities within naturalistic contexts paired with reflection on the experiences; designed to target integration of classroom knowledge and theory (Kolb, 2015). Students and educators are noted to prefer experiential learning opportunities because the experiences provide students the ability to be self-directed, increase tolerance for ambiguity, gain professionalism, and receive feedback from clients and clinical supervisors (Henderson & Coppard, 2018; Hills et al., 2017; Murphy et al., 2017). Experiential learning has also been found to increase students' clinical reasoning skills more effectively than other learning approaches (Coker, 2010; Knecht-Sabres, 2013; Tsubira, 2021).

While experiential learning opportunities are effective methods for teaching students to think critically and use various clinical reasoning approaches, current literature on clinical reasoning involves primarily activities within in physical disability settings with individual patients (Chaffey et al., 2010; Goldbach & Stella, 2017; Knecht-Sabres, 2013; Marquez-Alvarez et al., 2019). The few studies of clinical reasoning in occupational therapy practice in mental health settings have noted that differences in reasoning styles may exist, partially because practitioners in mental health settings utilize group treatment more often (Chaffey et al., 2010; Ward, 2003). Settings with a psychosocial focus offer unique learning opportunities for students because they require students to learn how to lead interventions within a group dynamic while also requiring them to consider cognitive, behavioral, sensory, and emotional aspects of a patient; aspects often not required in physical disability settings (Justice et al., 2021; Ward, 2003). Additionally, interactive reasoning, a reasoning style used most often by advanced practitioners, is noted to be the most prominent reasoning style used in psychosocial settings (Ward, 2003). There is currently a gap in the literature about the impact of group, psychosocial-based experiential learning opportunities on students' clinical reasoning skills.

### Telehealth in Practice and Education

The profession has expanded the use of virtual tools to support occupational therapy service delivery and education (Serwe & Nissen, 2021). The American Occupational Therapy Association defines telehealth as the "application of evaluative, consultative, preventative, and therapeutic services delivered through information and communication technology" and supports efforts to increase practitioners' abilities to utilize telehealth in service delivery (AOTA, 2018, p. 1). In 2018, for the first time in the profession's history, proficiency in virtual environments and telehealth was included in the occupational therapy education standards (Accreditation Council on Occupational Therapy Education [ACOTE], 2018). Additionally, ACOTE recognizes telehealth as a delivery model for meeting fieldwork requirements.

A full understanding of the outcomes of telehealth on occupational therapy service outcomes and student learning is early in its development. Recent research about the effectiveness of telehealth in rehabilitation and other occupational therapy settings is indicating that telerehabilitation is not inferior to in-person rehabilitation related to therapy outcomes, but researchers also concluded that more studies with stronger research designs are needed to draw conclusions about the effectiveness of telerehabilitation (Laver et al., 2020). Other studies of the use of telehealth in health professions, including occupational therapy, identify a need for practitioner education and the development of protocols for the adoption of the practice (Abbott-Gaffney & Jacobs, 2020; Sanders et al., 2012). The adoption of telehealth in clinical settings, likely to continue, requires academic programs to prepare students to use telehealth effectively. Foundational knowledge of telehealth and guided experiences are important for student success in gaining competency in telehealth (Chike-Harris et al., 2020). However, strategies to teach telehealth vary between programs and professions (Chike-Harris et al., 2020) and little research exists related to experiential learning activities delivered via telehealth on student clinical reasoning development.

The purpose of this study was to investigate the impact of an experiential learning activity focused on psychosocial functioning, delivered to groups of clients virtually and in-person, on occupational therapy students' self-perception of clinical reasoning.

## Methods

Researchers used a retrospective pretest/posttest design to explore the impact of an experiential learning activity on students' perception of their clinical reasoning skills. Students completed the Self-Assessment of Clinical Reasoning (SACRR) before and after a 6-week experiential learning activity that was part of a required course in an entry-level occupational therapy doctorate program. The university's Institutional Review Board approved the study as exempt.

### Participants

The researchers used a convenience sample of 36 entry-level occupational therapy doctorate (OTD) students enrolled in a four-credit hour course, Mental Health Practice. The course occurred during the fourth semester of an eight-semester long program and occurred prior to any fieldwork experiences.

