International Journal for Academic Development

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/rija20

Identifying threshold concepts in the careers of educational developers

Julie A. Timmermans[a]

[a] Centre for Teaching Excellence, University of Waterloo, Waterloo, ON, Canada

Published online: 20 Mar 2014.

To cite this article: Julie A. Timmermans (2014): Identifying threshold concepts in the careers of educational developers, International Journal for Academic Development, DOI: 10.1080/1360144X.2014.895731

To link to this article: http://dx.doi.org/10.1080/1360144X.2014.895731

International Journal for Academic Development, 2014
http://dx.doi.org/10.1080/1360144X.2014.895731

Routledge
Taylor & Francis Group

Identifying threshold concepts in the careers of educational developers

Julie A. Timmermans*

Centre for Teaching Excellence, University of Waterloo, Waterloo, ON, Canada

(*Received 15 July 2013; final version received 29 November 2013*)

The purpose of this multiple case study was to identify threshold concepts in the careers of educational developers. Twenty-one common threshold concepts emerged, with one threshold concept common among all participants: Facilitating a change process. The remaining 20 threshold concepts were captured in the following three categories: (1) Ways of knowing and being that facilitate change in individuals and in groups; (2) Ways of knowing and being that facilitate systemic change and (3) Core ways of knowing and being. Study results may provide guidance for the design of initial and ongoing formation programmes in educational development.

Keywords: educational development; epistemic beliefs; threshold concepts

Statement of problem and purpose

Until recently, there had been no consistent articulation of the mission of educational development. In an international collaborative effort to conceptualise the field, Taylor and Rege Colet (2010) propose that the 'dual mission' of educational development is to 'enhance learning and teaching capacity, and to advocate for the quality of the student learning experience' (p. 146). This mission alludes to the complexity of our work (e.g. Saroyan & Frenay, 2001; Taylor & Rege Colet, 2010); however, there exist few official programmes that ensure the initial and ongoing formation of educational developers (Bédard, Clement, & Taylor, 2010; McDonald & Stockley, 2008; Saroyan & Frenay, 2001; Sorcinelli, Austin, Eddy, & Beach, 2006; Taylor & Rege Colet, 2010). In the context of the Preparation for the Professions Program at the Carnegie Foundation for the Advancement of Teaching, Shulman (2005b) suggests that we may better understand the practice of professionals by looking to their 'nurseries', that is, their professional preparation programmes, to see how people are formed for practice. Applied to educational development, this exercise reveals that we appear to have no nursery. Yet given our complex mission, a major struggle is understanding the qualifications that should be sought in preparing and hiring for this role.

The lack of a preparation programme is perhaps indicative of a more fundamental issue: the lack of a 'unifying position-profile that captures who we are and what we do' (Stockley et al., 2008). Dawson, Britnell and Hitchcock (2010) propose that educational developers' 'weak occupational identity' (p. 4) may partially be

*Email: julie.timmermans@uwaterloo.ca

attributed to the fact that 'we have not yet clearly articulated the competencies necessary for success' (p. 4). Such issues of ambiguity of professional identity and competencies threaten the credibility of the field (Sorcinelli et al., 2006). Consequently, before envisaging the design of preparation programmes, there is first a need to clarify the kinds of competencies and expertise necessary for effective educational development practice. Two recent comprehensive studies have produced rather consistent findings in these areas.

The first study, by Dawson, Britnell, et al. (2010), proposes the (1) traits and characteristics; (2) skills, abilities, and knowledge; (3) competencies, and (4) demonstrations of competencies required by educational developers at the entry, senior, and director levels in university teaching and learning centres. Competencies for entry-level developers include effective communication, planning and implementation, and facilitation. Senior-level developers' competencies centre on course design and strategies for instruction, programme development, and evaluation. Directors require a complex set of integrative competencies in facilitation, advocacy and change management, relationship management, policy development, community building, and mentoring. Taken together, descriptions of the various levels reveal the distinctive and increasingly complex nature of competencies and identities held by educational developers.

In a second study resulting from an international collaboration in the context of a Canada–EU Mobility project (Saroyan & Frenay, 2010), Taylor and Rege Colet (2010) propose a conceptual framework of the 'meaning and scope of educational development'. This framework 'represents a meta-analysis of educational development practice and its multiple dimensions across contexts' (Saroyan & Frenay, 2010, p. xix). Validated by Bédard et al. (2010), the framework reflects 'the experience of the entire field of practice' and captures simultaneously the 'underlying principles' and the 'specific activities and tasks that practitioners engage in daily' (p. 169). The following five components are captured in the framework: 'context and mission', 'principles, values, and ethics of practice', 'educational development units', 'educational development expertise', and 'evaluating practice'.

