

## **Crossing Conceptual Thresholds in Doctoral Communities**

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### **Abstract**

The traditional apprenticeship model of supervision in which the single scholar charts her individual research path is giving way to more collaborative learning environments. Doctoral programmes, in which communities of scholars work together, have become increasingly common. This study interrogated how being part of such a community enables the conceptual depth we expect at doctoral level. It draws on the notion of conceptual threshold crossing to make sense of the learning experiences of 28 education PhD scholars. Working in a community of doctoral scholars was found to have conceptual impact (i) when the community is supportive, (ii) encourages risk-taking and facilitates conversations across different issues and disciplines, (iii) when the scholars have to regularly articulate their position, and (iv) because the programme structure enhances the likelihood of fortuitous encounters with theories and concepts.

### **Key Words**

Conceptual thresholds, doctoral education, postgraduate supervision

### **Introduction**

There has been a rapid rise in the formation of doctoral programmes and schools (EUA, 2013), which take various forms but all of which entail having candidates working in a community of scholars and not relying on the individual supervision model. While such collaborative project teams are not uncommon in the natural sciences, particularly in laboratory contexts, the Humanities and Social Sciences have until now relied primarily on the traditional apprenticeship model (Backhouse, 2010). As increasingly complex knowledge problems have led to more inter-disciplinary studies, the use of co-supervision has become more frequent (Watts, 2010), but in many countries students are still largely expected to undertake their doctoral journeys without structured connection to other scholars and other scholars' projects. This can result in the 'lonely journey' (Harrison, 2012) that has been mooted as one explanation for the international phenomenon of poor throughput and high dropout at this level (EUA, 2013; ASSAf, 2010; Elgar, 2003).

The development of doctoral programmes has taken various forms. In Europe, there has been the emergence of graduate or research schools that bring together scholars across Faculties or disciplines (EUA, 2010; EUA, 2013) and often include taught modules and generic research skills development. There has also been an increase in project team approaches where a group of scholars engage around a particular problem area and draw on a shared theoretical framework (McKenna, 2014). These models have in common an emphasis on collaborative engagement between the doctoral scholars.

While the doctoral thesis that is assessed has to be authored by the individual scholar and reflect her own independent research, there are strong arguments for more collaborative approaches to the doctoral process. Any number of theories account for why collective learning opportunities are beneficial in the seemingly individual PhD process. For example, Vygotsky's Zone of Proximal Development (1978) argues that people can move from their current state of development to a more advanced state through collaboration with more capable peers. Lave and Wenger's Legitimate Peripheral Participation in a Community of Practice (1991) indicates that as novice members of a group move from the periphery to becoming established practitioners, they are transformed and simultaneously transform the group. And the African Humanist theory of Ubuntu (Letseka, 2012; Praeg and Magadla, 2014) asserts that it is through our connections to each other that powerful meaning is made. But the emergence of community approaches to doctoral experiences comes not only from pedagogical understandings of how learning is facilitated by collaboration; it is also driven by economic concerns.

### **Drives to increase doctoral education**

Universities are being exhorted to increase doctoral admissions to respond to the global context of the knowledge economy (EUA, 2007). Indeed, doctoral education is conceptualized as key to Europe's intention to position itself as 'the most competitive and dynamic knowledge-based economy in the world' (EUA, 2013, p.14).

Similarly, in South Africa, where this study was undertaken, there is broad consensus 'that not enough high-quality PhDs are being produced in relation to the developmental needs of the country' (ASSAf, 2010, p.15). In response to such concerns, there have been a number of ambitious and arguably unrealistic goals set in regards doctoral output (National Development Plan, 2011).

Doctoral education is understood to be a driver of economic development and doctoral level research is seen to be an important means of generating solutions to society's complex problems (CHET, 2014). In this context, there is pressure to improve the retention and throughput rates at PhD level beyond their current fairly dismal norms, where only 46% of the 2006 doctoral cohort in South Africa had graduated by 2013 (CHET, 2014). International figures show a similar picture with 50% dropout being common (see, for example, Council on Graduate Schools, 2008). This focus on throughput has brought with it a critique of individual one-on-one supervision. In their review of doctoral education in South Africa, the Academy of Science in South Africa asserted that 'It is evident that the traditional apprenticeship model may not be an efficient approach for the

purpose of rapidly increasing the production of doctoral graduates...' (ASSAf, 2010, p.16). Similar calls for programme approaches to doctoral education in order to increase output have been made in Europe (EUA, 2007), Canada (Elgar, 2002) and elsewhere. While the shifts to such programme approaches have thus been fairly well researched, what has been less investigated, and what is the concern of this paper, is the extent to which undertaking postgraduate studies within such a community enhances the possibilities for advanced level learning and research production.