## Instruments

### *Self-Assessment of Clinical Reflection and Reasoning (SACRR*)

The SACRR is a 26 item self-report tool that evaluates self-perception of learning related to clinical reasoning and reflection (Royeen et al., 2000). Each of the 26 items is rated on a 5-point scale ranging from one “strongly disagree” to five “strongly agree.” The SACRR displays strong internal consistency with Cronbach’s alpha scores of 0.87 pretest and 0.92 posttest. Test-retest reliability is acceptable with a Spearman’s rank-order correlation coefficient of .60 (Royeen et al., 2000). Demographic information including age, gender, race, and ethnicity were also collected.

## Procedure

Students completed the SACRR as part of required coursework one week before and one week after participating in an experiential learning activity that occurred over a six-week period. An electronic link to the SACRR and demographic survey was provided within the course materials on the learning management system. Students were given 10 minutes to complete the SACRR during class time. Students self-assigned a unique identifier and uploaded proof of completion of the SACRR to the learning management system for course credit. The SACRR survey data were collected and managed using REDCap electronic data capture tools hosted at Rush University (Harris et al., 2009; Harris et al., 2019). REDCap is a secure, web-based software platform designed to support data capture for research studies.

## Course Description/Experiential Learning Activity

The Mental Health Practice course focused on the application of mental health theory to occupational therapy practice through didactic and experiential learning activities. Didactic lectures and in-class labs focused on applying occupational therapy models along with psychological, cognitive and social theories and approaches such as the Model of Human Occupation, Cognitive Behavioral Therapy, Trauma Informed Care, and others, to occupational therapy practice in a variety of mental health practice settings. The course also included didactic content focused on group leadership using Cole’s seven-step approach (see Table 2; Cole, 2017). Alongside didactic teaching, students engaged in an experiential learning activity.

**Table 2**

*Cole's Seven-Step Group Process (Cole, 2017)*

| Step | Description |
|---|---|
| 1. Introduction | Therapist introduces the group, group structure, group activities, and group participants. |
| 2.Activity | Therapist leads an activity that is based on the clients' conditions and impairments, assessment results, intervention plan, activity analysis, theoretical approach, and group dynamics. |
| 3.Sharing | Group members are invited to share work they completed during the activity and/or their experience with the activity. |
| 4.Processing | Group members share their feelings about the activity, process, and group dynamic. |
| 5.Generalizing | The therapist reviews and summarizes the group members' responses to the activity, reflecting on the purpose of the group activity. |
| 6.Application | The therapist guides group members to consider how the principles learned during the group can be applied to daily life. |
| 7.Summary | The therapist summarizes the most important aspects of the group. |

The experiential learning activity involved students leading a therapeutic group at a community partner site. In small groups of three to four, students designed and led the therapeutic groups using Cole's seven-step approach. The groups occurred weekly for six weeks and lasted 30-60 minutes. Community partner sites, whose services include addressing mental health as either a primary or secondary focus, were chosen so that the experiential learning activity focused on psychosocial functioning and the theories covered in didactic coursework. Community partner sites included organizations such as a clubhouse for people with traumatic brain injuries, a supported housing agency serving women at risk for homelessness, an art studio serving adults with intellectual and developmental disabilities, a program for high school students with Autism, and an adult inpatient psychiatry unit, among others. Group topics varied depending on the site needs, but examples included stress management, communication skills, leisure exploration, and developing personal causation. A faculty member from the university's occupational therapy department and a site supervisor from the community partner site reviewed and provided feedback about the students' proposed group plans, attended and supervised the group sessions, and debriefed the experience with the students each week. Occupational therapy faculty members supervising the group experiences included course directors, who were also researchers.