Identifying the competencies and expertise that form the basis of our practice is crucial. Yet might there be a step that precedes this one? The work of lifespan developmental psychologist Robert Kegan suggests so. In synthesising contributions from international contributors to an Organisation for Economic Co-operation and Development project to identify key competencies for education, Kegan supports the importance of defining 'how we behave' (skills) and 'what we know' (knowledge). Yet he proposes that we conceive of competence first as an epistemological matter – a matter of 'how we know':

> a great benefit to a concept like 'competence' is that it directs our attention beneath the observable behavioural surface of 'skills' to inquire into the mental capacity that creates the behaviour. And it directs our attention beyond the acquisition of 'knowledge' as storable contents (what we know) to inquire into processes by which we create knowledge (how we know). This is not to say that our skills and our fund of knowledge are unimportant. But it is to remind us what every teacher or manager knows: teaching skills or knowledge contents without developing the underlying mental capacities that create the skill or the knowledge leads to very brittle results. (Kegan, 2001, pp. 192–193)

Kegan's interpretation of competencies draws our attention to the value of examining ways of knowing that *underlie* skills and knowledge.

In addition to identifying the 'ways of knowing' of professionals, compelling evidence exists for identifying 'ways of being'. In commenting on the Carnegie Foundation's studies about education in the professions, Shulman (2005a) observes that the three apprenticeships – cognitive, practical, and moral – required for the holistic education of professionals are not sufficient:

> professionals not only have to understand and perform, they have to *be* certain kinds of human being. To use the language of the education of clergy, they have to undergo a certain kind of *formation* of character and values so they become a kind of person to whom we are prepared to entrust the responsibilities of our health system, of our education system, of our souls and of the kind of justice we expect to see pursued in this society. (Shulman, 2005a, pp. 3–4; emphasis in original)

Dawson, Britnell, et al. (2010) echo the importance of this. They comment that 'values and attitudes are seen as human and social capital needed for the positions' (p. 20).

However, the ways of knowing and being of experienced professionals and disciplinary experts often remain tacit (e.g., Meyer & Land, 2003; Polanyi, 1958). In exploring the taken-for-granted assumptions that may be shared by educational developers globally, McAlpine and Sharpe (2006) remark being 'struck by the richness of the multidisciplinary nature of our field', yet that 'often in our conversations and interactions amongst ourselves and with others, these diverse underlying assumptions, and ways of knowing and valuing do not get explicitly surfaced and examined' (p. 1). Taylor and Rege Colet (2010) comment on the fruitfulness of conversations that help surface the 'practices, principles, values, and concepts' that are 'largely taken for granted in the private contexts of practice' (p. 160).

The collaborative work described above highlights the importance of unveiling the 'hidden demands of disciplinary understanding' (Perkins, 2007, p. 39). Not doing so may render it difficult for novices to truly 'embrac[e] the logic and spirit of the discipline' (Perkins, 2007, p. 39). The question now emerges of where we might turn to for guidance in our search to unveil the often hidden assumptions about educational developers' ways of knowing and being.

Conceptual framework

A vibrant and generative cross-disciplinary scholarly conversation has emerged in the last decade around the topic of 'threshold concepts'. First proposed by Meyer and Land in 2003, a threshold concept is defined as

> akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept there may thus be a transformed internal view of subject matter, subject landscape, or even world view. This transformation may be sudden or it may be protracted over a considerable period of time, with the transition to understanding proving troublesome. Such a transformed view or landscape may represent how people 'think' in a particular discipline, or how they perceive, apprehend, or experience particular phenomena within that discipline (or more generally). (Meyer & Land, 2003, p. 412)

This definition alludes to features often used to describe a threshold concept: it is 'integrative' in that it 'exposes the previously hidden interrelatedness' of other disciplinary concepts (Meyer & Land, 2003, p. 416); it may also be 'troublesome', for it may involve knowledge that is 'inert, ritual, conceptually difficult' or 'foreign' (Perkins, 1999, p. 8); understanding a threshold concept causes an 'irreversible' shift in perspective that is 'unlikely to be forgotten' (Meyer & Land, 2003, p. 416); it may be 'bounded', and 'serve to constitute the demarcation between disciplinary areas' (Meyer & Land, 2003, p. 416).

