If Reasoning, Reflection, and Evidence-Based Practice are Essential to Practice, We Must Define Them

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Abstract

Reasoning, reflection, and evidence-based practice are considered essential to the delivery of high-quality occupational therapy services. These skills are highlighted in occupational therapy practice acts and educational standards. Unfortunately, although clearly integral to practice, reasoning, reflection, and evidence-based practice are rarely and inconsistently defined in the profession of occupational therapy. Because the terms reasoning, reflection, and evidence-based practice are used so frequently, and so often their definitions are assumed, occupational therapy students may be unclear on how they will be evaluated and, ultimately, what they will be expected to do in practice in relation to these skills. Through a review of literature, this paper identifies the need for clear conceptualizations of professional skills in occupational therapy and synthesizes the significance of reasoning, reflection, and evidence-based practice to both the education of occupational therapy students and the practice of occupational therapy. This Opinions in the Profession paper seeks to begin a discussion around actions required to advance occupational therapy as a profession through the process of clarifying how these skills are conceptualized, taught, and implemented to promote clear language in literature, education, and practice with the hope of positively impacting therapy services.

Comments

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Credentials Display

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Occupational therapy involves "the therapeutic use of everyday life occupations with persons, groups, or populations (i.e., the client) for the purpose of enhancing or enabling participation" (American Occupational Therapy Association [AOTA], 2020, p. 1). Occupational therapy is, therefore, a true profession, meaning it is tasked with "human problems amenable to expert service" (Abbott, 1988, p. 35). Maintaining the status of "profession" requires a clear delineation of the skills required to practice occupational therapy. Three skills commonly cited as essential to occupational therapy practice are reasoning, reflection, and evidence-based practice. However, these skills are rarely and inconsistently defined, raising questions about how therapists communicate these skills and, ultimately, how they understand and engage in these skills in practice.

Professional Expertise in Occupational Therapy

Professional expertise in human services can be described as involving "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice" (Epstein & Hundert, 2002, p. 226). Occupational therapy literature, educational requirements, and practice further articulate the skills therapists need to maintain to advance the profession, and all include reasoning (clinical and/or professional), reflection, and evidence-based practice. For example, in summarizing literature across health professions, Benfield and Johnston (2020) described professional expertise in occupational therapy as involving both clinical and professional reasoning and evidence-based practice, along with a third domain, the measurement of outcomes. They suggested that each of these three domains involves some level of reflection by the occupational therapist to achieve the best outcomes for clients. Lecours and colleagues (2021) conducted a concept analysis of occupational therapy literature on professionalism and found that in occupational therapy, professionalism includes reasoning as a key behavior and reflexivity as a key personal attribute. For these authors, reasoning is not specified as clinical or professional but does include critical thinking and clinical judgment. Reflexivity was considered to include introspection, analytical skills, and awareness of one's limitations. The authors alternatively described evidence-based practice as complementary to professionalism. This discrepancy reveals that different key behaviors, skills, and/or attributes will be highlighted based on which idea of professional expertise or professionalism is examined. However, reasoning, reflection, and evidence-based practice are consistently mentioned across models of occupational therapy professionalism. Further, the *Occupational Therapy Practice Framework: Domain and Process* (OTPF-4) considers professional reasoning, self-reflection, and evidence-informed practice as significant skills supporting the defining features of occupational therapy as a profession (AOTA, 2020).

Academic standards for occupational therapy students in the United States require that graduates demonstrate clinical reasoning and use evidence in practice (Accreditation Council for Occupational Therapy Education (ACOTE®), 2018). Although not explicit in the standards, reflective practice is an implied requirement, as therapists are expected to remain lifelong learners (Cohn et al., 2010). Lifelong learners must consider areas for professional growth and examine their current competence. These behaviors are thought to comprise reflective practice. Occupational therapy programs may interpret academic standards individually but must design their programs to meet these expectations.

