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## Exploration of a Short-term Learning Community Focused on Evidence-based Occupational Therapy Interventions for Children and Youth with Autism

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## Abstract

Continuing education (CE) for occupational therapists typically takes place in workshops, seminars, or webinars with little support for practice change after the event concludes. Continuing education that occurs over an extended time with opportunities for social learning and competence assessment may improve knowledge translation. This study explored how pediatric occupational therapists who participated in a short-term, online learning community acquired new knowledge about evidence-based interventions from learning activities and how they applied this new knowledge to practice. Weekly modules with facilitated discussions, competency self-assessment, and peer-reviewed journal article readings occurred over a six-week period. An exploratory design included content analysis of participants' online discussion postings, goal-setting activities, reflections, and a researcher-developed evaluation survey. Of the 19 participants who completed the evaluation survey, 17 participants indicated that the case simulation helped to assess their competence and that readings on evidence-based interventions obtained from ProQuest<sup>TM</sup> were helpful. All participants (n = 19) agreed that the learning community enriched their understanding of how to work with children and youth with autism spectrum disorder and they planned to apply new knowledge to their practice. Qualitative data analysis yielded two themes: *becoming evidence-based* and *integrating evidence into practice*. A community of occupational therapists with shared interests who participated in socially mediated learning opportunities with multiple educational components increased understanding and application of evidence-based interventions. Future research should investigate the relationship between engagement in a short-term learning community and application of evidence-based interventions with follow-up.

## Keywords

Evidence-based practice, continuing education, social learning, autism spectrum disorder, professional competence

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## Exploration of a Short-term Learning Community Focused on Evidence-based Occupational Therapy Interventions for Children and Youth with Autism

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### ABSTRACT

Continuing education (CE) for occupational therapists typically takes place in workshops, seminars, or webinars with little support for practice change after the event concludes. Continuing education that occurs over an extended time with opportunities for social learning and competence assessment may improve knowledge translation. This study explored how pediatric occupational therapists who participated in a short-term, online learning community acquired new knowledge about evidence-based interventions from learning activities and how they applied this new knowledge to practice. Weekly modules with facilitated discussions, competency self-assessment, and peer-reviewed journal article readings occurred over a six-week period. An exploratory design included content analysis of participants' online discussion postings, goal-setting activities, reflections, and a researcher-developed evaluation survey. Of the 19 participants who completed the evaluation survey, 17 participants indicated that the case simulation helped to assess their competence and that readings on evidence-based interventions obtained from ProQuest™ were helpful. All participants (n = 19) agreed that the learning community enriched their understanding of how to work with children and youth with autism spectrum disorder and they planned to apply new knowledge to their practice. Qualitative data analysis yielded two themes: *becoming evidence-based* and *integrating evidence into practice*. A community of occupational therapists with shared interests who participated in socially mediated learning opportunities with multiple educational components increased understanding and application of evidence-based interventions. Future research should investigate the relationship between engagement in a short-term learning community and application of evidence-based interventions with follow-up.

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## **Introduction**

Competence of health care providers relates to quality, efficiency, and cost-effectiveness of service delivery (Kitto et al., 2013). Continuing education (CE), as a form of continuing competence, has the potential to impact a broad range of areas related to professional and personal development, including knowledge, skills, attitudes, practice change, and intention to change (Allen et al., 2019). Underpinning CE is a focus on evidence-based practice, as regulatory boards and agencies expect that clinicians will learn new knowledge and skills based on sound evidence with an outcome of implementation to improve practice (Allen et al., 2019; Myers et al., 2017).

Traditional CE uses an in-person delivery approach. Online CE has become increasingly popular and alleviates barriers to practitioner involvement often found with traditional CE, such as time pressures, geographic boundaries, convenience, flexibility, and accessibility (Reeves et al., 2017). It has the added benefit of providing opportunities for collaboration and communication between participants when integrated with an online platform that supports synchronous or asynchronous online discussions (Evans et al., 2014; Thepwongsa et al., 2014; Reeves et al., 2017). Online discussions afford participants the ability to engage in social interactions, which enhance networking, generate active learning, and bridge knowledge and evidence-based practice (Healy et al., 2019; Myers & Lotz, 2017). Wenger's social theory of learning describes how individuals actively participate and build their professional identity within a social community of learners (Wenger, 1998). Wenger's term community of practice (CoP) refers to "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). Communities of practice allow for the creation and application of knowledge situated within the practice settings of the participants, which may enhance the understanding and application of evidence-based interventions. This may further support the use of practice-based evidence, which is evidence resulting from routine practice (Horn et al., 2012).

