



Higher Education Research and Development Society of Australasia, Inc

Research and Development in Higher Education: Higher Education on the Edge Volume 34

Refereed papers from the
34th HERDSA Annual International Conference

4 – 7 July 2011
Radisson Resort, Gold Coast, Australia

Rodger, Sylvia & Turpin, Merrill (2011). Using Threshold Concepts to Transform Entry Level Curricula. In Krause, K., Buckridge, M., Grimmer, C. and Purbrick-Illek, S. (Eds.) *Research and Development in Higher Education: Reshaping Higher Education, 34* (pp. 263–274). Gold Coast, Australia, 4–7 July 2011.

Published 2011 by the
Higher Education Research and Development Society of Australasia, Inc
PO Box 27, MILPERRA NSW 2214, Australia
www.herdsa.org.au

ISSN 1441 001X
ISBN 0 908557 85 X

This research paper was reviewed using a double blind peer review process that meets DIISR requirements. Two reviewers were appointed on the basis of their independence and they reviewed the full paper devoid of the authors' names and institutions in order to ensure objectivity and anonymity. Papers were reviewed according to specified criteria, including relevance to the conference theme and sub-themes, originality, quality and presentation. Following review and acceptance, this full paper was presented at the international conference.

Copyright © 2011 HERDSA and the authors. Apart from any fair dealing for the purposes of research or private study, criticism or review, as permitted under the Copyright, Designs and Patent Act, 2005, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the publishers, or in the case of reprographic reproduction in accordance with the terms and licenses issued by the copyright Licensing Agency. Enquiries concerning reproduction outside those terms should be sent to the publishers at the address above.

Using Threshold Concepts to Transform Entry Level Curricula

Sylvia Rodger

Division of Occupational Therapy,
School of Health and Rehabilitation Sciences,
The University of Queensland, Brisbane,
Queensland Australia 4072
s.rodger@uq.edu.au

Merrill Turpin

Division of Occupational Therapy,
School of Health and Rehabilitation Sciences,
The University of Queensland, Brisbane,
Queensland Australia 4072
m.turpin@uq.edu.au

Academics at The University of Queensland undertook an extensive curriculum reform leading to changes in both the undergraduate and masters entry occupational therapy curricula. We explored a number of theories to assist with determining an educational philosophy to underpin our curricula. Threshold concepts (Meyer & Land, 2005) provided us with a transformative and integrative way forward. In this paper we describe our experiences of using threshold concepts as a mechanism for engaging in transformative curriculum renewal and planning. We compiled a list of 20 pieces of troublesome knowledge, namely aspects of each course that were difficult for students to grasp (Perkins, 2006). Using thematic analysis we reduced this list further to 8 items and then subjected these to rigorous questioning to determine whether they were threshold concepts. We asked whether each potential concept was transformative, irreversible, integrative, bounded and troublesome. Threshold concepts were identified if they met all of these characteristics. This generative process revealed five threshold concepts: 1) purposeful and meaningful occupation, 2) client centred practice, 3) integral nature of occupational therapy theory and practice, 4) identity as an occupational therapist, and 5) thinking critically, reasoning and reflecting. We also reflected on Barnett and Coate's (2005) key features of professional programmes - knowing, doing/action and being. We made these concepts explicit to staff as well as students and have used these to underpin our new curricula. This shared language has contributed to staff ownership of the curricula.

Keywords: curriculum reform, threshold concepts, action research methods.

Introduction

This paper describes the reform of two occupational therapy curricula. The Occupational Therapy Division of the School of Health and Rehabilitation Sciences at The University of Queensland offers undergraduate (four year) and masters-entry (two year) occupational therapy programs and graduates just over 130 students per year. Many courses and learning activities are shared across the two programs. In professional practice, occupational therapists facilitate people's performance of required and desired activities or occupations and participation in a range of life and social roles. Occupational therapy interventions can be targeted to individuals, groups, organisations, communities and population levels. Upon graduation, students are mostly required to be front line practitioners who work in a range of

practice settings across health, education, disability, industry, and private practice sectors. Occupational therapists are required to be able to practise with clients across the lifespan and work in diverse contexts such as acute hospitals, aged care facilities, schools, community health centres, residential care, and provide services to industry (World Federation of Occupational Therapists, 2002). They need to be able to engage with government, non-government, not-for-profit, and corporate organisations. Tertiary curricula are required to prepare students to be competent practitioners upon graduation (Occupational Therapy Australia, 2010).