Along with being required by academic standards, clinical reasoning, reflection, and evidence-based practice are each considered a threshold concept for students (Nicola-Richmond et al., 2016). Concepts can be defined as categories of phenomena with at least one common characteristic (Mosey, 1996); *threshold* concepts are those considered fundamental to mastery of a discipline or profession. Other

capabilities sometimes identified as threshold concepts in occupational therapy include understanding and applying the models and theories of occupational therapy, discipline-specific skills and knowledge, practicing in context, a client-centered approach, occupation, the occupational therapist role, and a holistic approach (Nicola-Richmond et al., 2016). Of interest, each of these skills specifically relates to the practice of occupational therapy and understanding key concepts. Clinical reasoning, reflective practice, and evidence-based practice are the three threshold concepts that require metacognitive skills beyond understanding, making them potentially the most difficult threshold concepts to master. Occupational therapy students must learn the complex skills of clinical reasoning, reflection, and evidence-based practice and then implement these skills as practicing professionals to uphold the characteristics that distinguish occupational therapy as a profession.

Statement of the Problem

Considering how important reasoning, reflection, and evidence-based practice appear to be to the profession of occupational therapy, it is problematic that conceptualizations of these three skills are inconsistent and occasionally conflicting (see Table 1; Bannigan & Moores, 2009; Henderson et al., 2017; Krueger et al., 2020). As skills, reasoning, reflection, and evidence-based practice can be further delineated as "constructs," that is, concepts made up of phenomena that are more abstract and, therefore, not readily observable and potentially difficult to define (Mosey, 1996). Further, the terms reasoning, reflection, and evidence-based practice are often used in relation to one another, but the relationships among them are more likely to be assumed than explicit. This raises questions about how well these skills are taught, communicated, measured, and implemented in occupational therapy.

Table 1

Sample of Ideas about Professional Skills in Occupational Therapy Literature

Construct	Conceptualization
Clinical Reasoning	• Bailey and Cohn (2012): "the process therapists use to frame problems, make sense of where they can go with particular clients, and decide what to do in the midst of practice" (p. 32). • Knis-Matthews et al. (2017): "the cognitive mechanism that therapists use to create effective client-centered practices that are comprehensive and include an understanding of the client (their social/historical/cultural context), the practice context and the client/therapist interaction" (p. 360).
Reflection	• Bannigan and Moores (2009): "reflective practice can be viewed as a more deliberate, structured process involving the processing of information to assist with learning from complex situations" (p. 343). • Andrews (2000): "reflection is about learning and developing from experience, resulting in a changed perspective" (p. 396).
Evidence-Based Practice	• Bennett et al. (2003): "Although the [evidence-based practice] model highlights the value of research as a source of information that is potentially less biased than other sources for informing practice, it also clearly acknowledges the importance of integrating this research with clinical expertise and clients' perspectives" (p. 19). • Thomas and Law (2013): "The terms evidence-based practice (EBP), research utilization (RU), and knowledge translation (KT) emphasize the creation, exchange, and use of knowledge from research findings and from other sources, including colleagues, clinical experience, books, and clients, to influence change in practice and inform clinical decision making" (p. e55).

Unclear Standards for Skills Related to Professional Expertise

The OTPF-4 describes how therapists use professional and clinical reasoning to accomplish various important tasks in the occupational therapy process (AOTA, 2020). In the OTPF-4's glossary of terms, professional reasoning is defined using a quote from Schell (2019) as the "process that practitioners use to plan, direct, perform, and reflect on client care" (p. 482). The term "clinical reasoning" also is used, although its definition is just a reference to the definition of professional reasoning. Self-reflection is considered a key skill for therapists, too, but it is not defined in the OTPF-4. The OTPF-4 considers the

occupational therapy process to be dynamic, as therapists engage in ongoing reflection "to accommodate new developments and insights" (AOTA, 2020, p. 18). Further, in describing the evaluation process in occupational therapy, AOTA indicated the need for "reflective clinical reasoning." In this one document, reflection is both a component of or step in the clinical reasoning process and a modifier for a kind of clinical reasoning. This is unsurprising, as reasoning and reflection are especially muddled in the occupational therapy literature. Some of the earliest work on reasoning in the field, the Clinical Reasoning Study (Gillette & Mattingly, 1987), was heavily influenced by Schön (1983) and his idea of reflection-in-action. Further, this study of therapist reasoning ultimately used the process of reflection to elicit the reasoning of therapists through interviews, making the line between reflection and reasoning difficult to parse in their results. Not only are these terms poorly defined themselves, but they also are poorly defined in relation to one another.

