



Editorial: Special Issue on Threshold Concepts in Health and Social Care

The idea for this special issue on threshold concepts in health and social care originally arose from a conversation between Sarah Barradell, Linda Martindale and Tracy Fortune in Melbourne in 2015. A year later, discussions at the 6th International Biennial Threshold Concepts Conference in Halifax, Canada saw the idea take further shape. With more than ten years passing since the term *threshold concepts* came into being, it seemed fitting to bring together work from scholars in healthcare disciplines and explore how threshold concepts are being put to use, whether this is learning for practice or learning based in practice.

The issue comprises seven diverse articles: five presenting original research and two reflective/discussion pieces. These represent scholarship from cardiothoracic surgery, geriatric medicine, nursing, occupational therapy, physiotherapy, radiotherapy, and interprofessional practice, and from authors working in Australia, England, Ireland, and South Africa. The special edition also includes an interview with Professor Ray Land who, along with Erik Meyer, carried out the original work on threshold concepts and has been a leading writer, scholar, and researcher in this area ever since.

The main themes for the special issue are:

- Ways in which threshold concepts can inform understanding about how students become practitioners in their chosen profession;
- Thresholds associated with practice placements and practice-based learning;
- Ways in which the threshold concepts framework may inform development of curricula in healthcare disciplines.

The first article explores how previously identified threshold concepts can be embedded and taught in a healthcare curriculum, in the context of a four-year undergraduate occupational therapy program. Kelli Nicola-Richmond, Geneviève Pépin, and Helen Larkin interviewed educators, and found consistent challenges for both teaching and learning of threshold concepts; these included time constraints, quality assurance processes, and the need to provide students with multiple opportunities to learn – and demonstrate learning of – thresholds. A thought-provoking observation is that, although many of the identified threshold concepts may not be unique to occupational therapy, it may be how the discipline operationalises the concepts in combination that makes them bounded and unique.

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Melissa Corbally and colleagues focus on challenges for learners, reflecting on becoming a practitioner through the trouble and uncertainty of ward-based simulations. They describe how these learning activities, grounded in real life complex situations, are designed to provide troublesome and transformative learning moments. A distinctive element of their work is that students adopt nurse, patient, and supporting roles through the course of the simulation activities. This allows students to gain experience from multiple and under-appreciated perspectives, which creates distinctive moments for students to think about their evolving identity and roles.

Sarah Barradell and Tai Peseta also consider the learner perspective, making connections between threshold concepts and ways of thinking and practising. They propose that, when combined, these theories can help educators develop an expansive yet connected view of the multiple perspectives that students require in order to engage meaningfully with the complexities of practice. Their innovative approach uses the two frameworks to inform the development of a pre-clinical physiotherapy subject and offers insight into what students came to understand about practice through analysis of learning tasks. In particular, this challenged learners to consider more holistic views of practice than might traditionally be conceived from subjects in isolation.

The primary aim of professional degrees is for students to graduate and register in their chosen profession, but Stella Howden advances ideas about interprofessionalism as a threshold concept. She proposes that learning to be an effective 'interprofessional' may be as transformative and troublesome as becoming a uni-professional. To work with other team members, for example, requires being able to see other ways of thinking and practising that may be unfamiliar and unsettling. Howden concludes that practice placements might offer untapped potential to support students to develop such interprofessional understandings.

The interview with Ray Land, carried out by Hilary Neve and Linda Martindale, explores Ray's continuing fascination with threshold concepts, and the unexpected influence that this work has had on higher education, including healthcare. Ray reflects on the importance of incorporating new educational approaches into healthcare disciplines, the reasons why threshold concepts theory may particularly resonate with healthcare educators and its potential to influence patient care. In particular he explores how threshold concepts offer a useful lens for exploring the conceptual and ontological shifts that healthcare professionals experience in practice, and for viewing these differently. Alongside this, the interview raises issues about the relative importance of the different criteria associated with threshold concepts, the challenges of assessment, and offers some more light-hearted insights, all of which provide plenty of food for thought.

Lizel Hudson, Penelope Engel-Hills, and Christine Winberg explore the identification of threshold concepts in radiation physics, linking essential thresholds to competence and safety in a context of rapidly changing technologies and roles. Using a mixed methods form of transactional curriculum inquiry involving documentary analysis and interviews with students and academics/clinical educators, the authors identified a number of potential threshold concepts. An interesting and insightful conclusion relates to the abstract nature of threshold concepts. Hudson and colleagues suggest that the traditional approach of teaching theory first, followed by application to practice, may not be the most effective way to help students learn threshold concepts which are troublesome because of their abstract nature. Seeing how these concepts impact on real patients and professional practice through, for example, a virtual learning environment, may help bridge the theory-practice divide.

The final two articles examine threshold concepts in postgraduate medical education. Iain Wilkinson explores threshold concepts in relation to the care of older adults. In a qualitative study, trainee doctors were interviewed, as were those involved in training geriatricians. In the process of becoming 'a geriatrician', two particular threshold concepts are identified: '*complexity of medical care*' and '*nurturing-care*'. Alongside this, Wilkinson found that these concepts

involved considerable tacit knowledge and required networked – rather than linear – thinking. Understanding the troublesome and threshold nature of these concepts, and making them more explicit in training could, he argues, help shape the curriculum and improve the care of older patients

Julian A. Smith, Simon Blackburn, and Debra Nestel have also undertaken qualitative research in postgraduate medical education, and this article focuses on cardiothoracic surgeons at an early stage in their careers. They identify seven troublesome areas in the transition to practice, and identified uncertainty as the overarching threshold concept associated with each of these challenges. The difficult areas sometimes persisted beyond their formal surgical training and education. However, similar to findings of Barradell and Peseta, successful negotiation of the challenges changed these junior surgeons, positively impacting on their professional identity and self-worth.

Throughout these articles, the authors have linked difficulties and challenges in their respective professions with concerns of identity and becoming; that is, transformation in and through learning. This seems to be particularly important for the health professions because of the links between learning and practice; whether this is at a pre-registration or undergraduate stage, or in postgraduate education. This may point to why threshold concepts seem to be generating increasing interest across healthcare disciplines and in relation to other healthcare-related concepts, such as interprofessionalism. For readers, the articles proposing approaches for using threshold concepts to inform curriculum development may be particularly helpful. Whatever perspective readers come from, however, these articles provoke and challenge in ways that transcend their specific discipline. They contribute to our understanding of how threshold concepts theory can influence and improve healthcare practice, ultimately helping those being cared for.

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