Graded assignments associated with the experiential learning activity included: one Needs Assessment, one Group Protocol, six Weekly Group Plans, and a final Reflection Paper. All assignments were completed as a group. The Needs Assessment assignment included students contacting the site to ask questions and identify the unmet needs of the site. Students gathered information regarding group history, environment, group members and frames of reference currently used at the site. Students used the information to complete the Group Protocol Assignment. This document more clearly and specifically stated the purpose of their suggested groups, theory they based their groups on, group goals, group inclusion criteria, group structure, leadership roles and group procedures. After completing the experiential learning activity students completed a Reflection Paper in which they discussed the successes and challenges they encountered, strategies they used to manage the challenges, and their individual leadership styles. In addition to the feedback provided through graded assignments and by the faculty and site supervisors during the experience, the course included class time to discuss students' reflections on the experiential learning activity. Overall, there was ample time for reflection and feedback between students, sites, faculty supervisors and course directors as well as peer-to-peer feedback.

The experiential learning activity was planned to occur on-site and in-person, but due to local and state group gathering restrictions in response to the COVID-19 pandemic and the health risk profile of group participants, the experiential learning activity occurred using telehealth at all but one of the community partner sites. Virtual platforms were chosen by the community partner sites and included Google Classroom, Zoom, and the telephone. This shift to virtual platforms and the use of social distancing for the in-person group experience added a layer of complexity to the group planning process and dynamic. Students allotted time during each group session for participants to adjust to and learn how to maximize the virtual platform for group effectiveness. Students completed a didactic telehealth training module prior to this course.

**Data Analysis**

Researchers downloaded responses to the SACRR from REDCap into an Excel spreadsheet. Pretest and posttest data were paired using participants' self-selected unique identifier. Students missing either pretest or posttest data were not included ($n$=3). Researchers uploaded into IBM SPSS Statistics (Version 26) predictive analytics software for analysis. Researchers analyzed demographic data in order to describe the population. The data related to the SACRR were not normally distributed, therefore researchers used the nonparametric test of means, Wilcoxon signed-rank, to compare SACRR means between pre and post- experiential learning activity. The significance level was set at .05.

## Results

Thirty-three of 36 students enrolled in the course completed the SACRR both before and after the experiential learning activity. All students attended all experiential learning sessions. All students were female, 90% identified as white and 91% identified as non-Hispanic. The mean total score for the SACRR increased after the experiential learning activity (Z=-4.92, p=.00). Mean scores on 25 of the 26 items increased and the changes on 19 of the 26 questions were statistically significant. The only item that decreased was “I question how, what, and why I do things in practice”, but the change was not statistically significant. See Table 3 for detailed results.

**Table 3**

*Change in SACRR Before and After Experience*

| **SACRR Item** | **Pretest M(SD) Range** | **Posttest M*(SD)* Range** | **Z-Score** | **P value** |
|---|---|---|---|---|
| 1. I question how, what and why I do things in practice. | 3.82 (.81) 2-5 | 3.70 (.85) 1-5 | -0.83 | 0.40 |
| 2. I ask myself and others questions as a way of learning. | 4.09 (.63) 2-5 | 4.42 (.50) 4-5 | -2.35 | 0.02* |
| 3. I don’t make judgements until I have authentic data. | 3.42 (.29) 2-5 | 3.91 (.38) 3-5 | -3.39 | 0.00* |
| 4. Prior to acting, I seek various solutions. | 3.58 (.792) 2-5 | 3.85 (.36) 3-4 | -2.32 | 0.02* |
| 5. Regarding the outcome of proposed interventions, I try to keep an open mind. | 4.03 (.637) 2-5 | 4.21 (.42) 4-5 | -1.51 | 0.13 |
| 6. I think in terms of comparing and contrasting information about a client’s problems and proposed solutions to them. | 3.64 (.60) 2-5 | 3.88 (.60) 2-5 | -1.69 | 0.09 |
| 7. I look to theory for understanding a client’s problems and proposed solutions to them. | 2.85 (.71) 2-4 | 3.61 (.67) 2-5 | -4.18 | 0.00* |
| 8. I look to frames of reference for planning my intervention strategy. | 3.45 (.71) 2-4 | 3.82 (.68) 2-5 | -2.55 | 0.01* |
| 9. I use theory to understand treatment techniques. | 3.12 (.82) 2-4 | 3.70 (.64) 2-5 | -3.14 | 0.00* |
| 10. I try to understand clinical problems by using a variety of frames of reference. | 3.27 (.80) 2-4 | 3.70 (.68) 2-5 | -2.60 | 0.01* |
| 11. When there is conflicting information about a clinical problem, I identify assumptions underlying the differing views. | 3.30 (.728) 2-5 | 3.73 (.52) 3-5 | -2.65 | 0.01* |