A recent literature review synthesized findings from five studies of occupational therapy CoP (Barry et al., 2017). Across the studies, participants reported increases in professional development due to knowledge sharing and knowledge translation. Only one reviewed study explored participant engagement in an online CoP (Hoffman et al., 2011). Findings from this study suggest that social learning across participants was limited, as barriers such as decreased time to participate and demanding work schedules were identified as reasons for overall low utilization of the online forum. In contrast, findings from a study of an online CoP centered on evidence-based practice for physical therapists using manual therapy techniques indicated high levels of involvement (Evans et al., 2014). The participants used reflection to apply learnings to work contexts, appraised their own expert knowledge in light of new evidence-based practice knowledge, and utilized new knowledge from evidence-based literature to formulate clinical hypotheses. Studies of online journal clubs for health care practitioners, which incorporated social learning approaches, demonstrated positive

changes in understanding and use of evidence-based practice, including implementing more evidence-based interventions and sharing evidence with stakeholders (Sortedahl, 2012), integrating evidence with clinical expertise (DuGan, 2019), and knowledge translation (Ellington & Janes, 2020).

Limited research exists on online CoP as continuing education for occupational therapists. We evaluated a short-term, online CoP, which we refer to as a “learning community”, for occupational therapists centered on evidence-based interventions for children and youth with autism spectrum disorder (ASD). The learning community utilized resources available to occupational therapists certified by the National Board for Certification in Occupational Therapy (NBCOT), including an online competency self-assessment using a case simulation from the Navigator® platform (NBCOT, 2021) and journal articles from the ProQuest™ (Ann Arbor, MI) Nursing and Allied Health Source and the ProQuest Medline Indexing System. Weekly article reviews with associated online discussions supported social learning. We explored how pediatric occupational therapists’ who participated in the learning community acquired new knowledge about evidence-based practices for children and youth with ASD from the tools provided from NBCOT and the weekly learning activities, and how they applied this new knowledge to their occupational therapy practice.

## **Methodology**

### **Study Design**

The learning community focused on evidence-based practice for occupational therapists working with children and youth with ASD. Researchers used an exploratory design with survey and qualitative methods to investigate the participants’ integration and application of new knowledge about evidence-based interventions into their occupational therapy practice. The Institutional Review Board of the University of Florida approved the study and all participants provided informed consent to take part in the study.

### **Course Description**

The community was six weeks in duration (January-February 2018) with one module per week and was hosted on the Blackboard CourseSites (Reston, VA) learning management system. Participants spent about one hour a week completing asynchronous community activities, which allowed participants to log into CourseSites at their convenience (see Table 1). Weekly modules included a range of activities, including goal setting, readings from peer-reviewed journals, asynchronous discussions and a final written self-reflection on goal achievement. The first and second author facilitated the learning community.

During the first week, participants completed an online case simulation from the NBCOT Navigator® online competency assessment platform. The Navigator® provides a virtual platform for continuing competence assessment and professional development activities for certified occupational therapy practitioners. The Navigator®’s case simulations are part of a suite of serious games, which are games designed for assessment or teaching (McNamara et al., 2015). Participants received a score for their performance on the

case simulation and were awarded competency assessment units from NBCOT if their score met a certain threshold. During weeks two through five, participants read peer-reviewed articles from the ProQuest™ database. Participants were encouraged to use ProQuest™ to obtain additional readings each week.

Participants earned one (1) competency assessment unit for completion of activities for each week of the learning community, for a possible total of six (6) competency assessment units for participation to be used towards NBCOT recertification. A certificate of completion was awarded to participants at the conclusion of the learning community.