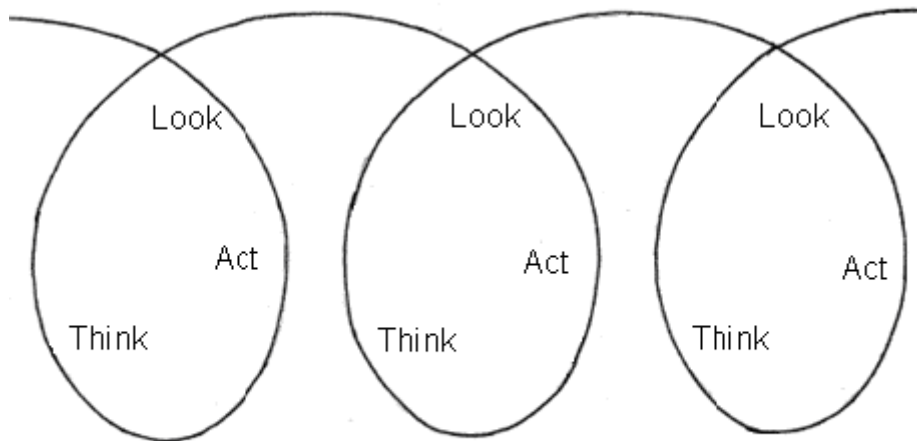
Over a five-year period, occupational therapy academics undertook an extensive curriculum reform process leading to changes in both curricula simultaneously. This reform process occurred in response to a combination of factors, including recommendations made in a previous professional accreditation review, student feedback, staff concerns with the lack of integration across the curriculum, and a perceived lack of strong professional identity amongst graduates. Staff members had explored a number of educational theories to facilitate adoption of a more coherent educational philosophy with which to underpin these two curricula. While several theories were considered useful, threshold concepts (Meyer & Land, 2005) provided us with a transformative and integrative way forward (Cousins, 2008). To date, with the exception of the work of Clouder (2005), threshold concepts have not been widely used in allied health student education. To our knowledge, they have not been used to shape whole of program curriculum reform. In this paper we describe our experiences of using threshold concepts combined with action research methodology as mechanisms for engaging in transformative curriculum renewal and planning.

The Process of Curriculum Reform

We used an action research methodology to guide the process of curriculum reform, as it provided a systematic and structured approach to action and enabled involvement of the whole academic team in the change process.

Action Research Methodology

Action research is “a collaborative approach to *inquiry* or *investigation* that provides people with the means to take systematic *action* to resolve specific problems” (Stringer, 2007, p. 8 italics in original). It was appropriate for this project as it combines systematic organisational change with the investigation of that change. Action research is generally conceptualised as combining connected cycles of action, observation and reflection and planning. For example, Figure 1 presents action research as an interacting spiral (Stringer & Dwyer, 2005), where the processes of looking, thinking and acting are linked. A systematic process is used to make informed changes and evaluate these before making further changes. Action research aims to improve practice through systematic action and reflection and is participatory in nature involving the community of practice in addressing issues directly affecting them (Craig, 2009).



Adapted from Stringer & Dwyer, 2005 p. 5

Figure 1. Action research spiral

Undertaking action research in one's own organisation has advantages and presents challenges. Coghlan and Brannick (2001) discussed these in terms of three factors: role, access and pre-understanding. We had to consider each of these factors when undertaking this research. Firstly, when undertaking research within one's own organisation, the investigator is an "insider" (p. 48) to the organisation and, therefore, holds dual roles of participant and researcher. We addressed this by involving a team of people with different roles and levels of direct participation in the curriculum reform process: both insider and outsider perspectives (Coghlan & Brannick). Initially, the core curriculum team of three comprised the authors, who were the head of the division of occupational therapy and an occupational therapy staff member (peer to the other staff members), and Dr Mia O'Brien, an educational consultant from the university's Teaching and Education Development Institute (TEDI). She was an outsider to the occupational therapy division but an insider to the university and understood the broader organisational context while also being able to ask critical questions about our curricula. As participants, we were able to immerse ourselves in the process of effecting curriculum reform by embracing the roles of manager, peer leader and external consultant. As the occupational therapy members of this core team also had extensive research experience (organization-focused action research experience in particular) we were able to move easily between the roles of researcher and participant.