| **SACRR Item** | **Pretest M(SD) Range** | **Posttest M*(SD)* Range** | **Z-Score** | **P value** |
|---|---|---|---|---|
| 12. When planning intervention strategies, I ask “What if” for a variety of options. | 3.82 (.53) 2-5 | 4.24 (.66) 2-5 | -3.12 | 0.00* |
| 13. I ask for colleagues’ ideas and viewpoints. | 4.33 (.54) 3-5 | 4.58 (.50) 4-5 | -2.14 | 0.03* |
| 14. I ask for the viewpoints of clients; family members. | 3.85 (.83) 2-5 | 4.15 (.67) 3-5 | -1.81 | 0.70 |
| 15. I cope well with change. | 3.55 (.87) 2-5 | 3.83 (.85) 2-5 | -1.9 | 0.58 |
| 16. I can function with uncertainty. | 3.36 (.86) 1-4 | 3.76 (.83) 2-5 | -2.29 | 0.02* |
| 17. I regularly hypothesize about the reasons for my clients’ problems. | 3.85 (.51) 2-5 | 3.97 (5.9) 3-5 | -1.07 | 0.285 |
| 18. I must validate clinical hypotheses through my own experience. | 3.36 (.65) 2-4 | 3.79 (.65) 2-5 | -2.69 | 0.01* |
| 19. I clearly identify the clinical problems before planning intervention. | 3.64 (.60) 2-4 | 4.00 (.50) 3-5 | -2.65 | 0.01* |
| 20. I anticipate the sequence of events likely to result from planned interventions. | 3.61 (.66) 2-4 | 4.03 (.53) 3-5 | -2.73 | 0.01* |
| 21. Regarding a proposed intervention strategy, I think “What makes it work?” | 3.61 (.75) 2-5 | 3.91 (.52) 3-5 | -1.90 | 0.57 |
| 22. Regarding a proposed intervention, I ask, “In what context would it work?” | 3.61 (.75) 2-5 | 4.00 (.50) 3-5 | -2.50 | 0.01* |
| 23. Regarding a particular intervention with a particular client, I determine whether it worked. | 3.67 (.65) 2-5 | 4.12 (.42) 3-5 | -3.26 | 0.00* |
| 24. I use clinical protocols for most of my treatment. | 3.39 (.66) 2-5 | 3.91 (.38) 3-5 | -3.55 | 0.00* |
| 25. I make decisions about practice based on my experience. | 3.73 (.80) 2-5 | 4.18 (.53) 3-5 | -3.12 | 0.00* |
| 26. I use theory to understand intervention strategies. | 3.06 (.66) 2-4 | 3.79 (.60) 3-5 | -4.07 | 0.00* |
| Total Score | 93 (6.82) 1-5 | 102.76 (6.037) 1-5 | -4.92 | 0.00* |

*Note:* *= Statistically significant change in score

## Discussion

The purpose of this study was to determine if a group-based, psychosocial-focused experiential learning activity delivered virtually and in person, affected students' perceived clinical reasoning. The principal finding was that students' perceived clinical reasoning skills improved after the experiential learning activity. These results support the body of literature indicating experiential learning improves health professional students' perceived clinical reasoning skills (Knecht-Sabres, 2013; Knecht-Sabres et al., 2013; Seif et al., 2014; Tsubira, 2021). A unique aspect of this study is that the experiential learning activity focused on delivering services to a group of clients, not individuals, as is the case with previous studies. Additionally, the focus of the experiential learning activity in this study was on the psychosocial needs of clients, a focus area that has not been explored related to clinical reasoning development in the past.

