

Liminality Close-Up

Ray Land, Durham University UK.

Theories are just ideas after all. But if an idea is a threshold concept, it can give us the possibility of a future. If it becomes a capability, that future becomes more reachable. (Baillie et al, 2013 p.228)

The Threshold Concepts Framework

The Threshold Concepts Framework (TCF) represents a way of thinking about curricula where specific elements that are tricky for students to understand have a transformational impact on their learning once they are understood. By identifying Threshold Concepts (TCs), it has been argued, and then adapting teaching practice and assessment, teachers can significantly benefit student learning (Flanagan 2013). The TCF can help, it is further claimed, to define critical points in a student's learning and offer a means of streamlining what is taught and assessed (Barradell 2013). The integrative nature of threshold concepts represents the antithesis of the transmission of large content volume, the 'stuffed curriculum' (Cousin 2006). It is, rather, the relationships between aspects of knowledge that are seen as transformative, in opening up new ways of seeing. 'The power and value of the threshold concept can only be recognised by a student if they can see how it is able to act in an integrative way' (Davies 2003, p. 6).

It provides opportunity, its proponents maintain, for academics to reflect on what is taught, and why, how and when it is taught. Threshold concepts also 'provide an opportunity to integrate concepts within and between subjects as well as across year levels. They have the potential to be part of the framework that shapes how content is selected, organised, presented and assessed' (Barradell 2013 p.268).

Liminality

The superordinate and non-negotiable characteristic of a threshold concept is its *transformative* capacity. TCF research has drawn extensively on the notion of troublesomeness in the liminal space. This entails both a conceptual and an ontological shift. Liminality is viewed as a transformative state in the process of learning in which there is a reformulation of the learner's meaning frame (Schwartzman 2010) and an accompanying shift in the learner's subjectivity Meyer and Land 2005). A state of comparative uncertainty is encountered 'in which the learner may oscillate between old and emergent understandings' (Cousin 2006, p. 4). Learning thresholds are often the points at which students experience difficulty and are often troublesome as they require a letting go of customary ways of seeing things, of prior familiar views. This entails an uncomfortable ontological shift, as, in many respects, we are what we know.

Here they will experience the strong affective component of TCs. There will be 'cognitive dissonance', a motivational drive to reduce unpleasant feelings of uncertainty, and 'perseverance', in which more familiar courses of action will continue to be employed despite evidence to the contrary. Too much uncertainty in this liminal state and the learner will not be able to progress beyond a surface understanding. Not enough uncertainty and the learner will not make the required transformation into a fully participating member of a community of practice. The task in curriculum design is to strike the optimal balance. (Walker 2013 p.250)

The liminal state can be seen to perform a progressive function which begins with the encountering and integration of something new. This subsequently entails a recognition of shortcomings in the learner's existing view of the phenomenon in question and an eventual letting go of the older prevailing view. At the same time this requires a letting go of the learner's earlier mode of subjectivity. There then follows an envisaging (and ultimate accepting) of the alternative version of self which is contemplated through the threshold space, the learner's 'emergent being' as Blackie et al. (2010) portray this. This involves a 're-authoring' of self according to Ross (2011), or 'undoing the script'. Learning in the liminal space further entails the acquisition and use of new forms of written and spoken discourse and the internalising of these. In its more frustrating manifestations it can be experienced as a suspended state in

which understanding approximates to mimicry or lack of authenticity. It can be unsettling, experienced often as a sense of loss, as prevailing earlier conceptual views, and earlier states of subjectivity, are relinquished.

The notion of liminal space has remained relatively ill-defined, something of a 'black box' within the Threshold Concepts Framework. Three recent analyses, however, have thrown helpful light on the nature of this space and how teachers might rethink and (re)design curricula more effectively to render liminality a more intelligible and possibly a more positive environment. Each of these analyses sees a productive convergence of the TCF with a complementary theoretical framework, namely Semiotics (signification), Schema Theory and Capability Theory.

