Threshold Concepts, Action Poetry and the Health Professions: An Interview with Ray Land

Ray Land*
Durham University, United Kingdom

Hilary Neve (editor)
University of Plymouth, United Kingdom

Linda Martindale (editor)
University of Dundee, United Kingdom

Note: Hilary Neve and Linda Martindale, members of the editorial team for this special Issue of the *International Journal of Practice-based Learning in Health and Social Care*, undertook this interview with Ray Land in June 2018. The interview was transcribed verbatim and subsequently edited for publication. In this, Ray Land considers the impact of threshold concepts generally as well as key implications for the healthcare education and practice.

*Corresponding Author: Ray Land, Emeritus Professor of Higher Education, Durham University, Stockton Road, Durham, DH1 3LE, United Kingdom   *Email:* ray.land@durham.ac.uk

What do you think it is about threshold concepts that captures people's imagination; why has it taken off?

That's an interesting point. I think it's a number of related factors; David Perkins talked about what he called *action poetry* (Perkins and Wilson 1999), that if something's going to have an attraction, it needs explanatory power but it needs what he called 'actionable power' as well. So it needs to have the capacity to explain things to people in an interesting way, but also to be something they could do something with. Now some theories are one, or the other, but not both. So what Perkins meant by 'action poetry' I think was things that have both, and I think this is the case really with Thresholds, I think the main premise of threshold concepts is relatively clear. Now if you go to, perhaps, an hour's workshop you can probably 'get it'. Some of the specifics you might want to quibble or argue about, but I think you can get the main premise of threshold concepts in a fairly straightforward way, even though it means changing your thinking a bit. And I think, like Perkins suggested, threshold concepts can translate into small-scale, low-key research quite quickly.

The other thing related to threshold concept theory is that it's quite discipline-focused: it taps into practitioners' own interests and identities. I've always felt that lecturers and students tend to come to university because they're passionate about maths, or history, or they have a professional commitment to nursing, healthcare, medicine, whatever, and that's their driver, that's their focus. In my view, the disciplinary focus of threshold concepts is one of the reasons it's resonated, though that doesn't mean it can't be interdisciplinary as well. I also think early career researchers have found it's something they can pick up and use. Glynis Cousin makes the point that threshold concept theory can be used as a research methodology (Cousin 2009), and it's started to be used on PgCAP [Postgraduate Certificate in Academic Practice] courses as well, which has helped spread it. I think it also provides an analytic framework and it provides a vocabulary, so it gives you a discourse and a framework that you can take on board if you want to; it's a toolbox that you can use. As well as these factors, Thresholds taps into student understanding. It taps into curriculum design. It taps into professional identity.

Compared with other disciplinary areas, higher education pedagogy doesn't change rapidly. At the time we were kicking off with Thresholds, it was probably good timing as well, as I think people were ready for something new. For example, when I first encountered the perspective of deep and surface learning, I thought: I can see this happening in my classes. Similarly, with Thresholds, I think it was something a bit novel at the time and a bit of a change. Threshold concepts theory is also conceptually quite eclectic, and I think you can come at it from different angles; it has psychology elements in it but it's not just a psychological theory, it's philosophy, there's some anthropology, we draw on literature, even theology. I always had a view that HE pedagogical discourse is very, very narrow, even if you compare it with what they do in primary and secondary education. In higher education, it's been like 100 years of cognitive psychology, so we were trying to shake that up a bit.

Do you think there are any particular ways that threshold concepts resonate with people who work in healthcare or healthcare education?

One thing that's always struck me about people in healthcare professions and medical professions is that they take education very seriously because so much depends on it. A lot of colleagues take disciplinary education seriously, but in healthcare education it's high stakes in many respects; if you're not doing it well then it has pretty dramatic consequences. You prepare the next generation through teaching, and education, understanding and learning is for the benefit of the patient. So it's critically important to get it right. The consequences of not doing so are huge. I think, as a result, people from healthcare professions have always struck me as having a tradition of self-scrutiny, self-questioning, and reflective practice. And now they're also very conscious of evidence-based practice too. I think as part of their professional identity, they are trained to continually question their practice. Well it's part of a culture of improvement, care improvement, and that 'how do you know that what you're doing is the right thing?'. So I think

healthcare educators are more open to ideas coming along, not that they rush into them but I think they are willing to say 'Is this something we can use and if so, how might we use it?' And if they do find it useful they will pass it on and they share it, as there's a strong culture of sharing practice.