The OTPF-4 also identifies evidence-informed, which is referred to in this document as "evidence-based" practice, as a critical skill for occupational therapy but does not define this skill. Instead, it frequently mentions that therapists must integrate the "best available evidence" into their work. Although each conceptualization may be meaningful or useful for occupational therapy, the profession having multiple conceptualizations of these constructs without being explicit about the differences contributes to a lack of clarity. Mosey (1996) outlined the essential elements of an adequate definition. For a concept to be communicated and defined clearly, it first requires a label; in this case, those labels are clinical or professional reasoning, reflective practice, and evidence-based practice. Second, concepts must be placed in a hierarchical category. For instance, reasoning, reflection, and evidence-based practice might all fall into the category of "core metacognitive skills" or "threshold concepts" in occupational therapy. Finally, the concept must have specific characteristics that set it apart from other concepts (Mosey, 1996). Characteristics here might include essential capacities that contribute to the skill or measurable elements of the skill. In occupational therapy, though, reasoning, reflection, and evidence-based practice are not consistently labeled, not consistently categorized in relation to one another, and not consistently differentiated from one another with specific features. The failure to define these skills adequately is additionally detrimental to the consistency of research on these skills, as a variety of skills may be referenced when discussing reasoning, reflection, and evidence-based practice. Lack of clarity in terminology may lead to inconsistency in research and, thus, to imprecision in our ultimate understanding of how these skills influence therapeutic outcomes for clients.

Unclear Approaches for Teaching Professional Expertise

Occupational therapy's lack of clear conceptualizations of reasoning, reflection, and evidence-based practice also challenges our understanding of how educators teach and communicate these skills to students (Bannigan & Moores, 2009; Henderson et al., 2017; Krueger et al., 2020). Importantly, inconsistencies in how educators define reasoning, reflection, and evidence-based practice will limit the impact of any educational approaches used to teach them, especially in relation to one another. In fact, poor engagement in professional behaviors by practicing therapists has been blamed on a lack of integration of professional skills in occupational therapy education (Krueger et al., 2020). Although there is literature on educational practices related to each of these skills individually, it is limited, and there is little known about how they are taught together in programs or courses (Unsworth & Baker, 2016). Further, when this literature is not explicit in defining the skills being studied for research participants, it may not accurately reflect how educators teach the skill of interest, since a common understanding of reasoning, reflection, or evidence-based practice cannot be assumed. Because the terms reasoning,

reflection, and evidence-based practice are used so frequently, and so often their definitions are assumed, students may be unclear on how they will be evaluated on these skills and, ultimately, what they will be expected to do in practice. If these skills are essential to maintaining the professionalism of occupational therapy, occupational therapy as a profession must articulate what these skills are for educating students.

Solutions

There are important considerations for educators and therapists when acknowledging the problem of defining and conceptualizing reasoning, reflection, and evidence-based practice in the context of education and practice in occupational therapy. How we communicate about these skills is integral to how they are understood by students and the interprofessional community.

Considerations for Occupational Therapy Educators

Appreciating that conceptualizations of clinical reasoning, reflection, and evidence-based practice are unclear in occupational therapy raises questions as to how educators are presenting these skills to students. Occupational therapy educators must be intentional with their use of language regarding professional skills. Terminology in syllabi regarding student expectations should be clear and consistent and refer to specific, explicit definitions whenever possible. Although many institutions provide educators with a format for syllabi construction with expectations as to essential elements, such as class time and course objectives, the inclusion of definitions for terms related to taught skills may not be required or even suggested. Where possible, educators should include definitions for key skills and constructs that include the label, hierarchical categorization, and specific differentiating features (Mosey, 1996). Alternatively, when it is not possible to include specific definitions for these complex skills, it is important that the challenges in defining the skill are explicit for students. Aligning student evaluation, both formative and summative, with these expectations and explicit definitions will further clarify what skills are being taught and how students are expected to demonstrate those skills in the classroom and on fieldwork.