### Clinical Reasoning Development Related to Theory

Results related to the individual items of the SACRR provide insight into the specific components of clinical reasoning development. The items with the lowest pretest scores were related to the use of theory. The items "I look to theory for understanding a client's problems and proposed solutions," "I use theory to understand treatment techniques," and "I use theory to understand intervention strategies" had the lowest mean scores for the pretest (2.85, 3.12, and 3.06 respectively). The change in each of these items on the posttest was statistically significant and the change scores were among the highest change scores of all items (-4.181, -3.139, -4.070). Although students are introduced to theory early in the curriculum, it appears that students' value, understanding, and reliance on theory increased through this experiential learning activity. Kolb (2015) described four components of the experiential learning cycle; concrete experience, reflective observation, abstract conceptualization, and active experimentation. The students' perceived increase in understanding theoretical concepts aligned with the abstract conceptualization phase of experiential learning in which learners situate observations with theoretical approaches or ways of understanding.

The study results related to an increased perceived ability to use theory in understanding the guiding treatment indicate that this experiential learning activity may be moving students toward more advanced skills in clinical reasoning. Boyt Schell (2013) described that the main differences in professional reasoning between novice and advanced beginner reasoning include that advanced practitioners consider contextual issues and compare the presenting case to theoretical models. Similarly, Knecht-Sabres (2013) found that a community-based experiential learning activity resulted in occupational therapy students using more advanced forms of clinical reasoning.

### Virtual Experiential Learning

This study also provides some support for the use of virtually based experiential learning activities. Although not initially designed as a virtually based learning experience, the COVID-19 pandemic shifted all but one of the student groups into a virtual platform. Health professions programs are including telehealth education in curriculums, some of which include experiential learning activities, but the methods and outcomes vary between programs (Chike-Harris et al., 2020). A scoping review of occupational therapy student outcomes related to telehealth learning experiences found that students had overall positive experiences and increased their knowledge of practice, working with interprofessional teams, and use of technology when engaged in telehealth activities (Serwe et al., 2020). Research focused specifically on the impact of experiential learning activities delivered via telehealth on the development of clinical reasoning skills is sparse. One study of nurse practitioner students found no differences in students' diagnostic reasoning abilities when using virtual platforms versus face-to-face interactions (Posey et al., 2018). Results of this study offer support for virtual based experiential learning activities.

### Limitations

There were several limitations to this study. First, students were participating in a variety of coursework during the six-week time frame and the results may be a reflection of the combination of learning activities occurring, not only the experiential learning activity. Participation in the experiential learning activity was brief and subsequent measures of clinical reasoning development over time and of this experience are warranted. Researchers were unable to remove the three students who engaged in the experiential learning activity in-person because data was collected without identifying information, therefore findings related to the use of virtual platforms to deliver the experiential learning activity should be considered with caution. Experiences within community partner sites varied based on the population and structure of the organization. The exact learning experience cannot be replicated because of this variability. Use of a convenience sample resulted in a lack of gender, age, racial, and ethnic diversity. There is an increased risk for type one errors due to the number of statistical tests run. In addition, two of the researchers were part of the course delivery and supervisors for some of the students, introducing potential bias.

### Implications for Occupational Therapy Education

Experiential learning activities have been found to enhance occupational therapy student learning in a variety of ways. Use of an experiential learning activity delivered to groups of clients and focused on psychosocial needs has not been studied, but this study provides evidence that these learning activities can be of benefit for students in increasing their perception of their clinical reasoning skills. Group-based experiential learning activities may provide opportunities to increase clinical reasoning skills in an efficient way. Given the profession's endorsement and use of telehealth, this study offers support for designing educational opportunities via telehealth to develop core skills for occupational therapy practice.

## Conclusion

Clinical reasoning is an essential component of effective occupational therapy practice and an important skill for occupational therapy educators to focus on. Previous research has shown that experiential learning activities are useful in developing clinical reasoning. This study broadens the literature by providing evidence for increasing students' perceived clinical reasoning abilities through use of learning activities that are group based and psychosocial focused. Supporting students to develop clinical reasoning skills during their education and the habits to continue to develop clinical reasoning skills after graduation is important for continued advancement of the profession. This study provides an example of an educational activity designed to do so.

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