### **Threshold Concepts**

One way of conceiving this kind of advanced learning is in terms of threshold concepts. While the idea of threshold concepts was initially described in relation to undergraduate learning (Meyer and Land, 2003, 2005, 2006), it has gained currency as a way of understanding the kind of conceptual engagement expected at postgraduate level.

Meyer and Land (2006) indicated that threshold concepts have five characteristics: they are transformative, integrative, irreversible, bounded and troublesome. A threshold concept is understood to be *transformative* in that one's view of the phenomenon being researched or of oneself as a researcher is fundamentally changed for having crossed this threshold (Kiley and Wisker, 2009). It is *integrative* in the sense that it allows one to make sense of various disparate aspects of the theory or the problem being researched. There may be a sense of 'So, that's what this all means' (Kiley, 2009) as various previously disconnected 'bits' click together in some meaningful way. Crossing over a threshold is *irreversible* and so having attained a more nuanced, sophisticated understanding of oneself or the phenomenon being investigated, one is unable to return to previous more naïve conceptualizations.

Conceptual threshold crossing is *bounded* and only pertains to specific related aspects of researcher identity or the discipline. There is general agreement in the literature that while some threshold concepts are discipline specific and are necessary lenses for understanding the central concerns of the field, others are more generic (Wisker, Kiley and Aiston, 2006). Finally, conceptual threshold crossing has been characterized as *troublesome*. It is a challenging process and often entails questioning dearly held assumptions or critiquing dominant understandings in society. A threshold concept is thus a concept with potential emergent properties, that is, it is a concept with the potential to manifest the five characteristics. It is the *crossing* of a conceptual threshold by a scholar through which these potential characteristics emerge in action.

Meyer and Land (2006) describe a threshold concept as one that opens a portal to previously inaccessible ways of understanding a phenomenon. When Harrison (2012) and Cotterall (2015) write of a successful doctoral journey as being an identity journey, it is the conceptual threshold that is pertinent, for crossing a conceptual threshold entails shifts in how one understands the study's purpose and one's own intentions. The notion of conceptual thresholds provides a powerful account for how the conceptual depth required at doctoral level is attained (Kefer, 2015).

## **Liminality**

Liminality is the confusing period before the crossing of the threshold (Kiley and Wisker, 2009) and involves encountering something new, a recognition of the shortcomings of existing ways of thinking, a letting go and a re-authoring (Land, Rattray and Vivian, 2014). 'Liminality involves wavering between two worlds, after the separation of the previous identity but before the point of incorporation into a new one' (Keefer, 2015, p.19). Kiley (2009) writes of students moving from their 'stable, known state and entering into an ambiguous, liminal state, a state which can last for several years' before the rite of passage, or several mini-rites of passage see the student becoming ready for graduation.

During the period of liminality, the student often has a sense of being on the edge of the conceptual threshold but the process can elicit deep anxiety and confusion, which is only lessened when the crossing has occurred. The student needs to be able to live in this period of intellectual uncertainty (Harlow, Scott, Peter and Cowie, 2011) and work towards crossing the conceptual threshold.

## **Conceptual Threshold Crossing and Doctoral Education**

It can be argued that moving through the liminal space to cross a conceptual threshold is central to the doctoral process. According to the Framework for the Qualifications of the European Higher Education Area, the doctoral candidate has, among other things, to be 'capable of critical analysis, evaluation and synthesis of new and complex ideas' (Bologna Working Group, 2005). Trafford and Leshem (2009) suggest that crossing conceptual thresholds is fundamental to the acquisition of doctorateness and indeed Kiley argues that the doctorate must include a demonstration that the candidate has 'undergone a change in the way they understand their learning and themselves' (2009, p.293).

## **Methodology**

The data for this study emerges from two doctoral programmes at Rhodes University in South Africa. The first programme is ten years old and is within the Faculty of Education, focusing primarily on Environmental Education. This PhD programme was started with a strong social justice agenda, because, in the words of the programme co-ordinators, 'the socio-ecological condition, currently characterised by fragmentation, individualisation, risk, overconsumption and greed ...requires an intellectual community that is orientated towards public good and prepared to put people first, before profit and pollution' (Lotz-Sisitka, et al., 2010, p.131).