**Table 1**

*Learning Community Content Areas and Activities by Week*

<b>Week</b>	<b>Content</b>	<b>Participant Activity</b>
1	Introduction Competence Assessment  Goal Setting	Watch introductory video Complete Navigator® Autism case simulation Write 1 individual goal for what you hope to achieve in this learning community
2	Occupational Therapy Evaluation for Children and Youth with Autism Spectrum Disorder (ASD)	Complete 1 reading from Navigator® evidence-based resource list Participate in online discussion
3	Occupational Therapy Intervention for Children and Youth with ASD	Complete 1 reading from Navigator® evidence-based resource list Participate in online discussion
4	Using Behavioral Management Strategies in Occupational Therapy Intervention for Children and Youth with ASD	Complete 1 reading from Navigator® evidence-based resource list Participate in online discussion
5	Using Coaching for Caregivers of Children and Youth with ASD	Complete 1 reading from Navigator® evidence-based resource list Participate in online discussion
6	Conclusion Reflection	Complete reflection activity Participate in online discussion Complete evaluation questionnaire

## Participants

The participants were pediatric occupational therapists working either full- or part-time in pediatrics. Participants were recruited from the state of Florida. The first author recruited participants by contacting managers of pediatric occupational therapy private practices and outpatient clinics in the region. Managers forwarded information about the study to their staff, including a link to the online consent form in Qualtrics (Provo, UT). Therapists who agreed to participate in the study were provided with a demographic questionnaire and a link to the CourseSites platform. Occupational therapists who maintained their optional certification through NBCOT were able to access the Navigator® through their personal accounts. If a participant did not maintain certification through NBCOT they were provided limited guest access to the Navigator® and ProQuest™.

## Data Collection

Qualitative data was collected from participants' online discussions, goal setting activities, and reflection activities. Participants also completed a researcher-developed demographic survey at the start of the learning community. The demographic survey included seven items: employment setting, current position, NBCOT registration status, highest degree attained, certifications or credentials, and years practicing as an occupational therapist. At the conclusion of the learning community, participants completed a program evaluation survey created for the purposes of this study. The program evaluation survey drew questions from a generic survey evaluating a continuing education program and a survey from a study investigating occupational therapists' perceptions of an online competence assessment (Myers, 2019). The survey included 18 questions that used a Likert scale (1 = strongly disagree, 4 = strongly agree) and four open-ended questions to obtain data about participants' application of learning to practice, their perceptions and use of the Navigator® and ProQuest™, and the learning community's organization and facilitators.

## Data Analysis

Survey data were exported from Qualtrics to IBM SPSS Statistics for Windows (Version 25) (Armonk, NY) for analysis using descriptive statistics. Analysis of qualitative data occurred through an inductive approach using the framework method (Gale et al., 2013). A research assistant copied data from the online discussions, goal setting activity, and reflection activity into separate documents and removed identifying information. Data were analyzed using line-by-line process coding (Saldaña, 2013). The authors independently reviewed the data and identified initial codes, then compared codes to identify preliminary categories. Based on the preliminary categories, the first author developed a data matrix for identifying relationships across data sources. The second author reviewed the matrix, making suggested adjustments to categories. Then, the two authors discussed disagreements until reaching consensus on final categories, redefined category definitions as applicable, and developed themes.

The researchers addressed trustworthiness in several ways. They limited bias by defining the codes clearly and maintaining consistency in coding through frequent meetings and discussion. Data triangulation occurred via the collection of data from multiple sources (i.e. online discussions, reflections, goal-setting activity) over a six-

week timespan. The review of data by two members of the research team (CM and SB) with discussions around interpretations of data, agreements, and disagreements supported investigator triangulation. CM and SB were instructors in entry-level occupational therapy educational programs, pediatric occupational therapists, and were facilitators of the online learning community. In order to reduce bias in interpretations, the two authors focused on the participants' perspectives rather than incorporating their own personal experiences and beliefs about practitioner use of evidence within their analysis.

## Results

Twenty-seven pediatric occupational therapists agreed to participate in the study. Of those, 81.5% ( $n = 21$ ) created accounts in CourseSites and participated in the learning community. The majority of participants worked in schools ( $n = 15$ , 71.4%) and had master's degrees in occupational therapy ( $n = 15$ , 71.4%) (see Table 2). All participants maintained their certification through NBCOT. Three participants (14.3%) held specialty certifications. The amount of time participants reported practicing as an occupational therapist ranged from 6 months to 29 years ( $M = 11.3$  years). The majority of participants completed at least five modules ( $n = 17$ , 90.5%). One participant completed two modules and then dropped from the study citing a lack of time to participate.