Secondly, Coghlan and Brannick stated that "any researcher's status in the organization has an impact on access" (p. 52). As the curriculum reform process was undertaken initially at the divisional level and then required to progress through a range of university-level processes, having the head of division on the project team was an advantage as she was both familiar with these processes and able to negotiate with relevant stakeholders in the broader university. Similarly, having a peer to the staff member participants facilitated access to informal factors such as their understanding of the project and responses to it. Thirdly, the team had substantial pre-understanding of the issue being addressed and knowledge of the formal structures of the organisation as well as experience of its informal and cultural aspects.

Action Research Cycles

In undertaking the curriculum reform process we utilised a preliminary cycle followed by four action research cycles. We discuss each cycle.

Preliminary Cycle

The aim of the Preliminary Cycle was to clarify our mission as a professional discipline within the university. This emerged through consensus and was stated as: “to promote the development of international leadership in expanding the scientific body of occupational therapy knowledge and experience, through research and other scholarly activities and the provision of excellent occupational therapy education at both undergraduate and postgraduate levels” (The University of Queensland, 2010). We discussed and determined ‘who we were’ as an occupational therapy staff team in a research intensive university. This included our perspectives on learning and teaching, our relationship with the occupational therapy profession, our values and what type of occupational therapists we aimed to graduate (See Table 1). Reflecting on the Preliminary Cycle, we became aware of the need to make these perspectives explicit to new staff, guest lecturers, and students. This resulted in the development of a Student Guide (The University of Queensland, 2010) which summarised the aspects in Table 1.

Table 1. Excerpt from OT@UQ Student Guide (2010).

About UQ, OT Staff and Our Perspectives	Description
Our OT Graduates (Product)	Graduate occupational therapists who have a strong professional identity and this relies on: <ul style="list-style-type: none"> • Having a sound understanding of the theories underpinning our profession • Having a clear definition about what OT is • Knowing what occupational therapists do, and • Being able to explain OT to others.
Our Staff	Are national and international leaders in OT education, clinical practice, and/or research who: <ul style="list-style-type: none"> • Engage in research relevant to OT practice and student education • Engage in teaching and learning that is informed by their research and contemporary developments in the profession and higher education • Integrate their clinical practice and research with their teaching experiences • Value and engage in lifelong learning, reflection and peer review of their teaching, research and clinical practice • Have expertise in areas of teaching, research and clinical practice that complements other staff, so that as a team we have expertise across the diversity of OT practice • Embrace diverse approaches to OT practice and use a range of practice models • Collaborate with experts from other professions to improve teaching, research and clinical practice
UQ OT Graduate Attributes	OT graduates will: <ul style="list-style-type: none"> • Have a breadth and depth of foundational theoretical knowledge (in the social sciences, occupational, and physical sciences) and an understanding of its application in practice • Enable meaningful and purposeful occupation and participation by effecting change to promote health and wellbeing at individual and societal levels

	<ul style="list-style-type: none"> • Utilize, critique and generate research knowledge to inform practice • Can effectively employ professional reasoning in practice • Engage in high quality and ethical service development, delivery and evaluation • Value diversity and can collaborate effectively with a range of service users, colleagues, organizations and other stakeholders • Have a strong professional identity as occupational therapists.
Our Values	<ul style="list-style-type: none"> • We affirm the dignity and worth of all people • We believe that individuals have a right to participate in society. We aim to promote social justice and to assist our clients/service users to participate to the best of their ability, and to engage in purposeful and meaningful occupations and social/civic activities. • We are committed to client centred practice which refers to how we engage with clients/service users, whether they be a person, organization or a population • We practice in an ethical manner according to a Code of Ethics (OT AUSTRALIA,2002) • We believe that occupation and participation are central to OT practice.
Our Views about Teaching and Learning	<ul style="list-style-type: none"> • As a staff we value teamwork in developing our curricula planning and review. • We monitor our progress towards, and achievement of our educational objectives. • We encourage team teaching. We aim to have staff teaching within their areas of clinical and/or research expertise, to incorporate the latest in contemporary research and practice. • We regard ourselves as partners with students and we are committed to providing opportunities for learning while also providing timely, quality feedback. • We expect students to engage with all of these tasks, not just the assessment pieces, as learning is your responsibility. • In all of your educational activities we expect ethical, professional behaviour and mutual respect for staff, other students and service users. • We encourage students to strive for excellence and deep learning through all of learning activities. • We recognise that we have an important role in providing relevant verbal or written feedback on student performance.