Something that interests me about TCs [threshold concepts], and I think is probably just as important as the conceptual shifts, are the ontological changes that are required in healthcare education. To become the people required in the health service, in whatever field, there need to be quite profound ontological shifts, and I think in that sense Thresholds can be an analytic tool for bringing that into use for people. Additionally, because the consequences of practice are so important, critically important, I think the ontological shifts involved in taking on any professional identity as a nurse, as a midwife, as a medic, as a radiographer, or whatever, are very challenging identities because these are recognitions that you are going to be working in environments that require resilience – great resilience – at the same time as being highly ethical and empathetic. An example of this identity of resilience and empathy is that of a young woman surgeon I remember interviewing, saying that she'd been operating on an old gentleman and he bled to death during the operation. There was nothing they could do to save him. His arteries were so fragile. As she went out, his widow was there, and she said: 'He trusted you'. Then the surgeon had to go home and pick the kids up from school and make the tea and put them to bed, and then be back at six the next morning doing the same thing again. And she said: 'that's what you're committing to'. In a sense, you're saying 'I'm prepared to work in that kind of environment and space and be that kind of person.'

Do you think threshold concepts could influence health professions' education, and help then to influence healthcare?

Yes, I think it can. A key area is the way that ontologies and professional identities are formed, similar to other frontline professions like the police. In terms of trying to develop the most effective ways of achieving those identities – and the most efficient ways – I think threshold concepts are important. Although I'm not a specialist in healthcare, I can see from the issues that people in healthcare professions tend to focus on, that the ontological shifts are equally as important as the conceptual ones. For example, I had a doctoral student looking at notions of 'recovery', in drug rehabilitation, but it had wider connotations. The whole area of moving from medical models to social models, as an example, can have very powerful transformative effects on the way that healthcare professions see the situations that they're dealing with. The shift to a social model of recovery, rather than a medical one, is ontological because it means you change to trust people with quite severe mental health histories to go back out into society and be part of the decision-making process of doing that. The attitudinal shifts and the conceptual shifts are also powerful. Similarly, Martindale's work on evidence-based practice, using threshold concepts, uncovered interesting perspectives about attitudes to evidence-based practice in the community, including how these do or do not change (Martindale *et al.* 2016). Some of the conceptual shifts that people are looking at can give greater prominence to certain ideas, and greater visibility to key ideas. Threshold concepts are a useful lens that can be applied in healthcare settings to investigate, to explore, to bring into view, to render things more visible.

As health professionals do you think we are always aware of the shifts and changes that are happening to us, let alone to the people we might be teaching or training?

Yes. Looking back historically, you can see that – and this is before we started to call them threshold concepts – these things have been happening for a long time. I'm not claiming threshold concepts have changed the health of the UK! But you need a set of lenses, you need sets of spectacles to look at these issues and bring them into view differently. And of course, something I think is a very important part of Thresholds, is the need for letting go. It's not just encountering the new, it's letting go of your prevailing view, like your view of 'recovery'. Taking

on board an evidence-based practice approach can mean moving away from what health professionals have been doing for many years, and that's tricky. For example, we don't call pregnant women patients any more, and these shifts in how we see the patient, how we see the health issue and so on, the discourse we use to talk about it, and how we prepare people to deal with it, how we train people, are very important changes and I think at the conceptual level, and at the ontological level (the identity level), Thresholds can play a part there. And if you go on Dr Mick Flanagan's threshold concepts website [www.ee.ucl.ac.uk/~mflanaga/thresholds.html], if you just look under 'Health Care' there in the Subject Index, there's quite an extensive range of fields: there's nursing, OT, prosthetics, physiotherapy, radiography, social care, surgery, anatomy, dentistry – threshold concepts are being picked up in a lot of ways.