**Table 2**

*Participant Demographics ( $n = 21$ )*

Item	n (%)
<u>Highest Professional Degree Held</u>	
Bachelor's Degree in Occupational Therapy	3 (14.3)
Master's Degree in Occupational Therapy	15 (71.4)
Master's Degree in a field other than Occupational Therapy	1 (4.8)
Doctor of Occupational Therapy	2 (9.5)
<u>Years Worked as an Occupational Therapist</u>	
0-5	6 (28.6)
6-10	6 (28.6)
11-15	2 (9.5)
16+	7 (33.3)
<u>Practice Setting(s)</u>	
Free-standing pediatric outpatient clinic	3 (14.3)
Schools	15 (71.4)
Pediatric private practice	1 (4.8)
Schools and pediatric private practice	1 (4.8)
Outpatient services at schools	1 (4.8)



Results from the evaluation survey demonstrated favorable responses to participation in the learning community (see Table 3). The majority of participants ( $n = 17$ , 89.5%) found the Navigator<sup>®</sup> to be helpful for assessing their competence and planned to use Navigator<sup>®</sup> tools in the future. The majority of participants ( $n = 18$ , 94.7%) reported the ProQuest<sup>™</sup> articles were helpful and planned to access them in the future. All participants ( $n = 19$ , 100%) indicated that the online discussions enriched their understanding of how to work with children and youth with ASD. All participants ( $n = 19$ , 100%) planned to apply new knowledge gained from the learning community to their practice and the majority ( $n = 18$ , 94.7%) reported that they had already applied new knowledge from the learning community to their practice.

**Table 3***Evaluation Survey Results*

Item	<i>n</i>	<i>M</i>	<i>SD</i>	% Reporting 3 or 4 (Agree or Strongly Agree)	% Reporting 1 or 2 (Strongly Disagree or Disagree)
<u>Learning Community</u>					
The learning community was well-planned and organized.	19	3.74	.45	100%	0%
The objectives of the learning community were clearly defined.	19	3.79	.42	100%	0%
The learning community met my expectations.	19	3.47	.61	94.7%	5.3%
The learning community activities were the appropriate level of difficulty.	19	3.53	.51	100%	0%
The learning community enriched my understanding of how to work with children and youth with autism spectrum disorder.	19	3.42	.51	100%	0%
I would recommend this learning community to others.	19	3.53	.61	94.7%	5.3%

<u>Navigator®</u>					
Including the NBCOT <u>Navigator®</u> autism case simulation (completed in Week 1) helped me to assess my competence.	19	3.32	.67	89.5%	10.5%
I plan to use the NBCOT <u>Navigator®</u> online competence assessment tools in the future.	19	3.26	.81	89.5%	10.5%
The readings (journal articles) obtained from the Navigator (ProQuest) were helpful.	19	3.53	.61	94.7%	5.3%
I plan to access journal articles from the Navigator (ProQuest) in the future.	19	3.58	.61	94.7%	5.3%
<u>Activities</u>					
The individual goal setting activity (completed in Week 1) was helpful.	18	3.33	.59	94.4%	5.6%
The online discussions enriched my understanding of how to work with children and youth with autism spectrum disorder.	19	3.47	.51	100%	0%
The reflection activity (completed in Week 6) was helpful.	19	3.16	.69	84.2%	15.8%
<u>Facilitators</u>					
The facilitators were organized and communicated clearly.	19	3.95	.23	100%	0%
The facilitators were knowledgeable.	19	3.89	.32	100%	0%
The facilitators helped to guide the online discussions in a way that enriched my understanding of how to work with children and youth with autism spectrum disorder.	19	3.63	.50	100%	0%

Application					
I have already applied new knowledge gained from the learning community to my practice with children and youth with autism spectrum disorder.	19	3.42	.61	94.7%	5.3%
I plan to apply new knowledge gained from the learning community to my practice with children and youth with autism spectrum disorder.	19	3.53	.51	100%	0%

Note. *n* = total number of responses; *M* = mean; *SD* = standard deviation.  
\*Response using Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree)

After individually completing initial coding, the authors met to confirm the codes and developed four preliminary categories. The first author then placed 153 pieces of coded data into a matrix with the four categories, adding two additional categories. The second author reviewed the matrix and noted disagreements with 14% of placements. The two authors met and discussed discrepancies, coming to consensus on 100% of code placements/categories. The authors then developed two themes from the categories.