The most non-negotiable feature of a threshold concept, however, is its 'transformative' nature (J. H. F. Meyer, personal communication, May 1, 2009), as it can 'occasion a shift in the perception of a subject, or part thereof' (Meyer & Land, 2003, p. 415). And indeed, the features of threshold concepts allow us to capture a sense of the work that threshold concepts are doing: they are transforming, integrating, making trouble. An important question is therefore, '*What* is changing and allowing us to remark that a threshold has been crossed, that a transformation has occurred, that a learner has moved from one way of making meaning to another?'

In his Constructive-Developmental Theory of Meaning-Making, Kegan (1982, 1994, 2000) theorises that transforming as we advance through successive stages of meaning-making during our lives are our ways of knowing – the epistemologies that shape the 'window' or 'lens through which one looks at the world' (Kegan, with Debold, 2002, p. 145). He characterises our epistemic development as 'liberating ourselves from that in which we are embedded […] so that we can "have it" rather than be "had by it" – this is the most powerful way I know to conceptualize the growth of the mind' (Kegan, 1994, p. 34).

Threshold concepts are thus *epistemological* and *transformational* in nature. As such, they also hold great *developmental* potential (Timmermans, 2010). As Perkins (2007) notes, they are 'especially pivotal to a stage-like advance in understanding a discipline' (p. 36). Timmermans (2010) also explores the ways in which the 'troublesome' nature of threshold concepts may instigate a process of epistemological transformations. The cognitive and the often affective 'troublesomeness' engendered by an appropriately timed encounter with a threshold concept may provide the stimulus needed to instigate a process of perspective transformation.

As Meyer, Land, and Baillie (2010) remark, 'being and knowing are inextricably linked' (p. xxviii). Therefore, in addition to being epistemological, threshold concepts are also profoundly *ontological*. Comprehending a threshold concept appears to occasion a 'transfiguration' (Meyer & Land, 2005, p. 375) in the very identity of the learner (Davies, 2006; Meyer & Land, 2005). Drawing on Wenger's (1998) work on communities of practice, Irvine and Carmichael (2009) observe that threshold concepts may represent 'the points of focus around which specialized meanings, identity and membership are negotiated' (p. 104).

The epistemological, transformational, developmental, and ontological nature of threshold concepts makes them suitable candidates for investigating the ways of knowing and being underlying the practice of educational developers. The purpose of this article is, therefore, to identify ideas that have instigated transformations in the ways of knowing and being of experienced educational developers by documenting threshold concepts.

Methodology

In this qualitative study, a multiple case study approach was adopted (Creswell, 2007; Stake, 2006) to address the research question, 'What do experienced educational developers identify as threshold concepts in educational development?'. This approach elicited the identification and contextually rich description of threshold concepts from each participant. It then sought to determine threshold concepts common across participants sharing the same national higher education context to begin drawing a portrait of the ways of knowing and being that may unite educational developers as a profession.

While it may be argued that experts can have difficulty explaining knowledge which has become tacit, experienced educational developers were purposefully chosen, as they demonstrate the ability to reflect on that which could not be seen at earlier stages of development (Kegan, 1982). Taylor and Rege Colet (2010, p. 157) also comment that 'analyzing the expertise of educational developers helps to identify the competencies and skills that comprise professional practice'.

Participants

Creswell (2007) suggests that a sample of four or five cases is appropriate for case study research. Of the six people invited to participate, five engaged in the study. To minimise response variation due to contextual factors, a homogeneous sampling strategy was used (Creswell, 2007). Educational developers were selected for their similarities on the following characteristics: all were experienced educational developers from Canadian universities (four from research-intensive, G-15, Medical/Doctoral universities, one from a Comprehensive university, using terminology from Maclean's Magazine University Rankings). All were or had been directors of teaching and learning centres and have done educational development work at the individual, departmental, faculty, institutional, and national levels. This reflects the increasingly central role of Canadian educational developers not only in supporting, but also in shaping the teaching and learning policies and practices of the universities in which they work. All are leaders within the educational development community.