Signification

Vivian (2012) has drawn attention to the role of semiotic theory and, specifically, signification (linguistic and graphical) in liminal learning. A group of learners being introduced to a threshold concept, he argues, may typically be assumed by the teacher to possess a common understanding of the component concepts that are subsumed or integrated by the threshold concept. Actually, what they share is a common collection of signifiers in the physical domain, that is, the words and symbols used to label the component concepts. As a group they will be subject to a common physical pedagogic process which again is a manipulation of linguistic signs. All this occurs in the physical domain. It is impossible to know the extent of that common understanding. Figure 1 below serves to emphasise that the act of learning is a personal cognitive process with a range of possible outcomes.

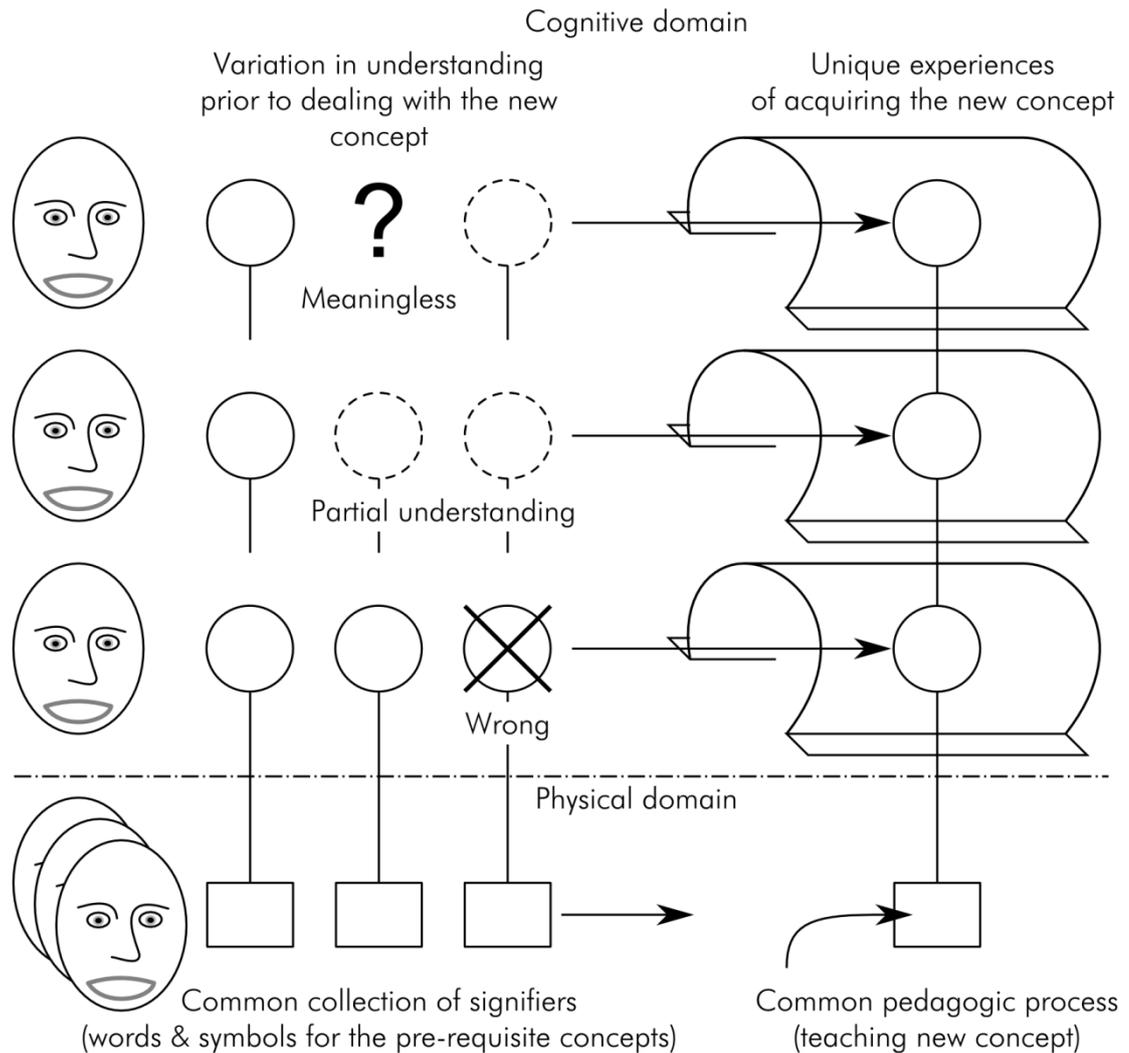


Figure 1: Four arbitrary states of understanding

Figure 1 identifies four arbitrary states of understanding – ‘complete’, ‘partial’, ‘wrong’ and ‘meaningless’. Some learners will no doubt understand some of the concepts, some will have partial understanding and some may have incorrect understanding. There may be signifiers which the learner recognises but are meaningless to them. These ‘empty signifiers’, Vivian suggests, are particularly interesting as they are then susceptible to unfortunate affective connotations such as anxiety and can lead to demotivation. In this diagram, with just three component concepts and four states there are forty-eight possible permutations. When one considers that partial understanding is measured on a continuous scale between no understanding and complete understanding, and that the number of component

concepts (and their own components in turn) can be much greater than three, the potential variation is enormous (albeit some combinations are likely to be more prevalent than others). It therefore follows that variation in conceptual understanding within a group prior to being taught a new concept is inevitable and that some means of eliciting or gaining insight into the prior state of understanding becomes imperative for the teacher. A fuller account of the implications of semiotics for the TCF and the experience of liminality as akin to a 'dark tunnel' of signification is available in Land, Rattray & Vivian (in press).

Schema Theory

Walker (2013) sees value in combining the TCF with insights from Schema Theory. He suggests that schemata are triggered by the environment the learner is in (Norman and Shallice 1986). Several schemata might thus be brought into play at any point (leading to a range and variety of possible outcomes) with the most salient schema deriving from 'the strength of activation and motivations of the individual' (Walker 2013 p.252). Walker sees a correspondence with thresholds in that effective curriculum design in schema theory is that which entails the student successfully grasping new schemata, and clearly perceiving 'the links and strength of activation between them'.