Cycle 1

In Cycle 1 we systematically reviewed a range of educational theories and concepts that were currently used in tertiary education. We aimed to identify those that would best underpin the curricula we were reforming and to provide a uniform educational approach for staff teaching into the curricula. The educational consultant core team member provided a series of workshops that included presentations, discussions and the provision of relevant readings that addressed the following theories and concepts:

- Adult learning theory (Knowles, 1984a, 1984b)
- Communities of practice (Wenger, 1998)
- Threshold concepts (Meyer & Land, 2003; 2005)
- Gateway and capstone courses (<http://www.handbook.unsw.edu.au/general/2011/SSAPO/glossary1.html>)(accessed 19 February 2011).
- Research led learning and teaching (<http://www.trnexus.edu.au/>)
- Signature pedagogies (disciplinary ways of knowing) (Gibbs, 2000; Schulman, 2005)

- Situated learning/ experiential learning/ authentic practice and assessment (Fenwick, 2000; Kolb, 1984; Lave & Wenger, 1991)

Some of these theories and concepts were new to members of the staff team who were primarily occupational therapists with extensive clinical and research experience, but less formal training in contemporary educational theories. These workshops enabled us to consider what informed our current teaching practices and engage in decision-making about which ideas would underpin our reformed curricula. Having a better knowledge of these theories and concepts provided a shared language amongst the team, which enabled more informed discussions and decision making. We decided to specifically utilise threshold concepts (Meyer & Land, 2003, 2005) and communities of practice (Lave & Wenger, 1991) as these fitted well with our professional backgrounds and our endeavour to educate future health professionals. We also found the concepts of gateway and capstone courses, situated or experiential learning (Kolb, 1984), and signature pedagogies (Gibbs, 2000; Schulman, 2005) useful. In the context of a research intensive university, emphasizing a culture that supported and encouraged research-led teaching (<http://www.uq.edu.au/teaching-learning/download/TLEP2003-2007FinalAugust2003.pdf>) was critical. While a number of educational philosophies proved valuable, in this paper we focus on how we utilised threshold concepts in our curriculum reform process.

Threshold Concepts

Meyer and Land (2003) described threshold concepts as “akin to a portal, opening up a new and previously inaccessible way of thinking about something” (p. 1). In the same way as, in the physical realm, a threshold must be crossed in order to enter a new place, Meyer and Land proposed that learners must traverse conceptual thresholds in order to enter into a new (i.e. transformed) understanding of something. They proposed that, in each discipline, there are concepts that are vital to understand, “without which the learner cannot progress” (p. 1).

While some concepts form the building blocks upon which a learner can gain an understanding of the discipline, Meyer and Land (2003) proposed that threshold concepts are distinguished by five characteristics. First, they are *transformative*, in that they can transform the learner’s understanding of the discipline. At times, they can have an affective component that transforms the learner through a change in “values, feelings or attitude” (p. 5). Second, they are *irreversible*. Once acquired, the new understanding will not be forgotten and is unlikely to be unlearned. Third, they are *integrative*, in that they expose “the previously hidden interrelatedness of something” (p. 5). Fourth, the new territory that they open is commonly, though not necessarily, *bounded*, that is, it has boundaries or “terminal frontiers” (p. 6) that border on other conceptual thresholds. Finally, threshold concepts are frequently *troublesome* and difficult for learners to acquire. This final characteristic provided the starting point for our review of our current curricula as discussed in Cycle 2. In evaluating this cycle, discussions with all staff confirmed that threshold concepts had potential to provide an underpinning pedagogy for our curriculum renewal efforts.

Cycle 2

This cycle comprised two concurrent processes. The first process involved refining mechanisms for planning and reviewing the two curricula at a whole of program level. Realising that the current university processes focussed primarily at the course (subject) level, there was a need to develop our own mechanisms for attending to program level review and development. We already had a well established curriculum review process after each

semester where all individual courses taught that semester were reviewed. All staff attended and discussed each course and we found that these sessions facilitated discussion at a broader level than individual courses. Realizing the potential of this type of process, we then implemented a pre-semester curriculum planning session that addressed the spread, nature and content of assessment across each year level for the forthcoming semester. As part of this planning, we recognised the need to articulate both students and staff program level goals for each year level.