Data collection

A two-hour, one-on-one, semi-structured interview was conducted with each participant. To begin, participants were given a written definition of a threshold concept to ensure a common understanding of the study's focus.

The interview began with questions about the participant's academic background, personal trajectory to becoming an educational developer and shifts in identity as a developer. Participants were then asked to name threshold concepts that had come to mind in the month between receiving the invitation and the interview. Consistent with other studies seeking to identify threshold concepts, participants were asked to identify ideas seen as 'troublesome' in their paths as educational developers. Participants were also asked to describe ideas they see less experienced developers struggle with most. To conclude, participants were invited to name threshold concepts identified during the interview, to reduce inference during analysis.

Data analysis

Consistent with a multiple case study approach (Stake, 2006), data analysis consisted of a within-case analysis for each participant, followed by a cross-case analysis. Member-checking ensured trustworthiness of the findings. Participants were invited to verify and revise their interview transcript and to confirm the accuracy of the identified threshold concepts. The purpose of the cross-case analysis was to identify threshold concepts common across participants. Labels were assigned to threshold concepts identified as common, preserving participants' language. Descriptions of common threshold concepts were then created, and the frequency of participants who identified a particular concept was noted.

Findings and discussion

Facilitating a change process

Of the 21 threshold concepts identified by more than one participant, the only one identified by all participants was the notion of 'facilitating a change process'. Throughout the interviews, participants passionately conveyed their interpretation of the purpose and essence of educational development work as 'facilitating a process' in order to effect change. Described in more detail, this threshold concept involves helping or leading individuals and groups through a (problem-solving) process which helps achieve transformation in order to enhance learning.

Findings also revealed that facilitating a change process applies to work undertaken with individuals and groups, and at multiple levels within and beyond the institution. Two categories of threshold concepts related to facilitating change processes emerged:

- Category 1: Ways of knowing and being that facilitate change in individuals and in groups (6 TCs).
- Category 2: Ways of knowing and being that facilitate systemic change (9 TCs).

Interestingly, these categories are rather consistent with the classification of the various models of approaches to educational development that have emerged in the field during the past 50 years, as identified by Fraser, Gosling, and Sorcinelli (2010).

A third category of threshold concepts emerged that appeared to capture ways of knowing and being infusing educational developers' work in all other areas:

- Category 3: Core ways of knowing and being (5 TCs).

Full study findings are now presented in detail, with a table summarizing each category's threshold concepts along with a discussion. Tables 1, 2, and 3.

Category 1: Ways of knowing and being that facilitate change in individuals and in groups

> 'If real success is to attend the effort to bring a person to a definite position,' Kierkegaard wrote in his *Journals*, 'one must first of all take pains to find him where he is and begin there. This is the secret of helping others … In order to help another effectively

Table 1. Ways of knowing and being that facilitate change in individuals and in groups.

Threshold concept	Description	Frequency
Respecting and drawing out knowledge/expertise/ability	Helping people recognise that they have latent potential that can be used to address issues/solve problems; facilitating a process to draw out this ability	4/5
Helping others realise their potential	Supporting, enabling the development of others	4/5
Building capacity	Helping people realise they have the potential and the answers; drawing people out, so they feel empowered and can sustain work beyond interventions with educational developers; 'reframing' issues to 'connect' colleagues	3/5
Starting where people are	Facilitating change/development begins with knowledge of the person(s) with whom we are working	2/5
'Getting out of the way'	Giving people space and resources to 'solve their own problems'; allowing others to speak first	2/5
Instigating change/ development	Determining what brings about change; pushing people just beyond their comfort level, but knowing they can handle it	2/5

> I must understand what he understands. If I do not know that, my greater understanding will be of no help to him … Instruction begins when you put yourself in his place so that you may understand what he understands and in the way he understands it.' (Kegan, 1994, p. 278).

Threshold concepts in this category remind us that the work of facilitating change requires great respect and sensitivity: respect for the knowledge, abilities, and expertise which people bring to our collaborative endeavours; and sensitivity to the experiences and journeys that have brought them to this place. Any attempt to facilitate change requires a willingness to uncover and understand the multiple contexts in which concerns and issues are situated. This knowledge *of* context must be complemented with knowledge *in* context, that is, knowledge developed through engaging with the people we are helping and learning the ways of knowing and being fundamental to them.