As the learning environment becomes more challenging, and the learner enters the liminal realm of TCs and of having to develop new schema and relate them together, they will be fighting against existing activation patterns which will naturally favour more established schemas. This, then, is a cognitive explanation for 'troublesome knowledge'. The process of acquiring and integrating new schema is also very much an affective one. It too can challenge common sense and create strong cognitive dissonance. (p.252)

As a pragmatic approach to assisting learners in a liminal environment he advocates a 'breadth first approach' (Zander et al. 2008), a wide ranging non-controversial introductory course providing broad coverage of knowledge objects for future integration, on the grounds that 'students need something to work with' Walker 2013 p.261) and relate to their own experience before they learn to reconfigure this material

in more integrated ways. He further advocates a policy of *minimal critical specification* which involves ‘releasing students into a deliberately created “liminal state” of uncertainty in which they are made aware of the broad parameters and the “outcome” of the task rather than the specific “activities” required to meet it’ (ibid). PBL is offered as an example of one such unrestricted and minimally specified environment.

Underpinning this view is a notion of compatible and shared perceptions between teacher and learner derived from Salmon et al. (2009) which links back to Vivian’s notions of partial, incorrect or meaningless interpretations. The teacher’s understanding and knowledge will inevitably differ in nature, degree and structure from the students’ but if the way the students perceive the learning situation is *incompatible* with the teacher’s then ‘In this case the threshold concept will be inaccessible and the student will become ‘stuck’ at this part of the curriculum’ (p.258). They will not gain entry to the particular community of practice. Conversely, though the knowledge and perspectives of the teacher and student may differ, they may be rendered *compatible*, in such fashion that ‘the threshold concept is made available to the student in simplified form and in a way that relates to the knowledge they bring to the classroom’ (ibid). Though still liminal, students now become peripheral participants in the community of practice. At a later stage students’ understandings become *shared* with the teacher as they participate fully in the community of practice, as is often the case with, say, doctoral students entering the academic community, or apprentices ‘having served their time’. Walker illustrates the process diagrammatically as follows:

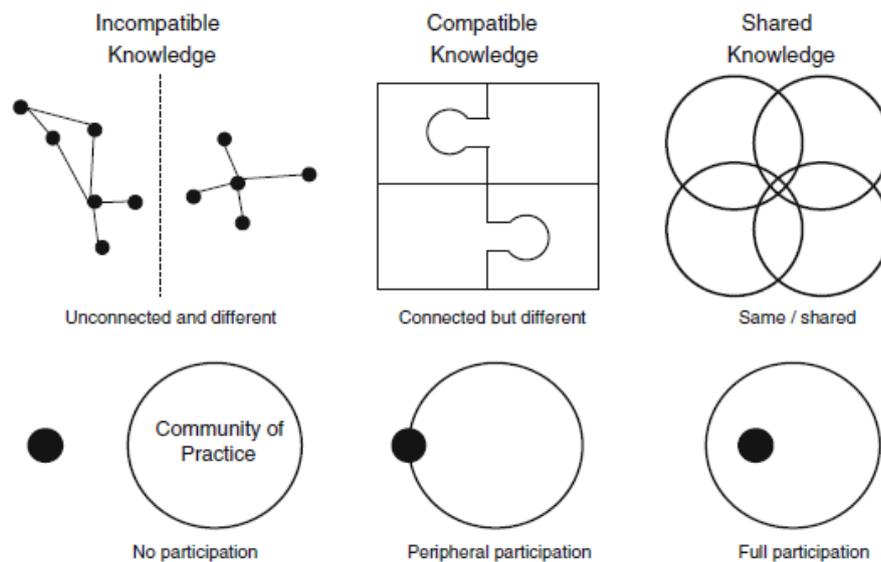


Fig. 2 Shared and compatible concepts

Walker (2013 p.258)

Threshold Capabilities

Finally, a combined theoretical framework that melds the Threshold Concepts Framework (TCF) with Capability Theory (CT) to form a Threshold Capability Integrated Theoretical Framework (TCITF) is presented by Baillie et al (2013). In this new perspective the emphasis is on preparing and equipping learners to apply their learning in previously unseen situations with a longer term professional goal of gaining 'knowledge capability'. It is based on two arguments which derive in turn from Variation Theory (Marton and Trigwell 2000; Marton 2009):

- (1) that the capability to handle previously unseen situations, a common requirement in professional life, is best developed through multiple experiences of dealing with new situations;
 - (2) that discernment of key aspects is assisted by experiencing variation, i.e. experiencing a range of situations in which the key aspects vary.
- (Bowden and Marton 1998, cited in Baillie et al 2013 p.233)

The approach seeks to rectify a situation in which learners are unable to discern the key aspects of any new situation and may have to resort to some form of mimicked

professional or academic script e.g. ‘thinking like an engineer’, ‘thinking like a historian’. Rather they seek ‘professional ways of being’ (Dall’Alba 2009, p. 111).

Being a professional does not necessarily mean mimicking some pre-determined model but rather is a product of growth in the individual, with varying outcomes. We therefore locate the development of knowledge capability, becoming a professional, very much at the personal level of the student. It is also about a relational perspective, both in terms of the person’s relation to the situation and the underlying principles as well as the relation between principles and context. (Baillie et al 2013 pp. 237-8).

Knowledge capability is developed principally through experience of variation. This experience takes place within the liminal state, where (after Aristotle) the *episteme* of a knowledge domain (its underlying interrelationship of concepts) is encountered in different contexts to develop *phronesis* (discernment, decision-making, informed value judgements) with the ultimate goal of *techne* (the systematic application of a craft, art or profession). These authors aim to get away from the potentially trivialising notion of concept as merely a ‘content-focused curriculum entity’ and disciplines as mere inventories of discrete concepts. They present a richer understanding of discipline:

they are defined by complex webs of concepts, some threshold, shrouded in distinctive, epistemic modes of reasoning and explanation. We thus also emphasise that the TCF explicitly differentiates a class of concepts that are not merely curriculum entities and that their internalisation by learners brings ...epistemic and other shifts ..’ (Baillie et al p.234).

Hence the liminal experience involves real or realistic settings to enable the student ‘to explore what *is* and contrast it with what *is not* or what *might be*’ (p.238). This entails: open situations which require discernment; trialling of solutions; reflection on these trials to figure out what was appropriate, or less relevant and why; individual feedback from teachers and other professionals on the quality of the student’s discernment, diagnosis, planning and execution; formal assessment of these latter elements and not just the executed outcomes, and integrated assessment across the full

range of relevant content (p.234). Interestingly, unlike the approach derived from Schema Theory discussed above, these authors eschew any systematic attempt to render a troublesome concept easier for students on the grounds that that this will ‘make it even more difficult for students later on to re-learn the true complexity of the concept’ (p.234). Their take on this is that ‘Simplification is not good pedagogy’ (ibid).