The second doctoral programme included in this study began as a 'spin-off' from the first programme and focuses on Higher Education Studies. These two doctoral programmes both still utilize various versions of traditional supervision but combine this with a community approach to doctoral education. Most of the PhD scholars are studying part-time while working full time as teachers, academics, in Non-Governmental Organisations etc. The scholars come from all over the world, though mostly from Southern African.

'Doc Weeks' are held three times a year in which the PhD scholars attend a full programme on the university campus comprising guest speakers, scholar presentations, workshops, panel discussions and so on. The community is also fostered through online synchronous seminars and asynchronous resources and various groupings of scholars working in project teams (McKenna, 2014).

In order to research the role played by doctoral programmes in ensuring that PhD scholars achieve the conceptual depth required at this level, and using the threshold concepts literature as the theoretical lens, scholars were asked to provide data through an online platform. Each of the two doctoral programmes has 30 scholars so there were 60 potential participants for this study with twenty-eight actually submitting detailed responses. The data was collected through reflective writing elicited online. The participants were assured of anonymity and were asked to allow ample time to complete their responses as this was to be more 'reflective journaling' than questionnaire. Since discussions of liminal periods and crossing conceptual thresholds often entail recounting troubling experiences, a more narrative approach was deemed appropriate (Keefer, 2015). While Keefer is careful not to claim that 'knowing about doctoral liminality will automatically help learners work through it' (2015, p.26), he does suggest that reflecting on the concept is beneficial. This seems to have been the case in this study and a few of the participants took the conversation begun in their anonymous reflections into more public 'Doc Week' discussions.

The online reflections entailed just three items. The participants were first asked to describe any time/s in their doctoral studies when they felt 'stuck'. They were secondly asked whether they had been able to move beyond this sense of 'stuckness' and, if so, how that happened. They were then thirdly provided with a brief definition of conceptual threshold crossing, and asked if they felt they had ever had such an experience:

In the Postgraduate Supervision literature, there are two concepts that are of relevance to this study: 'threshold concepts' and 'conceptual threshold crossing'.

- A threshold concept is one that, once grasped, leads to a new understanding of the phenomenon being researched or of oneself as a researcher (Kiley and Wisker, 2009).
- Crossing a conceptual threshold is seen to be transformative and to have implications for the student's identity. Furthermore crossing a conceptual threshold is seen to be irreversible: "the student cannot return to conceptually simpler or more superficial understandings of herself or of the research" (Meyer and Land, 2006).

If you have made a move from stuck to unstuck and described it above, would you say that this move could be considered to be 'Conceptual Threshold Crossing' as it is described here? If so, please explain in what way your experience was a conceptual threshold crossing.

The 28 reflective pieces varied in length from 1 to 5 pages and were uploaded into NVivo. They were coded using the five characteristics of conceptual threshold crossing identified in the literature and discussed above. Additionally, I coded for broader issues related to conceptual threshold crossing referred to in

the literature, such as liminality.

## **Findings**

The study findings are described here in two sections. The first considers the experiences of getting stuck and unstuck as described in the data and analysed through the lens of conceptual threshold crossing. The second section hones in on how being in a doctoral programme and collaborating with fellow scholars has enhanced the likelihood of this conceptual threshold crossing.

### ***Getting stuck and unstuck***

All 28 participants acknowledged the sense of feeling stuck during their doctoral studies and this question elicited heartfelt descriptions:

I kept thinking I had reached a breakthrough ... and then when I sat down with the ideas the following day, I would to my dismay find they don't all fit together as well as I thought...In fact they don't fit together well at all... in fact - what a bloody stupid idea was that anyway? Back to square one. Very frustrating and undermining<sup>1</sup>.

I was stuck pretty much consistently - together with a feeling of complete inadequacy.

The process of becoming 'unstuck' entailed a new way of thinking or a new way of conceptualizing the research. This had implications for the identity of the scholars.

Initially, I had a limited and narrow view of monitoring and evaluation [which was] ...technical and reductionist. ... Due to my exposure to reading about critical theories, ... I also saw how academic monitoring emerges from major shifts in the role of the university in this more managerial knowledge economy. To me, this was the moment of conceptual threshold crossing, which required more time of reflection; of moving from the moments of being confident about the position of your study to the level of questioning my assumptions ...

