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Letter to the Editor: Re: Burke, Bundy, & Lane (2023) article “If Reasoning, Reflection, and Evidence-Based Practice are Essential to Practice, We Must Define Them”

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Letter to the Editor: Re: Burke, Bundy, & Lane (2023) article “If Reasoning, Reflection, and Evidence-Based Practice are Essential to Practice, We Must Define Them”

Abstract

The purpose of this letter to the editor is to suggest using modern test theory to support developing empirical definitions of these complex terms.

Comments

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

Keywords

modern test theory, latent traits, assessment

Credentials Display

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Dear Editor,

This letter is in response to the Burke et al. (2023) article *If Reasoning, Reflection, and Evidence-Based Practice are Essential to Practice, We Must Define Them*. Yes, we agree that better, agreed-upon definitions are needed. However, a tremendous amount of work has already gone into mere definitions since Leicht and Dickerson (2002) called for better definitions. The current need is to go beyond the efforts merely to define terms; the chief need is to take the main definitions in the literature and test their actual empirical characteristics and effects.

Definitions of critical concepts, like clinical reasoning, reflection, engagement, and evidence-based practice (EBP), need to be sufficiently clear *and detailed* so that operational definitions or specific procedures for observing and measuring them can be devised; the resulting observation or measures need to be reliable and, as much as possible objective, that is, several trained persons see or hear the same thing or nearly so (Boone et al., 2014). The specific items must fit into a persuasive, or at least plausible, mini-theory of the construct, making useful, testable predictions regarding validity in the sense of utility in practice. Demonstrably useful constructs should be integrated into teaching and quality improvement efforts. In sum, definitions need to be sufficiently clear and detailed so that their empirical reliability and validity can be tested. A total focus on agreement alone can be a barrier to progress if it deflects attention from empirical testing of alternatives.

A great deal of work and discussion, such as whole books, many articles, and conference presentations, has already been done to define the constructs and concepts addressed in the Burke article (e.g., da Silva Araujo et al., 2022). Almost all of these use qualitative methods and note different models, leading to inconsistencies. This literature has two broad areas of consensus: (a) reflection, particularly critical reflection, is critical for learning from clinical experience; and (b) there are different levels of performance, and they are important. Many of these studies concluded that the concepts are vague or messy, that greater agreement is needed (e.g., da Silva Araujo et al., 2022; Marcolino et al., 2019), and that there is a need to develop assessments of clinical reasoning because of its critical role in developing one's professional identity and the provision of quality care. In fact, there have been calls for the development reliable and valid clinical reasoning assessments (e.g., Gordon et al., 2022).

Methodologies to develop coherent concepts and make them measurable and to test their validity in practice are well developed. One begins with a clear concept (a mini-theory) and develops observable indicators or items that constitute it. One then applies the items to a sample of people. The results are analyzed to reveal or improve the structure of the item set and to estimate reliability and validity (utility). These methods are often called "psychometrics." Names for contemporary methodologies include modern test theory, "latent trait analysis," item-response analysis, and Rasch analysis. Older, potentially more biased methods (but still useful sometimes) include "classical test theory" (Benfield & Johnston, 2020; Boone et al., 2014). These methodologies are applicable to quantitative, probabilistic empirical measurement of any complex, theoretical trait or concept to be estimated by a number of more specific items that need to be added up to measure it fully and reliably (Bond & Fox, 2015). Occupational therapy (OT) researchers have increasingly used these methods to improve measurement and understanding of OT practice, clients, and outcomes, and we recommend use of modern metric development and analysis methods.

Our work developing a measure of evidence-informed professional thinking (EIPT) is an example that clarifies key concepts in OT practice and develops a measure of using a modern, scientifically strong

methodology, namely, Rasch analysis (Bond & Fox, 2015). We found two overlapping dimensions: one involving reasoning from published knowledge (evidence-informed practice) and the other involving professional thinking (a concept very similar to most descriptions of critical clinical reasoning). The two dimensions are highly and positively associated with each other, sharing about 49% of variance. Clinicians who engage in more and better clinical and professional reasoning from clinical experience typically also engage in more evidence-based reasoning.

We acknowledge that work to develop EIPT and document its utility (and limitations) is not complete. Much work remains to test reliability and validity in different clinical situations, to develop teaching modules, to test utility in improving client outcomes, and to improve the current measure if necessary. We acknowledge that other approaches to observing and improving clinical reasoning are also valuable and necessary.

In sum, the authors are correct in that we need clearer, agreed-upon definitions of the concepts they discuss. But much work has been done toward this end already, and agreement alone is not enough. It is time to go beyond defining constructs and occupational therapists talking to occupational therapists. Empirical work is needed to make important core constructs observable and measurable, develop potential measures, and test and improve these constructs to ensure that health professionals are competent in core skills and improve client outcomes.

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