**Becoming Evidence-based**

The first theme, *becoming evidence-based*, refers to the therapists’ increasing understanding, identification, and valuing of evidence-based interventions, as well as recognizing barriers to their implementation. The theme consisted of four categories: *discovering evidence-based interventions*, *appreciating the evidence*, *perceiving the barriers to using evidence-based interventions*, and *increasing intentionality of using evidence-based interventions*.

**Discovering Evidence-based Interventions**

The category of *discovering evidence-based interventions* included the therapists’ identification of new knowledge of interventions and the levels of evidence associated with the interventions. Data from 17 participants supported aspects of discovery. Many participants described how both the online discussions and reading of the peer-reviewed journal articles assisted their process of discovery.

It has been helpful to hear of more functional applications of ABA [applied behavioral analysis] in some of the posts, and to read in the article about ways that ABA and OT can be complementary. (Participant 5, Week 4)

Participants described realizing that interventions they knew little about had implications for occupational therapy.

Prior to this forum and reading this specific article, I had not known that ABA has such strong evidence to support it's [sic] practice, nor had I considered the synergy between OT and ABA. This was an eye opening [sic] article for me and I do agree with the authors that this relationship has much potential. (Participant 9, Week 4)

Many participants also described new knowledge about levels of evidence for interventions they currently used, including identifying that some commonly used interventions have low levels of evidence.

I noticed, as other participants did, that according to the article... the lion share of interventions lacked strong evidence for their effectiveness. There were only five with the label of strong evidence and all the others were labeled areas for future research. This was interesting to me because I'm sure that many of us employ these techniques in everyday practice despite the lack of strong evidence. (Participant 7, Week 2)

### ***Appreciating the Evidence***

Data from 14 participants included aspects of *appreciating the evidence*. This category encompassed therapists' discussion of how they used resources from the learning community to increase knowledge and understanding, as well as expressions of gratitude for new knowledge and resources.

The findings in the article were consistent with other research and presentations I have encountered regarding sensory interventions so far: more research is needed to draw conclusions. In a way, this is frustrating, but it is also hopeful. (Participant 12, Week 3)

This learning community has rejuvenated my appreciation of the educational sources that are available for occupational therapists, both through written articles and peer support. With so many valuable and easily accessible resources, I am very excited to continue learning more about evidenced based treatment and assessments for children and youth with Autism Spectrum Disorder. (Participant 25, Week 6 Reflection)

### ***Perceiving Barriers to Using Evidence-based Interventions***

Participants (n = 14) discussed using or intending to use interventions supported by evidence while *perceiving barriers to using evidence-based interventions*. Many participants identified barriers to implementation of evidence-based interventions and were able to discuss these with others who described similar challenges.

Group-based social skills training is an intervention that I have found to be quite effective and has strong evidence to support its use. However, it can be difficult to arrange group-based play in an outpatient clinic because of scheduling matters, ensuring the children are a good match, parents agree, etc. (Participant 18, Week 2)

I found the same to be true for group based intervention as you mentioned in your post as well. It is a great way to improve in social skills and communication, but sometimes we do not have the flexibility [*sic*] in our schedule to offer this. (Participant 3, Week 2)

Participants also identified limitations in implementation of evidence-based interventions related to their practice context. The following participant described the challenge of using an intervention in a school-based setting.

I use visual supports as well but find it hard to be consistent using them throughout [*sic*] the day. Often they are accidentally left in the classroom and aren't available during lunch or playground. Everyone is always in a rush and its [*sic*] difficult to juggle challenging students with various needs, supports and equipment. (Participant 17, Week 2)

### ***Increasing Intentionality of Using Evidence-based Interventions***

Nineteen participants discussed *increasing intentionality of using evidence-based interventions*. Therapists identified ways in which they planned to increase their use of interventions supported by evidence and improve practice.