It was more than just new understanding of the phenomenon, as I was trying to synthesize ... methodology, method, context and a body of material. Becoming "unstuck" showed me the possibility of success and achievement as a scholar, which will definitely affect my confidence in myself going forward.

I realised that social justice takes different forms in the literature and one form is activism ... It came to me that this is who I am and my study is a form of activism and I have to design my study around that.

I knew I had crossed a conceptual threshold when everywhere I looked could use my analytical framework to explain everyday events. Sometimes privately to myself other times out loud in a regular conversation with friends.

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<sup>1</sup> All data quoted verbatim.

While some of the scholars were in the final stages of their research when they provided their reflections, others would only have been engaged in doctoral work for less than a year. This may account for why not all participants were able to reflect on how and when they had a sense of becoming unstuck.

One gets so absorbed by the 'doing' of the research that I haven't had a lot of time to step back and evaluate how I have changed or how my understanding of the research has changed.

I am not really sure. This is because I don't yet have enough belief that the space I have moved into is the right one. I have so often butted up against yet another problem with my ideas that I am waiting for that to happen again.

The interest of this study was not just whether the participants had experienced the crossing of a conceptual threshold, but what it was that enabled this. The findings here echoed those in the literature. As was found by Wisker and Robinson (2009), and by Kiley and Wisker (2009), a number of participants in this study referred to changing focus or task for a while.

I tried to manage the feeling by simply walking away from the bits that I was stuck on and let them 'marinate' for a while and work on other parts that were coming on easier.

Others reflected on the usefulness of specific techniques workshopped in the programme's 'Doc Weeks', such as Pomodoros, 'Shut up and Write' sessions and keeping reading journals:

I spend a bit of time panicking, and then tell myself to do "just one Pomodoro", and then find that doing said Pomodoro is encouraging, because it's achieved something. But that process can take a few days.

I tried to remove ego from the process and just write "stuff", even if it wasn't perfect.

Keeping a reading journal with my own reflections really helped and so did talking to others in the group about that reading.

Some reflected on the process of working through mimicry and patchwork until they realized they had developed their own doctoral voice.

At first it felt a bit like an act but I also found myself in the texts that I am reading.

A key notion in the Threshold Concepts literature is that students sometimes 'fake it 'til they make it'. The use of mimicry to develop voice and to take ownership of complicated theory (Kiley, 2009) was seen to be a fairly common technique in the data. The participants referred to the ways in which feedback from supervisors and other critical readers was important in providing direction towards self-authorship in their writing. Humphrey and Simpson (2012) similarly found that working collaboratively on writing provided doctoral scholars with opportunities to better understand the role of writing and to develop into independent, autonomous researchers.

Having looked at the issue of getting stuck and unstuck, I then scrutinized the data for findings specifically related to being part of a doctoral programme and

whether and how this had enabled the 'nudging across the threshold' (Wisker and Robinson, 2009). The four main findings were that the doctoral programme (i) provided a supportive community, (ii) that it encouraged risk-taking, (iii) that it provided opportunities to articulate their work, and (iv) that it increased the likelihood of 'fortuitous encounters'.

### ***The doctoral programme as a supportive community***

It was very evident that the doctoral programme provided scholars with a sense of community that reduced feelings of isolation.

The fear of being stuck again is still there but with the support from the group, supervisors, online sessions, etc, I can overcome my fears and I will get the conceptual levels [I need for a PhD]

I've come to understand that nearly everyone faces the same challenges that I do: the nerves, the "stuckness", the fears of inadequacy, the risk of having your writing read by others. Knowing we're all in the same boat is comforting, and seeing others succeed is inspiring.

The community was described as a space in which novice scholars could learn from those a bit further along in the journey. It provided a kind of positive peer-pressure as scholars became aware of the sophisticated levels of engagement expected of them. The sense that there were conceptual thresholds to cross was thus felt by the scholars.

The group I was in the PhD scholars had discussions about CHAT<sup>2</sup> as if its their daily language [and] that gave me a push in getting out of the mud.

The move occurred gradually as I read and heard others explain the concepts in simple terms. I would then go back to the reading and I could now make sense of it.

...the kind of guest speakers invited; variety of topics about Higher Education transformation; the quality of being a doctoral student (writing and reading skills; research and information literacy skills, etc). This kind of exposure has become a very rich resource to draw from and kind of shows the conceptual level you have to reach.