Threshold concepts in this category also remind us that our work as educational developers may involve 'instigating change', that is, determining what brings change about and acting on this knowledge. The purpose of facilitating change is not to 'fill up', but to 'draw out' existing potential. This highlights a critical point for participants in the study, which is that the 'greater understanding' developers may have in a given situation in no way refers to a claim to 'knowing more' about topics than the people with whom we work. Rather, the relative expertise of developers may lie in the process of facilitation:

> We're experts only because we're experts at the *process* of facilitation. We are not the experts in the sense that we have all the answers – we don't. The answers lie in the people with whom we're interacting, and it's our role to help them to recognize that they have the answers or for us *together* to work out the answers. (P3, lines 1037–1040)

In drawing out existing potential, we also seek to 'build capacity', that is, to develop in others the ability to carry on initiatives after the intervention of the educational developers. Having provided people with tools and resources to address their issues, we must at times remember to 'get out of the way' and to allow them the room to explore and solve their own problems.

Category 2: Ways of knowing and being that facilitate systemic change

Interestingly, the notion of 'working at the systemic level to influence positive culture change' was identified as a threshold concept for almost all participants. This suggests that the shift from facilitating change in individuals and groups to facilitating systemic change constituted a transformation in perspective and ways of being.

Several threshold concepts in this category are consistent with the 'educational development expertise' component of Bédard et al.'s (2010) conceptual framework

Table 2. Ways of knowing and being that facilitate systemic change.

Threshold concept	Description	Frequency
Understanding and working at multiple levels of the system to influence positive culture change	Understanding and working at multiple levels, such as the institutional, policy, national, and international levels to influence positive change and transformation in perspectives regarding teaching and learning	4/5
Being an advocate	Encouraging change within the institution in a way that supports improved teaching and learning	4/5
Leadership	Leading change, being an agent of change, at times in collaboration with others, by providing direction, guidance, or vision	3/5
Seeing and seizing opportunities	Reframing and taking advantage of what others may perceive as crises or challenges as chances for change and growth	3/5
Thinking and acting strategically	Aligning one's educational development unit and initiatives with those of the institution; understanding who within the institution might help advance the cause of teaching and learning and forming relationships with them	3/5
Understanding and helping 'knowledge flow'	Using strategies, such as dialogue, 'reframing', connecting, and aligning ideas and issues to help knowledge move across traditional boundaries, such as disciplinary boundaries	3/5
Knowledge and appreciation of change processes	Understanding processes and principles involved in facilitating change at multiple levels	2/5
Identifying levers for change	Identifying the means/tools that might help accomplish change and understanding that these levers exist at multiple levels	2/5
Understanding impact of external influences	Named as a challenge for newer educational developers, refers to realisation that work is shaped by expectations of other members of the higher education system, such as institutional administration, Canadian Council on Learning, etc.	2/5

for the meaning and scope of educational development. Others expand on this component. 'Being an advocate' requires that one 'think and act strategically', a skill found to be important for directors in Dawson, Britnell, et al.'s (2010) study. One must learn to 'see and seize opportunities', that is, to reframe and take advantage of what others may perceive as crises or challenges as chances for change and growth. Facilitating change at the systemic level requires understanding that educational development work may be shaped and influenced by members of the higher education system external to the institution.

Threshold concepts in this category reveal the intentional nature of educational development work and highlight the evolution in the role of developers as we increasingly work at multiple levels of the system (e.g., Gibbs, 2013; Timmermans, Jazvac-Martek, Berthiaume, Arcuri, & McAlpine, 2005; Weston & Timmermans, 2008). As we are increasingly called upon to become 'leaders of change' in our institutions, our work has moved 'from the periphery to the center of the institution' (Dawson, Mighty, & Britnell, 2010, p. 70). In the service of leading change and building the capacity of the systems in which we work, 'understanding and helping "knowledge flow"' become critical tools, involving the application of strategies, such as dialogue, 'reframing', connecting and aligning ideas and issues to help knowledge move across traditional boundaries.

Category 3: Core ways of knowing and being

Five threshold concepts emerged that held much more prominence in the characterisation of educational development work than their frequencies as threshold concepts indicate. Indeed, they were threaded throughout the discussions of many other threshold concepts and appeared to underlie practices related to the work of facilitating change.

Participants commented that facilitating a change process cannot be successfully undertaken without first establishing relationships and building rapport with the people with whom we work. We must also adopt the same scholarly and

Table 3. Core ways of knowing and being.