The first step I will take is to use the resources I have been provided through the learning community. I have saved some of the additional articles that are most relevant. The Guidelines.gov website, PROQuest [*sic*] database, and the NBCOT case simulator are sources I plan to refer back to as well. I am preparing to take my first intern in a month, and I expect to use these resources with my intern when questions come up and to exemplify ways in which one can apply evidence to practice. (Participant 5, Week 6 Reflection)

After reading the article I feel like some of the interventions used by the author may work well in practice including the CO-OP. I went to the CO-OP website and it appears that this type of Goal-Plan-Do-Check would work well with some of my higher functioning students in the middle and high school settings that have transition goals. With lower functioning students it may also work if modified to include the student's teacher and paraprofessionals to assist in implementation and also additional accommodations such as visuals. (Participant 12, Week 5)

### ***Incorporating Evidence into Practice***

The second theme, *incorporating evidence into practice*, refers to the therapists' ability to determine how to use evidence for practice improvement and in conjunction with clinical expertise to support currently used interventions. Two categories comprised the second theme: *identifying ways to improve practice* and *applying practice-based evidence*.

### **Identifying Ways to Improve Practice**

In *identifying ways to improve practice*, participants (n = 11) described ways in which they planned to engage in activities for practice improvement.

Some of the positive outcomes for me during this program have been the establishment of a weekly scheduled time to read and review literature of our field, and a newly discovered resource bank of the NBCOT's ProQuest, both of which are leading me closer to my goal. (Participant 13, Week 6 Reflection)

Participants' postings influenced other participants to begin implementing evidence-based interventions with potential to improve practice.

The input from so many others regarding their use of weighted vests and sensory items and [sic] caused me to want to trial these tools more often than I currently do. My first steps will be to develop and use sensory tool tracking systems and trial them with a small number of my students. (Participant 24, Week 6 Reflection)

### **Applying Practice-based Evidence**

Seventeen participants described *applying practice-based evidence*, which represented the integration of clinical expertise into the consideration and implementation of interventions utilized for children and youth with autism. Participants described interventions they found to be effective based on their previous experiences.

Low tech interventions like PECs [picture exchange communication systems] have strong evidence and have been helpful for kids with ASD in my experience. (Participant 18, Week 2)

PECs, and sign language for a few of my kids, have proved helpful. I find that teaching the students basic signs (help, stop, toilet, drink, finished, more etc) allows them to more spontaneously communicate their needs (Participant 21, Week 2).

Participants also discussed the use of clinical judgment, documentation, and data collection to monitor implementation and outcomes.

You put that really well Participant 5, that the lack of strength of evidence calls for a greater use of clinical judgement. I really align with that because I think it is highly important to understand what to document in terms of sensory-based interventions. I most frequently document how arousal, affect, and behavior vary within sessions, and I try to continually educate the client as to why we are engaging in these kinds of strategies. (Participant 13, Week 3)

## Discussion

The purpose of this learning community was to facilitate pediatric occupational therapists' learning about evidenced-based interventions for children and youth with ASD. This learning process provided education and activities each week, however, the community emphasized active engagement of the practitioners in discussions and reflections unique to their practice setting. Social learning opportunities facilitated interactions with others through the online discussions, thus enhancing participant appreciation for evidence-based interventions.

Through their discussion posts, participants also influenced each other to try new interventions or consider how those interventions might be useful in their own context. This finding supported the social aspects of learning for situating new knowledge in context and as a way to bridge knowledge and practice in CE centered on evidence-based interventions (Myers & Lotz, 2017; Myers et al., 2017). A study by Allen et al. (2020) found that health professions educators in a CE course focused on social learning reported gaining knowledge and skills that resulted in changes in professional perspectives and implementation of new practices in their teaching. The majority of the participants in the current study reported in the survey that they had applied knowledge to practice by the conclusion of the learning community.