Clarity and cohesion of terminology and expectations in academia will support continued engagement in these professional skills when students enter the workforce as occupational therapists. Although academic standards are intentionally broad to allow for flexibility in individual programs, these key professional skills must be communicated to students clearly.

Considerations for Occupational Therapists

Unclear definitions of key professional skills can also impact the quality of therapeutic services and overall communication among stakeholders in the workplace. First, to develop one's own practice and professional goals, it would be helpful to determine a personal understanding of these constructs. Since definitions often differ in educational materials and literature, therapists may need to form their own definitions of these skills. For example, by assigning reflective practice the characteristics of both active adaptation during treatment and deliberate consideration of the treatment process outside of the session, a therapist may establish goals to learn more about how to facilitate deliberate reflection-on-action through a model of reflective thinking. By considering how these skills are or are not present in one's practice, it is possible to target continued skill development in one's practice area.

Second, it is important to appreciate that these personal understandings of professional skills may not translate to others. Therapists should be sure to understand how these professional skills are conceptualized by their state organizations, funders, supervisors, and fieldwork students to ensure they are acting in accordance with specific professional expectations and communicating clearly with colleagues. Interprofessional communication on teams can be stunted when others do not understand the language of occupational therapy; therapists, thus, should not expect that team members have the same

understanding of professional skills. Articulation of what we mean by these skills in a given context will advance interprofessional work and support student learning when interacting with therapists.

Occupational therapy as a profession has identified that reasoning, reflection, and evidence-based practice are all essential to service delivery. Therapists should be sure they understand what these skills mean to them and those they work with to know that they are communicating clearly with colleagues, clients, and students. Clarifying terminology will support clarity of communication in departments, across teams, and with supervising organizations.

Conclusion

Advancing occupational therapists' professional abilities, including their ability to reason, reflect, and engage in evidence-based practice, is critical to advancing the profession as a whole. Lack of clarity around the intended meaning of reasoning, reflection, and evidence-based practice limits research into both their development in occupational therapy students and their use or implementation by occupational therapists. Research is needed to understand how these skills are defined and, ultimately, what that means for how they are taught to occupational therapy students and how occupational therapists engage with these skills in practice. Therefore, it is imperative that the profession undertake the process of clarifying how these skills are conceptualized, taught, and implemented to promote clear language in literature, education, and practice, including in our professional practice framework, with the hope of positively impacting therapy services. The ultimate goal of occupational therapy is to support the occupational engagement of clients. It is essential that the profession clarify expectations for therapists to ensure high-quality service delivery to best achieve this goal.

References

Abbott, A. D. (1988). Professional work. In *The system of professions: An essay on the division of expert labor* (pp. 35–58). University of Chicago Press.

Accreditation Council for Occupational Therapy Education (ACOTE®). (2018). *Accreditation Council for Occupational Therapy Education (ACOTE®) standards and interpretive guide*, 72(Suppl_2), 7212410005p1–7212410005p83. https://doi.org/10.5014/ajot.2018.72S217

American Occupational Therapy Association. (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, 74(Suppl_2), 7412410010p1-7412410010p87. https://doi.org/10.5014/ajot.2020.74S2001

Andrews, J. (2000). The value of reflective practice: A student case study. *British Journal of Occupational Therapy*, 63(8), 396–398. https://doi.org/10.1177/030802260006300807

Bailey, D. M., & Cohn, E. S. (2012). Understanding others: A course to learn interactive clinical reasoning. *Occupational Therapy in Health Care*, 15(1–2), 31–46. https://doi.org/10.1080/j003v15n01_05