The second process involved further learning about threshold concepts through more detailed workshops that allowed exploration of the concepts and discussion of their relevance to our curricula. The notion of troublesome knowledge, one of the five characteristics of threshold concepts (Meyer & Land, 2003), was particularly pertinent. Through the processes established to view the program at a broader level, we became aware that there was some key occupational therapy knowledge that appeared to be troublesome for students. Over a period of 18 months, all course coordinators were asked to identify pieces of troublesome knowledge at curriculum review sessions. The shared discussions at curriculum review meetings revealed that much of the knowledge that was troublesome pervaded many courses and different years. Over this time we compiled a master list which contained seventeen pieces of troublesome knowledge. Review of this cycle highlighted that our existing curriculum review mechanisms provided the information we needed to identify existing knowledge that was troublesome to students.

Cycle 3

The aim of Cycle 3 was to review the list of troublesome knowledge and identify potential threshold concepts from this master list. Using a process of thematic analysis (Patton, 2002) the core curriculum reform team synthesised the seventeen pieces of troublesome knowledge into seven core themes which had the potential to be considered threshold concepts. This process was facilitated by our familiarity with the curricula, attendance at all curriculum review meetings that had led to development of the master list, as well as our expertise in thematic analysis (from our clinical research endeavours). These themes were presented to the staff for comment and discussion, resulting in initial agreement that these seven covered the core issues that students experienced difficulty mastering. These seven potential threshold concepts were then analysed to determine whether they met all five characteristics of threshold concepts (Meyer & Land, 2003). Using a template modified by O'Brien from Carmichael (nd) (<http://www.caret.cam.ac.uk/tel/outcomes.html>), we interrogated each potential concept using the following steps: (1) develop a concise summary of the threshold concept; (2) identify the teacher perspectives – the significance of the concept, teacher's view of the concept and their approaches to understanding the concept; (3) identify the learner perspective – what students find difficult or challenging and how this is evidenced, as well as strategies used to help students overcome these difficulties; and (4) describe how the proposed concept meets each of the five characteristics of a threshold concept.

Using these steps, the core team determined that four of the concepts met the criteria. On reviewing the remaining three, we decided to combine these into one broader concept which also met the criteria for threshold concepts. The threshold concepts that emerged were; (1) *purposeful and meaningful occupation*, (2) *client centred practice*, (3) *the integral nature of occupational therapy theory and practice*, (4) *identity as an occupational therapist*, and (5) *thinking critically, reasoning and reflecting*. The fifth concept resulted from combining three linked concepts related to professional reasoning and evidence based practice (the need to

base practice decisions on research evidence). Once the core team was satisfied that these five concepts met all five characteristics of threshold concepts, these were presented at a staff workshop aimed at further scrutiny and discussion. This led to uniform agreement that these were central to occupational therapy thinking and did constitute important thresholds that students needed to cross in the journey to becoming occupational therapists.

As we developed the content of courses in the new curricula, we were guided by these threshold concepts. We decided to map them across each course as we planned the new curricula. We also acknowledged that we would need to have processes for making these explicit to new staff, guest teachers and students. Once the new curriculum commenced in 2010, several mechanisms were employed to do this, including describing threshold concepts in the Student Guide provided to students at entry to the programs, and identifying the degree to which each threshold concept is covered in particular courses by way of a pie diagram (see Figure 2). In addition it was agreed that, at the commencement of each year, year coordinators would talk to students about the overall program objectives for that year and re-orient them to threshold concepts within and across courses. Anecdotal feedback from students suggests that these reminders are useful for students in reconnecting them with year and program level objectives and threshold concepts. Further evaluations will be undertaken as the new curricula are implemented.