Participants described implementing interventions based on their practitioner expertise, which along with patient preferences makes up the complete representation of evidence-based practice (Sackett et al., 2000). By blending practitioner expertise with ways they could obtain their own evidence, through documentation and data collection, practitioners were building their own practice-based evidence. While not traditionally considered as significant as evidence from randomized controlled trials, occupational therapists use of practice-based evidence to drive clinical decision-making is an important aspect of providing client-centered services (Horn et al., 2012). Empirical evidence from experimental literature often lacks contextual relevance and practitioners must rely on their own expertise or the input of their clients to determine the best intervention or approach (Salter & Kothari, 2016). Through social interactions via the online discussion, participants could discuss their own experiences within the situated context of their practice settings and learn strategies for gathering their own practice-based evidence.

While this study demonstrated how knowledge and application of evidence-based interventions may be enhanced through participation in a learning community, it is likely that more targeted education will be needed to support comprehensive translation of research to practice. Knowledge translation, which includes the "ethically sound application of knowledge to improve health", consists of multiple stages that acknowledge the complexity of incorporating evidence-based practices across contexts (Straus et al., 2009, p. 165). Allied health practitioners report low self-confidence in their abilities to select a knowledge translation framework in clinical practice, implementing a change in practice, and assessing barriers and enablers to knowledge translation (Barrimore et al., 2020). In the current study, participants identified challenges associated with incorporating evidence-based interventions into practice. Without

specific training or supports, it is unknown if these challenges could be overcome by the participants alone, especially given the wide breadth of knowledge translation, which requires involvement and support from all stakeholders (i.e. practitioners, administrators) for success. The learning community was developed for individual practitioners to increase their knowledge and use of evidence-based interventions. The implementation of evidence-based interventions is part of knowledge translation, however, the learning community was not guided by a particular knowledge translation framework.

Participants integrated new knowledge about evidence-based practices for children and youth with ASD from the learning activities and NBCOT tools. The majority of participants identified the Navigator<sup>®</sup> case simulation and the articles from ProQuest<sup>™</sup> as helpful. This finding is similar to a previous study, in which participants reported that the Navigator<sup>®</sup> helped them to identify areas of needed improvement in clinical knowledge and skills and the ProQuest<sup>™</sup> articles were considered a useful component of practice change by participants who read them (Myers, 2019). Participants also reported saving evidence-based resources from the community to use in practice and/or to share with colleagues, patients, and families, further supporting the incorporation of new knowledge. In addition to the reading of peer-reviewed journal articles, online discussions assisted the participants' process of discovering evidence-based interventions that they were unfamiliar with, as well as gaining knowledge about the levels of evidence associated with frequently used interventions. Findings from previous studies of online CE support the use of multiple training components for learning, including components used in this study such as online discussions, case studies, and opportunities for reflection (Scerbe, et al., 2019; Walker et al., 2019).

Although the findings suggest most participants implemented changes to their practice because of the learning community, reliance on self-report is a limitation. Future studies could follow-up with participants directly to determine the types and extent of practice changes. While the number of participants in this learning community was within the recommended size for communities of practice, the sample size was relatively small and future studies could replicate this learning community to compare findings or increase the number of participants. Future research should investigate the use of periodic learning community follow-up meetings. Given concerns about the brief nature of continuing education, opportunities for participants to reconnect with other practitioners may support the continued implementation of evidence-based interventions. A future study could also utilize a knowledge translation framework as a structure for the learning community, thus more deliberately training participants to incorporate evidence into practice, identify contextual modifications, and objectively evaluate the outcomes.

This study provides implications for CE in occupational therapy. Online CE should engage participants with active learning strategies in order to make linkages between knowledge and clinical practice. CE that takes place over several sessions or an



extended length of time, rather than a one-time event, has increased potential for participant utilization of new knowledge. Finally, practitioners engaged in an online learning community benefit from the social learning aspects of the CE, which supports practice change.

### Conclusion

The community's opportunities for socially mediated learning fostered participants' attainment of new knowledge about evidence-based interventions for children and youth with ASD and application of these approaches in practice. Each practitioner was encouraged to link the education directly to their current practice to assist with knowledge translation and increased understanding of evidence-based interventions. The use of multiple components, including online discussion, competence self-assessment, reflections, and reading of peer-reviewed journal articles, increased the utility of the learning community as a medium for CE.

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