Can I ask you now about the characteristics of threshold concepts? When you first did the work on threshold concepts, you identified a set of characteristics or principles that defined threshold concepts, and of course there's been a lot of debate around which of these are more important. Can you tell us a bit about which of those characteristics you think are more important that others? Are there others that are not so important?

At the beginning Erik (Meyer) and I weren't setting out to come up with a classic set of defining attributes, we were exploring and we were following our noses to some extent, and ideas were surfacing. Characteristics did get added. For example, the first paper didn't mention the discursive principle, but by the second paper we'd realised that language plays a significant role in this as well. There's the change in the language used, and language then changes our thinking; so that was added as well. But looking back now, I think I would say the most important one, in the sense that if you took that out you probably wouldn't have a lot to talk about, is the transformation element. If something is not transformational then you are probably not crossing thresholds, so we may as well just go home and say there's nothing happening here. Having said that, I think the other notion is the integrating function that we talk about, and the more you think about that, I think it's a chicken and egg situation. It's this capacity that thresholds seem to integrate, like a particular jigsaw piece (to change the metaphor!) can pull other jigsaw pieces into a meaningful *Gestalt*, pieces which before didn't seem joined up in some way, or integrated, or hanging together. Thresholds seem to pull ideas together into a new coherence. It may be provisional, it probably will be provisional, but at that point in someone's learning and journey it does bring into view something that wasn't in view before, and that tends to have the transformative effect, the 'Oh, I see this differently'. So I think it's very hard to disentangle, or to disaggregate, this integrating function from the transformative function. It could well be that at a neurological level, (which I know virtually nothing about!), some kind of synaptic new firing, sparking, is taking place, which then sparks other things together. So I think maybe we should have an oblique stroke between these terms, like Foucault does with 'power/knowledge', to indicate that you can't really separate them. I think 'integration/transformation' is a similar thing, and again, I think because there is some hard rewiring going on that's why it's irreversible as well, it's permanent for a while anyway until there's further transformation. But I should imagine older 'wirings' also take time to decay during the liminal phase.

As time's gone on, I think people have tended rather to latch on to the conceptual understandings rather than to the ontological shifts, because within the disciplines that's what, from a practical teaching perspective, people are more concerned about: 'I've got to teach this thing and the students find it very hard, how can I get them to understand this difficult idea?' As we were talking a few moments ago about these professional shifts in identity and ontology, becoming a healthcare professional, those ontological shifts I would say are just as important, just as profound. I wouldn't want to say that the integration is more important, because the ontological shift is another dimension of transformation. It's the transformational shift as well but of a different kind and often has an *affective* nature to it. This is still an avenue of enquiry that's opening up. Some people are starting to look at the whole area of affective shifts and the role of emotion in learning. I think this is very important. We've always known it's been there because

we know learning is loaded with intense emotion. We've all been through that since primary school, and yet we go on as if it's not there. Now we realise it can be one of the reasons why people don't progress. It can be a barrier, or it can be a very exhilarating driver in terms of a motivating factor. But overall, I think *transformation*, that's the critical characteristic.

Often in the literature, 'boundedness' describes threshold concepts as having distinct boundaries from other boundaries; do you think that leads other people to think that it's about defining something?

I think it varies depending on what kind of disciplinary terrain you're in. I think we're getting into hard borders and soft borders here.

But that's perhaps particularly relevant in healthcare where some things do have very distinct borders and some things have much softer ones.

I think healthcare's a very good example because if, for example, you're looking at medical definitions which are perhaps related to chemical or biological definitions, yes probably these are going to be 'harder' distinctions, and mathematics would be a good example of very hard-edged definitions; it's either this or it's not. Whereas, if you're dealing with issues of emotion or personality or whatever, I would say that the borders here are fuzzier. It's a bit more like bits of the Texan border where you don't know whether you're in Mexico or still in the USA: it's vague.

Moving on, what would you see as the next challenges for educators researching or studying threshold concepts, particularly for people involved in healthcare education?