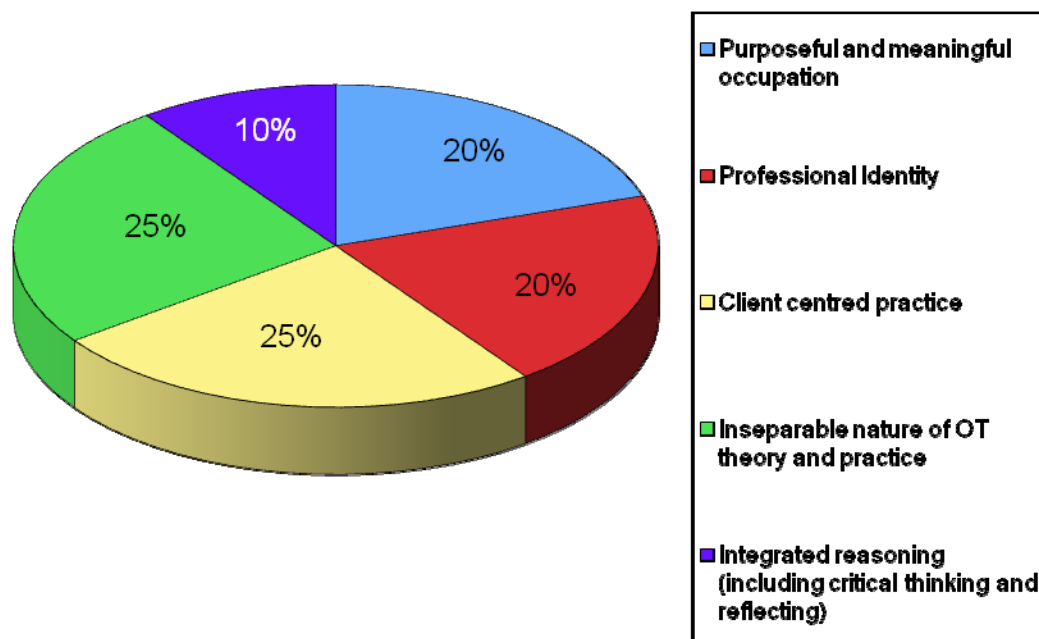


Figure 2. Pie Diagram of Threshold Concepts in one Occupational Therapy Course in 2010.

Troublesome Knowledge as a Starting Point for Identifying Threshold Concepts

On reflection, identification of troublesome knowledge was an excellent starting point for the determination of threshold concepts in our curricula. Perkins (1999) outlined six reasons why knowledge might be troublesome. The one that did not particularly feature in our analysis was *conceptually difficult knowledge*. However, the remaining five types of knowledge appeared relevant. Firstly, *ritual knowledge* has a routine or 'meaningless' character. In our

context this type of knowledge features in the first half of the curricula where students are required to learn foundational concepts with limited practical experience and understanding of their application or relevance. An example comes from the threshold concept *thinking critically, reasoning and reflecting*. While students learn particular aspects of evidence-based practice (such as knowledge and skills for critiquing research evidence), they often fail to understand how research evidence is used within a clinical context with an individual client. Instead, students often have to approach such knowledge in a ritualised way until they encounter clinical practice, where they begin to understand the way the process works in practice.

Secondly, *inert knowledge* refers to concepts that are understood but not actively used. In the first year of our curricula, students take a course in sociology and health, but its application and relevance to their own lives and those of clients is not immediately clear to them and they frequently struggle to make connections between sociological concepts and people's daily life and societal participation (the focus of occupational therapy practice). Sociology makes overt the structures of society that contribute to unequal access to health and rehabilitation services but students frequently fail to make this connection. Thirdly, *alien knowledge* refers to information that conflicts with students' own perspectives and may not be recognised as foreign. For example, students often share the normative view predominant in western society that health equates to the absence of disease. However, they need to learn that occupational therapy's view of quality of life is broader than eliminating deficits and focuses as much on facilitating clients' exploration of alternative and meaningful ways of living their daily lives, regardless of their impairments. We need to help students become aware of the influence of these pervasive and often unrecognised views and the impact they have on their own understandings of health and wellbeing, in order to move them towards an occupational therapy perspective.

Fourthly, *tacit knowledge* is often implicit within a community of practice such as occupational therapy. One dominant yet implicit assumption common in occupational therapy, which has characterised occupational therapy for much of its history, is an individualistic understanding of health. More recently, however, this has been critiqued by Iwama (2006), who emphasised that this is a Western view and that Asian societies are generally collectivist in nature, where concepts such as health and wellbeing are based on the assumption that individuals are inseparable from their environment. This critique was challenging for our community of practice as the centrality of independence had long been assumed and not recognised as tacit knowledge. Educators need to become aware of tacit perspectives such as these, in order to make them explicit for students and help them challenge existing views.

Finally, one important example of *alien language* is our professions' use of the term *purposeful and meaningful occupation*. Lay understandings of this term usually relate to paid work or employment. However, occupational therapists understand the term to refer to the broader range of daily activities in which people engage. It includes paid work, but also incorporates other productive activities such as housework, volunteering, as well as play/leisure, and self care activities. Students have to move from a lay to profession-specific understanding of the term early in the program.