Liminality becomes the space to develop threshold capabilities en route to eventual acquisition of knowledge capability. The authors represent these relationships thus:

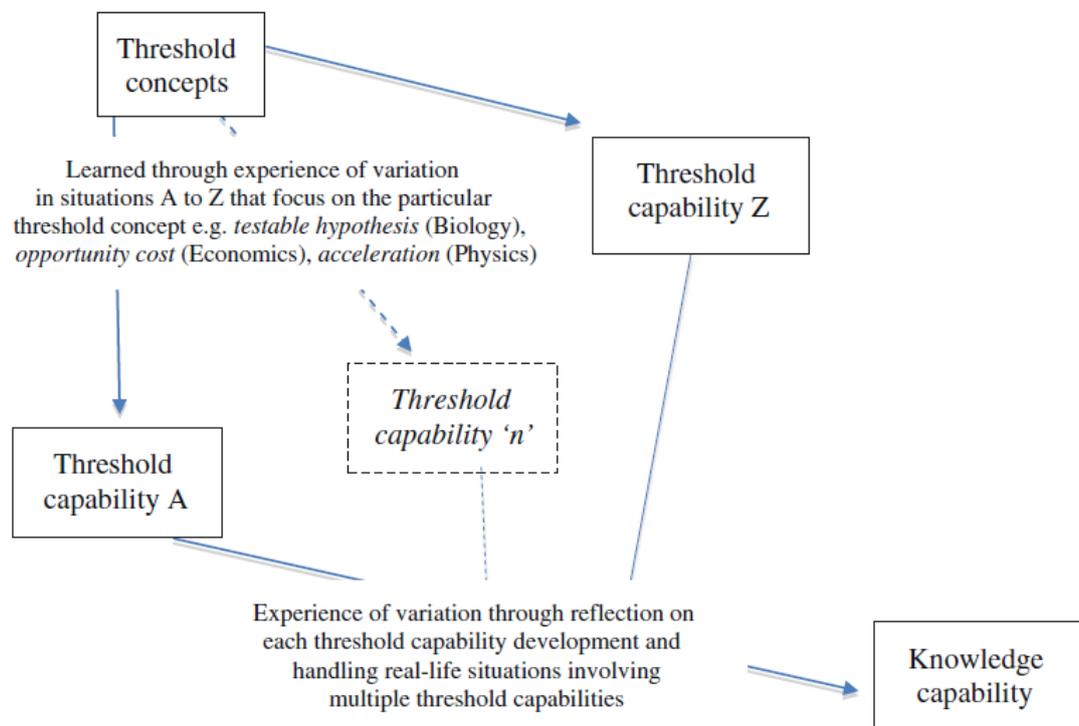


Fig. 3. The relation between threshold concepts, threshold capabilities and knowledge capability through experience of variation (Baillie et al 2013 p.238).

Liminality ceases to be a clearly differentiated linear sequence of pre-liminal, liminal and post-liminal states on the grounds that ‘A true learner is never in a permanent postliminal state’ (p.242). A liminal state comes to be viewed as the norm, with ‘continual waves of less and more comfortable liminality’ (p.243). Troublesomeness is less a barrier than an opportunity for learning. Threshold Capabilities constitute a series of interim states that in the long term develop personal capacity for ‘knowledge

capability'. This latter is deemed to operate in an unbounded state and facilitates the capability to analyse and deal effectively with previously unexperienced situations.

Conclusion: liminal transformation

It is worth noting that the notion of transformation itself has been subject to critique. Somewhat in keeping with Baillie et al's notion of 'continual waves' of liminality Ross (2011 p. 226) points out that:

transformation has to be understood as a matter of shifting subjectivity, not as deep changes to an essential selfhood. Subjectivity is best understood as always in process, and so shifts are commonplace, part of the negotiations that take place as a result of the discursive nature of subjectivity.