First of all, I think one thing we've never really sorted is the whole area of assessing these shifts in learning, given that a lot of the teaching in threshold concepts tends to be in formal HE environments. How do you capture in some form of assessment regime what has gone on there? Some of the assessment discourses or assessment specifications that we have, the assessment tools that we have at our disposal already, don't seem to fit. So with regard to the 'ontological shift' idea, or identity formation, you wouldn't give someone 63% in ontological shift, or a '2.1' in ontological shift as part of a programme for becoming, say, a midwife; it's just the wrong language. On the other hand, I don't think we've really come up with a good alternative. We say that those are clearly wrong, that those tools are good for other things but they don't seem to work with threshold concepts. Some people are looking at concept mapping, that might be a way to assess, or 'talk aloud' protocols. I think that's an area we need to look at in all disciplines, and which would have a particular relevance to healthcare. How do you check whether someone's conceptual schema has changed or not, and in what ways? How do you even get at it? It's very difficult to shine a light on that.

Another area which people are starting to look at is the role of 'affect' in liminal states, and whether affect impedes learning or whether it impedes transformation, or whether it can accelerate it. I think that's quite an exciting area. And I think the notion that Ronald Barnett talks about, how, in an age of uncertainty, we need to prepare people to have what he calls, 'open ontologies' rather than fixed ontologies (Barnett 2004). There are a lot of professional identities in the healthcare field, and a lot of strong professional identities. What Barnett is arguing is that, in the past, we've tended to have 'fixed ontologies'; we have known what it means to be an accountant or a lawyer, or probably to be a GP. Already that's starting to unravel or to be more complicated, and certainly within 10 years' time with massive automation going on, he argues that those ontologies won't be so fixed. I heard the other day on the BBC's *Today* radio programme, Dr Declan O'Regan, [Reader in Imaging Sciences at Imperial College London], describing his use of AI machine learning to analyse and interpret millions of heart scans. He and his team of radiologists use a particular surveillance technology to provide individualised patient care. It is a form of machine learning that can identify complex patterns in a huge, three-dimensional data set at a scale and precision impossible for any human to perform. It is

extremely difficult for human doctors to identify who is at the greatest risk of dying from heart disease. His algorithms, however, can measure thousands of points in the heart, moving in three dimensions, to make predictions about patients which is beyond human competence. By analysing many thousands of patient heart images, it can make accurate individualised predictions about a specific patient (Today 2018). So professional ontologies are being challenged and changed, and what Barnett argues is that we need to try and produce learners, professionals, whose ontologies remain open to some extent rather than becoming closed off. I think a lot of our programmes bring an element of closure; you are now a qualified nurse, you're not a qualified medic.

In relation to healthcare education, again I'm a lay person, so I'm really just coming at this from listening to others talking about their experience. But it seems to me that threshold concepts is probably increasingly important in healthcare, in that healthcare is one of the most rapidly developing fields, for a number of reasons. So I think that the plethora of technological advances coming out of areas like genetics and so on, will require new practices. All this is happening in an environment of intensified demand and resource constraint. This is a practical issue but it's an ontological issue as well, requiring a particular ontological formation that you can work in those environments, and continue working in those environments, and protect yourselves at the same time so that you don't get destroyed by it. Healthcare environments are also becoming globalised, and this includes issues like the movement of different people around the world, demographics, the possibility of pandemics, just the encountering of people from very different belief and cultural systems. Added to this is the ubiquity of information access now, with end users tapping into some of the data sources that the professionals are tapping into and coming along with perhaps well-informed views, or, on the other hand, perhaps misinformed views. So the authority of medical and healthcare knowledge is to some extent being challenged by informed lay persons. The whole area of online accessibility to information will alter the dynamics, I think. I'm not sure how these scenarios will pan out, but it seems to me that inevitably there will be challenges to practice at all these levels, conceptual, ontological, technological, practical and so on. But it's all exciting and invigorating at the same time.

You've spoken a lot about how threshold concepts can change people, and how understanding threshold concepts can lead to changes in education, including in healthcare. How have threshold concepts influenced you, both positively and negatively?