Threshold concept	Description	Frequency
Collaborating and building relationships	Establishing relationships and building rapport; working with the people we are helping, as well as with the community of educational developers; 'reciprocal learning'	3/5
Adopting a scholarly approach to practice	Using an evidence-based approach to practice; conducting and publishing research; collaborating with the scholarly community of educational developers	3/5
Reflecting	Thinking critically about practice and determining effectiveness of work	3/5
Understanding and adapting to context	Knowing about and knowing in context, so that one may adapt to and facilitate a process in that context	2/5
Communicating effectively	Listening; speaking 'passionately' and 'convincingly' to individuals and to groups; writing articulately and 'networking comfortably' with others; communicating in a way appropriate to audience and context	2/5

evidence-based approach that we promote in others by drawing on research to inform practice, conducting research and collaborating with colleagues to create and share new knowledge. Underpinning the collaborative and scholarly work of educational developers is a deep reflective spirit which prompts us to question assumptions, think critically about our work, and question the effectiveness of our practice. Certainly, as we are increasingly called upon to lead institutional change, we must be effective communicators, listening, speaking, and writing with respect, conviction, and passion.

Interviews with participants highlighted the importance of 'understanding and adapting to context' in the service of facilitating change in individuals and in systems. Much of the literature in educational development evokes the importance and complexity of understanding, working in, and negotiating the multiple contexts in which educational development occurs (e.g., Carew, Lefoe, Bell, & Armour, 2008; Sorcinelli et al., 2006; Taylor, 2005; Taylor & Rege Colet, 2010).

Participants also conveyed that a crucial aspect of educational development is understanding the *multiple layers* of context in which our work is embedded: the disciplinary contexts of the individuals with whom we work; the institution and its political context; national higher education policies influencing the institution; and international contexts, such as the Bologna Accord. The manners in which these contexts interact create unique circumstances for conceptualising, designing, and implementing educational development initiatives. Experienced developers noted that novices sometimes experience difficulty navigating this complexity.

Observations about threshold concepts in educational development

Several interesting aspects of threshold concepts in educational development were observed.

Relationship between threshold concepts and a participant's disciplinary background

Interviews revealed that participants appear to have carried forward key concepts from their disciplines of graduate study and that these continue to shape the lens through which the world and work of educational development are seen and made sense of. Disciplinary background seems to influence what is interpreted, or not, as a threshold concept. For example, while the notion of 'leadership' was discussed as an important aspect of educational development work for the two participants with backgrounds in business, a field in which the study of leadership is an important focus (McCauley, Drath, Palus, O'Connor, & Baker, 2006), they did not identify it as a threshold concept. In contrast, it *was* identified as a threshold concept by the three participants whose backgrounds did not include graduate business studies. While further research is needed to investigate this finding, it appears that identifying an idea as a threshold concept in educational development may be more likely when this concept is not a significant one in an educational developer's discipline of graduate study.

Timelines in the recognition of threshold concepts

Findings suggest the notion of a timeline in recognising threshold concepts, with some later threshold concepts integrating earlier ones. In some instances, understanding of a threshold concept continued to evolve with experience, with new depths discovered over time. Deepening understanding of a threshold concept eventually precipitated crossing other thresholds. The threshold concepts identified therefore appear to have dynamic and developmental qualities. Furthermore, there were multiple thresholds and multiple paths to expertise for the educational developers in this study.

Conclusions

This study responds to calls to pursue scholarly conversations regarding the conceptualisation of our work and identities as educational developers. Using the lens of threshold concepts has enabled an identification of the ways of knowing and being pivotal in the formation and transformation of the five experienced Canadian educational developers in this study. Interestingly, the identified threshold concepts capture many of the changes in the field of educational development over the past four decades, as outlined by Gibbs (2013). They reveal that our work has become increasingly scholarly, central, strategic, integrated, aligned, transformative, and attentive to context (Gibbs, 2013).

The threshold concepts are intended to provoke discussion about ways of knowing and being we might consider integrating into the design of initial and ongoing formation programmes for educational developers. Giving thought to this is crucial, as these ways of knowing and being will provide the foundation upon which knowledge, skills, and values will be built.

The threshold concepts also reveal aspects of educational development that remain 'hidden' for novices and at earlier career stages. If we return to the notion that threshold concepts have developmental qualities, helping instigate transformations in ways of knowing and being, we might ask how the seeds of the ways of knowing and being of experienced developers may be sown at the entry level and their growth nurtured throughout a career in the spaces where careers and people evolve.