Processing shifts in subjectivity in this way, she argues, is a principal purpose of reflection in the educative process, 'a purpose that may still be complex and contestable, but which at least has the benefit of being open to analysis'. Subjectivity might also be considered as a discursive or narrative effect, 'a character in a story as much as the "author" of the story', according to Usher, Bryant, & Johnson, (2002 p.88). It is never 'a once-and-for-all construction', and the experience of meaning is never something permanently fixed. 'Subjectivity', they conclude, 'is therefore always shifting and uncertain and has to be continually "re-formed"'. (ibid)

References

- Baillie, C., Bowden, J.A and Meyer, J.H.F. (2013). Threshold capabilities: threshold concepts and knowledge capability linked through variation theory. *Higher Education* 65:227–246.
- Barradell, S. (2013) The identification of threshold concepts: a review of theoretical complexities and methodological challenges. *Higher Education* 65:265–276.
- Blackie, M. A. L., Case, J. M., & Jawitz, J. (2010). Student-centredness: The link between transforming students and transforming ourselves. *Teaching in Higher Education*, 15(6), 637–646.

- Bowden, J. A., & Marton, F. (1998). *The University of learning: Beyond quality and competence*. London: Kogan Page.
- Cousin, G. (2006). An introduction to threshold concepts. *Planet*, 17, 4–5.
- Dall’Alba, G. (2009). *Learning to be professionals*. New York: Springer.
- Davies, P. (2003). Threshold concepts: How can we recognise them? Embedding Threshold Concepts Project: Working Paper 1.
[http://www.staffs.ac.uk/schools/business/iepr/docs/etcworkingpaper\(1\).doc](http://www.staffs.ac.uk/schools/business/iepr/docs/etcworkingpaper(1).doc).
- Flanagan, M. (2013) Threshold Concepts: Undergraduate Teaching, Postgraduate Training and Professional Development: A short introduction and bibliography. London: UCL. <http://www.ee.ucl.ac.uk/~mflanaga/thresholds.html>
- Land, R., Rattray, J. & Vivian, P. (in press) Learning in the Liminal Space: A Semiotic Approach to Threshold Concepts. *Higher Education*.
- Marton, F. (2009). Sameness and difference in learning. . Lecture at the Swedish Research Links Symposium on Phenomenography and Variation Theory, University of Hong Kong, Hong Kong SAR, 1-3 December
- Marton, F. & Trigwell, K. (2000) Variatio est Mater Studiorum *Higher Education Research & Development*, v19 n3 p381-95 November
- Meyer, J., & Land, R. (2005). Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher Education*, 49(3), 373–388.
- Norman, D. A., & Shallice, T. (1986). Attention to action: Willed and automatic control of behavior. In R. J. Davidson, G. E. Schwartz, & D. Shapiro (Eds.), *Consciousness and self regulation: Advances in research* (Vol. IV). New York: Plenum Press.
- Ross, J. (2011) Unmasking online reflective practices in higher education. Unpublished Ph.D thesis. University of Edinburgh.
- Salmon, P. M., Stanton, N. A., Walker, G. H., & Jenkins, D. P. (2009). *Distributed situation awareness: Advances in theory, measurement and application to teamwork*. Farnham: Ashgate.
- Schwartzman, L. (2010). Transcending Disciplinary Boundaries: A Proposed Theoretical Foundation for Threshold Concepts. In Meyer, J.H.F, Land, R. and Baillie, C. (2010) *Threshold Concepts and Transformational Learning*. Rotterdam, Boston and Taipei: Sense Publishing, pp.21-44.
- Usher, R., Bryant, I., & Johnson, R. (2002). Self and experience in adult learning. In R. Harrison (Ed.) *Supporting lifelong learning: Perspectives on learning*. London: RoutledgeFalmer. pp. 78-90.
- Vivian, P. (2012) A new symbol based writing system for use in illustrating basic dynamics. Unpublished Ph.D thesis. Coventry University.

Walker, G. (2013) A cognitive approach to threshold concepts. *Higher Education* 65:247–263

Zander, C., Boustedt, J., Eckerdal, A., McCartney, R., Mostro'm, J. E., Ratcliffe, M., et al. (2008). Threshold concepts in computer science: A multinational empirical investigation. In R. Land, J. H. F. Meyer, & J. Smith (Eds.), *Threshold concepts within the disciplines*. Rotterdam: Sense Publishers.