Well it's had a big influence on my life in that I've spent a lot of time studying them and I have to say, mainly positively, that we've had a lot of fun with it; it's been a very interesting journey. If you'd said 15 or 16 years ago we'd still be talking about this now I'd have fallen off my chair. Like Ringo Starr – he thought the Beatles might last three years if they were lucky! For me, it's led to lots of interesting conversations, like this one, and arguments with a very broad range of people who I may not otherwise have encountered. In that sense, it has becomes a bit of a *lingua franca* around the academic world where it draws people into the possibilities of conversation. I've been round the world several times on the back of this, kindly paid for by other people! So it's brought me into contact with a lot of different institutions, with people from different cultures, different disciplines, and seeing what use they're making of it has put forward interesting new ideas, which I probably wouldn't have encountered otherwise. So meeting engineers, surgeons, medics, theologians, linguisticians, computer scientists – that's been a very interesting journey. Negatively … have there been any negative sides? It's probably not negative but I suppose it's a bit like you often hear pop singers say 'I've got all my new material and then they keep asking me to play "She Loves You"'. It's been a kind of a 'one-hit wonder'!

Not a bad one-hit wonder though!

I remember Ronald Barnett saying, maybe 10 years ago, that 'whether he [Ray Land] likes it or not he's always going to be remembered, whatever else he does, as "Mr Thresholds"', and I thought: 'really?' But he was right in a sense. I'm not complaining about that! But it has eclipsed

some of the other things I've written about in the past – I do do other things! I did a lot of work developing a model of 'orientations to educational development' (Land 2004), and people are still using that – even in Syria! – which is interesting. I also used to write about digital learning and so on (Land and Bayne 2005, Land and Bayne 2011), and I'm quite proud of some of those things. When I give talks elsewhere, people just assume it will be about Thresholds. But that's not too hard a burden to bear!

And finally, if you were transported back to 2003, would you still use the term threshold concepts?

Hard to know. I'll give you two answers here. At a level of educational helpfulness, I would say probably not, because we're really talking about a broader range of learning thresholds here. I think 'learning thresholds' would have been a better term, and it would accommodate these ontological shifts that we've talked about. I think it would accommodate shifts in practice as well, because we have also identified threshold practices, particularly in the healthcare professions, like the shift towards evidence-based practice. That latter example is as much at the level of practice and identity as it is a conceptual shift. I think a broader term like 'learning thresholds' would pick up the conceptual, the practical, the ontological, and in that sense would be a better and more accurate term. However, looking at it more cynically, in terms of it taking off and benefitting our careers, it was a catchy term that people just caught hold of and started using. It is too narrow a term, but it's stuck and it's become a useful brand, and so we're not going to knock it now! If we went back and had chosen something broader, it might not have caught on so well. So I think I'll be cynical and stick with 'threshold concepts'!

References

Barnett, R. (2004) 'Learning for an unknown future'. *Higher Education Research & Development*, 23 (3), 247-260 https://doi.org/10.1080/0729436042000235382

Cousin, G. (2009) *Researching Learning in Higher Education: An Introduction to Contemporary Methods and Approaches*. London and New York: Routledge

Land, R. (2004) *Educational Development: Discourse Identity and Practice*. London and New York: McGraw-Hill

Land, R. and Bayne. S. (eds) (2005) *Education in Cyberspace*. London and New York: RoutledgeFalmer

Land, R. and Bayne. S. (eds) (2011) *Digital Difference: Perspectives on Online Learning.* Rotterdam, Boston and Taipei: Sense

Martindale, L., Land, R., Rattray, J., and Anderson, L. (2016) 'Exploring sources of trouble in research learning for undergraduate nurses'. in *Threshold Concepts in Practice.* ed. by Land, R., Meyer, J.H.F., and Flanagan, M.T. Rotterdam: Sense, 239-252

Perkins, D. and Wilson, D. (*1999), 'Knowledge into action'. *Knowledge Directions: The Journal of the Institute for Knowledge Management*, 1, 65-77

Today (2018) BBC Radio 4 [21 May, 06:00]