The threshold concepts identified here are not intended to be prescriptive of the necessary thresholds through which one must pass in order to become an expert educational developer. Furthermore, the nature of threshold concepts proposed as *ways* of knowing and being, rather than as descriptions of *what* to know and believe, creates an inviting space for human and contextual differences to manifest themselves. As a community, pursuing the work to identify and understand threshold concepts in the careers of educational developers will be valuable as we continue to reflect on how best to form current and future developers for 'accomplished and responsible practice in the service of others' (Shulman, 2005a).

Acknowledgements

I gratefully acknowledge the comments of Drs Cynthia Weston, Alenoush Saroyan, J. H. F. Meyer and Mary Deane Sorcinelli on earlier versions of this manuscript and the contributions of the experienced educational developers who participated in this study. This project was partially supported by grants from the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Fonds Québécois de Recherche sur la Société et la Culture (FQRSC).

Notes on contributor

Julie A. Timmermans is an instructional developer (Consulting and Research) at the Centre for Teaching Excellence at the University of Waterloo. She completed a PhD in Educational Psychology at McGill University. Her research interests explore the intersection between epistemic beliefs development, threshold concepts, and educational development.

References

Bédard, D., Clement, M., & Taylor, K. L. (2010). Validation of a conceptual framework: The meaning and scope of educational development. In A. Saroyan & M. Frenay (Eds.), *Building teaching capacities in higher education: A comprehensive international model* (pp. 168–187). Sterling, VA: Stylus.

Carew, A. L., Lefoe, G., Bell, M., & Armour, L. (2008). Elastic practice in academic developers. *International Journal for Academic Development, 13*, 51–66. doi:10.1080/13601440701860250

Creswell, J. (2007). *Qualitative inquiry & research design* (2nd ed.). Thousand Oaks, CA: Sage.

Davies, P. (2006). Threshold concepts: How can we recognise them? In J. H. F. Meyer & R. Land (Eds.), *Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge* (pp. 70–84). Abingdon: Routledge.

Dawson, D., Britnell, J., & Hitchcock, A. (2010). Developing competency models of faculty developers: Using World Café to foster dialogue. In L. B. Nilson & J. E. Miller (Eds.), *To Improve the Academy: Resources for faculty, instructional, and organizational development* (vol. 28, pp. 3–24). San Francisco, CA: Jossey-Bass.

Dawson, D., Mighty, J., & Britnell, J. (2010). Moving from the periphery to the center of the academy: Faculty developers as leaders of change. *New Directions for Teaching and Learning, 122*, 69–78. doi:10.1002/tl.399

Debold, E. (2002). Epistemology, fourth order consciousness, and the subject–object relationship, or: How the self evolves with Robert Kegan. *What is Enlightenment? Redefining Spirituality for an Evolving World*, *22*, 143–154.

Fraser, K., Gosling, D., & Sorcinelli, M. D. (2010). Conceptualizing evolving models of educational development. *New Directions for Teaching and Learning, 122*, 49–58. doi:10.1002/tl.397

Gibbs, G. (2013). Reflections on the changing nature of educational development. *International Journal for Academic Development, 18*, 4–14. doi:10.1080/1360144X.2013.751691

Irvine, N., & Carmichael, P. (2009). Threshold concepts: A point of focus for practitioner research. *Active Learning in Higher Education, 10*, 103–119. doi:10.1177/1469787409104785

Kegan, R. (1982). *The evolving self: Problem and process in human development*. Cambridge, MA: Harvard University Press.

Kegan, R. (1994). *In over our heads: The mental demands of modern life*. Cambridge, MA: Harvard University Press.

Kegan, R. (2000). What 'form' transforms? In J. Mezirow & Associates (Eds.), *Learning as transformation: Critical perspectives on a theory in progress* (pp. 35–69). San Francisco, CA: Jossey-Bass.

Kegan, R. (2001). Competencies as working epistemologies: Ways we want adults to know. In D. S. Rychen, & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 192–204). Kirkland, WA: Hogrefe & Huber.