Cycle 4

In Cycle 4, gateway courses (i.e., entry-level courses that introduce students to the scholarly conventions, concepts and skills/techniques of the discipline community) (<http://www.handbook.unsw.edu.au/general/2011/SSAPO/glossary1.html>) were reworked to ensure that all threshold concepts were addressed. The objective was to focus on core concepts for occupational therapy rather than, as previously, to expose students to the diversity of occupational therapy practice. Identifying our threshold concepts helped us decide which concepts would be covered superficially at an introductory level and which concepts students would need to engage with more deeply. For example, in one gateway course, *Foundations in Occupational Therapy Practice*, we focus in depth on the concepts of person, occupations and environment through teaching in detail one particular occupational therapy model, Person Environment Occupation (PEO) Model (Law et al., 1996). This enables us to address the domain of concern of occupational therapy (the interaction among person, environment and occupation) and focus on an individual's lived experience of social disadvantage, illness or disability (person) as well as his or her social and life roles and the impact of the environment on participation and fulfilment of these roles. This covers the linked threshold concepts of purposeful and meaningful occupation, the integral nature of theory and practice, and identity as an occupational therapist, as well as reinforcing client-centred practice (see Figure 2). In this gateway course, the threshold concept of *critical thinking, reasoning and reflecting* is less of a focus, but increases in emphasis as students progress through the program.

We also reflected on Barnett and Coate's (2005) key features of professional programmes, namely knowing, doing/action and being. This is consistent with contemporary occupational therapy philosophy summarised as doing, being and becoming by an Australian occupational therapy theoretician Ann Wilcock (1996). Barnett and Coate's work was useful in thinking about the curriculum particularly in relation to student learning pertaining to the threshold concept *identity as an occupational therapist* across the whole program. For example, for students in the undergraduate four year program, we viewed courses in semester 1 year 1 as requiring students to think of themselves as 'occupational therapy students' (being) who were learning the foundational concepts of occupational therapy knowledge (knowing) and foundational practice skills (doing). In semester 2 of year 1 and all of year 2, students focus on knowing and doing (acquiring the body of knowledge and associated practice skills) with ongoing emphasis on being occupational therapy students. In semester 1 year 3, students are further prepared for entering the professional community of practice through full-time placements where they will *soon be* 'occupational therapy students in practice'. In the subsequent two semesters, students become immersed in a range of professional practice placements and are required to *be* an 'occupational therapy student in practice', *do* what is required and *apply their knowledge* in practice. After this year-long immersion in practice settings, in the final semester of the program, students are encouraged to consider themselves as 'soon-to-be newly graduated occupational therapists'. The focus moves to *becoming* occupational therapists and planning how to use their knowledge and skills differently as they become independent practitioners. Evaluation data will be obtained on the completion of this cycle.

Outcomes of the Process

Using threshold concepts as an integral part of curriculum reform helped make important occupational therapy concepts explicit. We have made the five threshold concepts overt to

new staff as well as students entering our programmes through a written student guide and staff workshops. In each course profile, we illustrate which threshold concepts are addressed and to what extent (see Figure 2). We make clear the importance of these to occupational therapy and how threshold concepts are linked across courses, so that each semester and year of the program we build a picture for students about which pieces of professional knowing, doing and being are addressed. Threshold concepts have also been useful in facilitating the mapping of concepts and content across the new curriculum as it was being developed. This mapping also provides a mechanism for evaluation of content against program aims, threshold concepts and Barnett and Coate's (2005) framework of knowing, doing and being.

Not only were threshold concepts useful in guiding curriculum reform, coming to understand threshold concepts constituted a 'threshold' that we as a team had to cross. The language of threshold concepts was alien at the beginning but became more familiar, first to the core team, and then to the whole staff. An unanticipated outcome was that threshold concepts had a significant positive effect in building staff cohesion as we developed a shared language through the curriculum reform process. This contributed to ownership of the curriculum by the whole staff and provided a basis for systematically layering content from gateways through to capstones.

Conclusion

This paper provides an overview of how we utilised threshold concepts within an action research methodology to reform curricula within one professional program. Detailing the process of using threshold concepts may be useful to other professions who wish to review their curricula at a whole of program level. We are required to graduate students who are technically competent as well as able to operate using high levels of critical analysis, reasoning and immediate problem solving within a broad range of specialised and changing contexts. The challenge for professional educators in curriculum development is achieving the integration of knowing, doing and being. Using threshold concepts pushed us to wrestle with knowledge that was troublesome for students and to identify the learning thresholds that students needed to cross in order to develop into competent occupational therapists. All of our threshold concepts have elements of knowing, doing and being and their identification has helped us to integrate these features of professional programs within our curriculum.