Shanahan and Meyer (2006) argue that exposure to such complexity is essential and that well-meaning simplifications of difficult ideas can set a student on the path to 'ritualised knowledge' and inhibit the likelihood of crossing the conceptual threshold.

However, not all participants experienced the challenging nature of the community as encouraging them towards conceptual threshold crossing.

The doctoral weeks quite often leave me profoundly depressed. They make me feel quite inadequate and inarticulate - I feel like I don't have what it takes to do the PhD...

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<sup>2</sup> CHAT refers to Cultural Historical Activity Theory. In many of the doctoral programme activities, scholars work together with others who are using the same theoretical or analytical frameworks.



The intellectual stimulation and the discussions and the planning of the project jolted me out of that “stuck place” ...but it was pretty intimidating. Overwhelming sometimes.

### ***Risk-taking in the doctoral programme***

Engagement in seminars allows students to work out what kinds of questions are valued and what theoretical level they are expected to be working at (Kiley 2009).

It's a place to take risks. Join up ideas and theorists in new ways and you can be creative.

I came to ... doc-week and this was to lowest point of my life and I was supposed to do a 5 minute presentation but I hesitated and wanted to pull out. My supervisor felt that I had no reason to feel that way... my supervisor helped me pick myself up and just take the chance. And I moved on because of that presentation.

Doc Weeks assist in testing concepts and ideas in a safe space, which makes one less reluctant to commit these to paper.

You can test out an idea or a potential framework and get feedback. You'll know if it's going to work or not without being made to seem stupid.

It is clear from the data that the doctoral community needs to be a space that allows for errors so that newcomers are able to engage with the community, even if on the periphery (Kiley, 2009), but it simultaneously has to be challenging and to model the desired levels of thinking and engagement. If the community is not legitimate in the sense of demonstrating the expected norms to which newcomers aspire access, then it can function to foster a sense of belonging and self-confidence without acting to nudge members across conceptual thresholds.

### ***The doctoral programme as a space to articulate***

I presented what I thought was a breakthrough at the Doc week and as I was presenting more ideas came up and it was even as I was speaking that I really understood the implications of my new thinking.

The act of verbalising the problem often helps to offer potential solutions.

Motivation wanes when students remain in a 'stuck space' (Kiley and Wisker, 2009) and fail to move through the liminality that precedes the crossing of a conceptual threshold. This may well be a factor in the poor throughput rates at doctoral level. It would seem that having a community in which to articulate one's research is key to moving beyond the stuck space.

The breakthrough lies with sharing in presentation and other discussions the various dimensions possible within the phenomenon. In presenting at Doc Weeks you get inspired ... as every scholar as well as academic shares what they think might help you move.

### ***Fortuitous encounters in the doctoral programme***

While fortuitous encounters are by their nature unplanned, it seems that being part of a doctoral community in which research is discussed and resources are shared increases the likelihood of them occurring.

I moved out of the stuck space the day I discovered a page of Wheelahan's book where he described the exact type of social realism I am using in my study. It was shared by my colleagues in the programme and ... it just caused a wow effect.

I sat in a presentation on frameworks ... and I came out of the stuck space and suddenly saw how everything I had been reading could fit together.

One workshop ... was a discussion on theory, ethics and politics, and the link to research design and strategies. It was at this point when I woke up.

When I feel I am not moving as fast as I should... the email for an online session just pop-up on my mailbox, and that is a great "unstucking tool". It keeps you moving.

### **Conclusion**

Though there were some examples in the data of 'Aha' moments with almost instantaneous crossing of conceptual thresholds, there were more examples of gradual engagement with a concept or approach that slowly shifted the scholar's thinking. It was evident that being in a collaborative doctoral community provided specific opportunities for candidates to be 'nudged' across a conceptual threshold. The nature of the community seems to be important if it is to succeed in pushing students towards unstable liminality and across the conceptual threshold. It needs to be supportive and inclusive so that all students feel safe enough to participate and have a sense of being seen and valued. It needs to be a place where students can take risks and test out ideas. At the same time, the space needs to be challenging and provide substantial evidence of the kinds of conceptual depth and theoretical engagement expected of doctoral students.

The data was only collected from two PhD programmes, both in Education at the same institution, and so more data across disciplines would allow us to establish the extent to which discipline and context account for the success of the community structure in enabling conceptual threshold crossing. However, the data strongly indicates that doctoral communities are indeed a useful means of fostering conceptual depth.

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