Bannigan, K., & Moores, A. (2009). A model of professional thinking: Integrating reflective practice and evidence based practice. *Canadian Journal of Occupational Therapy*, 76(5), 342–350. https://doi.org/10.1177/000841740907600505

Benfield, A. M., & Johnston, M. V. (2020). Initial development of a measure of evidence-informed professional thinking. *Australian Occupational Therapy Journal*, 67(4), 309–319. https://doi.org/10.1111/1440-1630.12655

Bennett, S., Tooth, L., McKenna, K., Rodger, S., Strong, J., Ziviani, J., Mickan, S., & Gibson, L. (2003). Perceptions of evidence-based practice: A survey of Australian occupational therapists. *Australian Occupational Therapy Journal*, 50(1), 13–22. https://doi.org/10.1046/j.1440-1630.2003.00341.x

Cohn, E. S., Schell, B. A. B., & Crepeau, E. B. (2010). Occupational therapy as a reflective practice. In N. Lyons (Ed.), *Handbook of reflection and reflective inquiry: Mapping a way of knowing for professional reflective inquiry* (pp. 131–157). Springer US. https://doi.org/10.1007/978-0-387-85744-2_7

Epstein, R. M., & Hundert, E. M. (2002). Defining and assessing professional competence. *JAMA*, 287(2), 226–235. https://doi.org/10.1001/jama.287.2.226

Gillette, N., & Mattingly, C. (1987). Clinical reasoning in occupational therapy. *The American Journal of Clinical Nutrition*, 41(6), 399–400. https://doi.org/10.4324/9781003150732-18

Henderson, W., Coppard, B., & Qi, Y. (2017). Identifying instructional methods for development of clinical reasoning in entry-level occupational therapy education: A mixed methods design. *American Journal of Occupational Therapy*, 72(Suppl_1), 7211505146p1. https://doi.org/10.5014/ajot.2018.72s1-po7010

Knis-Matthews, L., Mulry, C. M., & Richard, L. (2017). Matthews model of clinical reasoning: A systematic approach to conceptualize evaluation and intervention. *Occupational Therapy in Mental Health*, 33(4), 360–373. https://doi.org/10.1080/0164212X.2017.1303658

Krueger, R. B., Sweetman, M. M., Martin, M., & Cappaert, T. A. (2020). Self-reflection as a support to evidence-based practice: A grounded theory exploration. *American Journal of Occupational Therapy*, 74(Suppl_1), 7411505100p1. https://doi.org/10.5014/ajot.2020.74s1-po3025

Lecours, A., Baril, N., & Drolet, M. J. (2021). What is professionalism in occupational therapy? A concept analysis. *Canadian Journal of Occupational Therapy*, 88(2), 117–130. https://doi.org/10.1177/0008417421994377

Mosey, A. C. (1996). *Applied scientific inquiry in the health professions: An epistemological orientation* (2nd ed.). The American Occupational Therapy Association.

Nicola-Richmond, K. M., Pépin, G., & Larkin, H. (2016). Transformation from student to occupational therapist: Using the Delphi technique to identify the threshold concepts of occupational therapy. *Australian Occupational*

Therapy Journal, 63(2), 95–104.
https://doi.org/10.1111/1440-1630.12252
Schell, B. A. B. (2019). Professional reasoning in practice. In B.
A. B. Schell & G. Gillen (Eds.), *Willard and Spackman's
Occupational Therapy* (pp. 482–497). Wolters Kluwer.
Schön, D. A. (1983). *The reflective practitioner: How
professionals think in action*. Basic Books.

Thomas, A., & Law, M. (2013). Research utilization and
evidence-based practice in occupational therapy: A scoping
study. *American Journal of Occupational Therapy, 67*(4),
e55–e65. https://doi.org/10.5014/ajot.2013.006395
Unsworth, C., & Baker, A. (2016). A systematic review of
professional reasoning literature in occupational therapy.
British Journal of Occupational Therapy, 79(1), 5–16.
https://doi.org/10.1177/0308022615599994