Acknowledgements

We wish to acknowledge our dedicated occupational therapy academic team for their commitment to and persistence with this curriculum reform process.

References

- Barnett, R., & Coate, K. (2005). *Engaging the curriculum in higher education*. London, UK: McGraw-Hill.
- Carmichael, P. (nd). *Transforming Perspectives: Technology to Support Teaching and Learning of Threshold Concepts* an ESRC/EPSRC Technology Enhanced Learning Project; Teaching and Learning Research Programme. Cambridge, UK: Centre for Applied Research into Educational Technologies, <http://www.caret.cam.ac.uk/tel>
- Clouder, L. (2005). Caring as a threshold concept: Transforming students in higher education into health care professionals. *Teaching in Higher Education*, 10 (4), 505-517.
- Coghlan, D., & Brannick, T. (2001). *Doing action research in your own organisation*. Thousand Oaks, CA: Sage.
- Cousins, G. (2008). Threshold concepts: old wine in new bottles. In Land, Meyer and Smith (eds.), *Threshold concepts in the disciplines*, London, UK: Routledge.
- Craig, D. V. (2009). *Action research essentials*. San Francisco, CA: Jossey-Bass Wiley.
- Fenwick, T. J. (2000). Expanding conceptions of experiential learning: A review of the five contemporary perspectives on cognition. *Adult Learning Quality*, 50 (4), 243-272.
- Gibbs, G. (2000). Are the pedagogies of the disciplines really different? In C. Rust (Ed.), *Improving student learning through the disciplines*. Oxford, UK: The Oxford Centre for Staff Learning Development.
- Iwama, M. K. (2006). *The kawa model: Culturally relevant occupational therapy*. Edinburgh: Churchill Livingstone-Elsevier.
- Knowles, M. (1984). *The Adult learner: A neglected species* (3rd Ed.). Houston, TX: Gulf Publishing.
- Knowles, M. (1984). *Andragogy in Action*. San Francisco, CA: Jossey-Bass.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York, NY: Cambridge University Press.
- Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person-environment-occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy*, 63, 9-23.
- Meyer, J. H. J. & Land, R. (2003). Threshold concepts and troublesome knowledge: linkages to ways of thinking and practicing within disciplines. In C. Rust (ed.), *Improving student learning – ten years on*. Oxford: OCSLD (pp. 1-15)
- Meyer, J. H. J. & Land, R. (2005). Threshold concepts and troublesome knowledge: epistemological considerations and a conceptual framework for teaching and learning. *Higher Education*, 49, 373-388.
- Occupational Therapy Australia (2010). *Australian Minimum Competency Standards for New Graduate Occupational Therapists*. Melbourne: Author.
- Patton, M.Q. (2002). *Qualitative research & evaluation methods*. (3rd edition). Thousand Oaks, NJ: Sage
- Perkins, D. (2006). Constructivism and troublesome knowledge. In J.H.J. Meyer & R. Land (Eds.), *Overcoming barriers to student understanding. Threshold concepts and troublesome knowledge*. (pp. 33-47). London: Routledge.
- Schulman, L. (2005). *The signature pedagogies of the professions of law, medicines, engineering and the clergy: Potential lessons for the education of teachers*. Paper delivered at Math Science Partnerships Workshop Teacher Education for Effective Teaching and Learning. National Research Council Centre for Education. Irvine, California 6-8 February 2005.
- Stringer, E. T. & Dwyer, R. (2005). *Action research in human sciences*. (3rd ed.), Upper Saddle River, NJ: Pearson Education.
- The University of Queensland (2010). *OT@UQ Guide*. Brisbane: Author.
- Wilcock, A. A. (1996). Reflections on doing, being and becoming. *Australian Occupational Therapy Journal*, 46, 1-11.
- World Federation of Occupational Therapists (WFOT), (2002). *Revised Minimum Standards for the Education of Occupational Therapists*. Forrestfield, Western Australia: WFOT.

Copyright © 2011 Sylvia Rodger and Merrill Turpin. The authors assign to HERDSA and educational non-profit institutions a non-exclusive license to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive license to HERDSA to publish this document in full on the World Wide Web (prime site and mirrors) and within the portable electronic format HERDSA 2011 conference proceedings. Any other usage is prohibited without the express permission of the authors.