McAlpine, L., & Sharpe, R. (2006). Examining, questioning, challenging our taken for granted assumptions. *International Journal for Academic Development, 11*, 1–3. doi:10.1080/13601440600578722

McCauley, C., Drath, W., Palus, C., O'Connor, P., & Baker, B. (2006). The use of constructive-developmental theory to advance the understanding of leadership. *The Leadership Quarterly, 17*, 634–653. doi:10.1016/j.leaqua.2006.10.006

McDonald, J., & Stockley, D. (2008). Pathways to the profession of educational development: An international perspective. *International Journal for Academic Development, 13*, 213–218. doi:10.1080/13601440802242622

Meyer, J. H. F., & Land, R. (2003). Threshold concepts and troublesome knowledge: Linkages to ways of thinking and practising within the disciplines. In C. Rust (Ed.), *Improving student learning: Improving student learning theory and practice – Ten years on* (pp. 412–424). Oxford: Oxford Centre for Staff and Learning Development.

Meyer, J. H. F., & Land, R. (2005). Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher Education, 49*, 373–388. doi:10.1007/s10734-004-6779-5

Meyer, J. H. F., Land, R., & Baillie, C. (Eds.). (2010). *Threshold concepts and transformational learning*. Rotterdam: Sense.

Perkins, D. (1999). The many faces of constructivism. *Educational Leadership, 57*, 6–11.

Perkins, D. (2007). Theories of difficulty. In *Student learning and university teaching* (British Journal of Educational Psychology Monograph Series II, Vol. 4, pp. 31–48). Leicester: The British Psychological Society.

Polanyi, M. (1958). *Personal knowledge: Towards a post-critical philosophy*. Chicago, IL: University of Chicago Press.

Saroyan, A., & Frenay, M. (2001). *Promoting faculty development to enhance the quality of learning in higher education*. Project proposal submitted to the Canada–EC Program for Cooperation in Higher Education and Training.

Saroyan, A., & Frenay, M. (Eds.). (2010). *Building teaching capacities in higher education: A comprehensive international model*. Sterling, VA: Stylus.

Shulman, L. (2005a). *The signature pedagogies of the professions of law, medicine, engineering, and the clergy: Potential lessons for the education of teachers*. Paper presented at the Math Science Partnerships (MSP) Workshop: Teacher Education for Effective Teaching and Learning. Hosted by the National Research Council's Center for Education, Irvine, CA, February 6–8.

Shulman, L. S. (2005b). Signature pedagogies in the professions. *Daedalus, 134*, 52–59.

Sorcinelli, M. D., Austin, A. E., Eddy, P., & Beach, A. L. (2006). *Creating the future of faculty development: Learning from the past, understanding the present*. Bolton, MA: Anker.

Stake, R. E. (2006). *Multiple case study analysis*. New York, NY: Guilford Press.

Stockley, D., Mighty, J., McDonald, J., Taylor, K. L., Sorcinelli, M. D., Ouellett, M. L., … Caron, A. (2008, June). *Mapping our pathway into the field of educational development*. Presentation at the International Consortium for Educational Development (ICED) Conference, Salt Lake City, USA. Abstract retrieved from http://iced2008.org/conference-program/concurrent-session-8/

Taylor, K. L. (2005). Academic development as institutional leadership: An interplay of person, role, strategy, and institution. *International Journal for Academic Development, 10*, 31–46. doi:10.1080/13601440500099985

Taylor, K. L., & Rege Colet, N. (2010). Making the shift from faculty development to educational development: A conceptual framework grounded in practice. In A. Saroyan & M. Frenay (Eds.), *Building teaching capacities in higher education: A comprehensive international model* (pp. 139–167). Sterling, VA: Stylus.

Timmermans, J. (2010). Changing our minds: The developmental potential of threshold concepts. In. J. H. F. Meyer, R. Land, & C. Baillie (Eds.), *Threshold concepts and transformational learning* (pp. 3–19). Rotterdam: Sense.

Timmermans, J., Jazvac-Martek, M., Berthiaume, D., Arcuri, N., & McAlpine, L. (2005, April). *FacDev, the next generation: Envisaging a doctoral program for future faculty developers*. Paper presented at the American Educational Research Association (AERA) Annual Meeting, Montreal, Canada.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Weston, C., & Timmermans, J. (2008, October). *McGill University: A faculty development framework for capturing the impact of our work*. Paper presented at the International Society for the Scholarship of Teaching and Learning (ISSOTL) Conference: Celebrating Connections: Teaching, Research, and Scholarship, Edmonton, Canada.