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Open Education as a Threshold Concept in Teacher Education:

a theoretical framework for further research

#oer18thresholds



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This session grew from an original session proposal by:

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Following an open call for participation the group expanded to:

Leo Havemann, Birkbeck, University of London/The Open University
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Fabio Nascimbeni, Universidad Internacional de La Rioja
Helen Crump, The Open University
Nick Baker, University of Windsor
Mari Cruz García Vallejo, Independent



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Part 1

A Video Introduction

(Gemma and Victoria)

https://drive.google.com/open?id=1jwYwQ9GnYQ0QEjU927fyTAViCWXk_IRt



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Part 2: Open as Troublesome and Discussion

(Slides by Dawn and Leo, Presented by Leo and Helen)

The original criteria

transformative: occasioning a significant shift in the perception of a subject, the construction of subjectivity and personal identity

irreversible: unlikely to be forgotten, or only able to be unlearned with difficulty

integrative: making connections between ideas within a subject and resulting in an understanding of the relationships between ideas and practices in a field

bounded: constituting a demarcation between disciplinary areas, which serves to delineate members of one academic community from another

troublesome: appearing counter-intuitive, intellectually absurd or 'alien' when first encountered

(Meyer & Land, 2006b; Perkins, 1999, 2006)

Subsequent criteria

- reconstitutive:** involving a shift in learner subjectivity and a transfiguration of self;
- discursive:** incorporating an extended use of natural, symbolic and artificial language characteristic of particular disciplinary discourses and thinking processes; and
- liminal:** likening the internalisation of a threshold concept to a journey or rite of passage (Baillie et al., 2013; Barradell, 2013; Meyer, 2012; Quinlan et al., 2013).

Rites de Passage

The genesis of threshold concept theory is in van Gennep (1960) and Turner's (1969, 1970) anthropological research on initiation rites and life transitions.

- Adolescent >>> Adult
- Student >>> Professional
- PhD candidate >>> Academic researcher
- Traditional educator >>> Open educator

How does the initiation from *thinking like* an open educator, to *thinking as* an open educator take place?

Subject	Threshold Concepts
Accountancy	cash, depreciation, profit, reconciliation
Art therapy	professional identity, reflexivity, taboo
Biology	complexity, conceptual change, dynamics, energy, equilibrium, evolution, homeostasis, hypothesis creation, osmosis, process and abstraction, probability, proportional reasoning, randomness and scales, variation
Business and commerce	politics as power
Climate change	uncertainty
Computing	code reuse, complexity, data abstraction, design patterns memory/pointers, modularity, object-oriented programming, state, recursion
Economics	discretionary fiscal policy, economic modelling, efficiency, elasticity, equilibrium, incentives, interaction between markets, margin, opportunity cost, welfare
Electrical engineering	dynamic resistance, feedback, holistic current flow, Thévenin's theorem
Engineering	Bode plots, logical thinking, map sense, professionalism, response, social justice, transient critical flow, transmission lines
Geography and geoscience	data modelling, geologic/deep time, interoperability, map scale
Humanities	subjective interpretation
Information literacy	authority, commodification of information, disciplinarily, format as process, metadata
Leadership	moral courage, risk, service, shared leadership, structural leadership, 'creating leaders'
Linguistics	rank scale

Troublesome knowledge

The notion of troublesome knowledge is informed by Perkins' (1999, 2006) pragmatic constructivism.

- *Inert*: seldom applied, e.g. passive vocabulary
- *Ritual*: routinely (but often uncritically) executed to achieve a result
- *Conceptually difficult*: conflicting with intuitive understandings
- *Foreign*: challenging existing beliefs and worldviews.
- *Tacit*: reflecting unconscious beliefs or peripheral awareness



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Discussion!

Threshold concepts are said to be ‘troublesome knowledge’ - in what sense might teachers experience open education as troublesome?

Any other thoughts arising from the idea of open education as a threshold concept?

Please discuss and tweet your responses with the hashtag!

References

- Baillie, C., Bowden, J.A., & Meyer, J.H.F. (2013). Threshold capabilities: Threshold concepts and knowledge capability linked through variation theory. *Higher Education*, 65(2), 227-246. <https://doi.org/10.1007/s10734-012-9540-5>
- Barradell, S. (2013). The identification of threshold concepts: A review of theoretical complexities and methodological challenges. *Higher Education*, 65(2), 265-276. <https://doi.org/10.1007/s10734-012-9542-3>
- Havemann, L. (2016). Open educational resources. In M. A. Peters (Ed.), *Encyclopedia of Educational Philosophy and Theory*. Singapore: Springer Singapore. http://doi.org/10.1007/978-981-287-532-7_218-1
Available from: https://www.researchgate.net/publication/311577867_Open_Educational_Resources
- Keefer, J.M. (2015). Experiencing doctoral liminality as a conceptual threshold and how supervisors can use it. *Innovations in Education and Teaching International*, 52(1), 17-28. <https://doi.org/10.1080/14703297.2014.981839>
- Land, R. (2014). Crossing trial boundaries: Interdisciplinarity as a threshold concept. In P. Trowler, M. Saunders, & V. Bamber (Eds.), *Tribes and territories in the 21st century: Rethinking the significance of disciplines in higher education* (pp. 175-185). London, England: Routledge.
- Land, R., Cousin, G., Meyer, J.H.F., & Davies, P. (2005). Threshold concepts and troublesome knowledge (3): Implications for course design and evaluation. In C. Rust (Ed.), *Improving learning diversity and inclusivity*. Oxford, England: Oxford Centre for Staff and Learning Development

- Land, R., Cousin, G., Meyer, J.H.F., & Davies, P. (2006). Implications of threshold concepts for course design and evaluation. In J.H.F. Meyer & R. Land (Eds.), *Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge* (pp. 195-205). London, England: Routledge.
- Land, R., & Meyer, J.H.F. (2010). Threshold concepts and troublesome knowledge (5): Dynamics of assessment. In J.H.F. Meyer, R. Land, & C. Baillie (Eds.), *Threshold concepts and transformational learning* (pp. 61-70). Rotterdam, Netherlands: Sense.
- Marsh, J.D., & De Luca, R.J. (2016). Transformative insights: A synthesis of threshold concept theory and graduate attributes. *Waikato Journal of Education*, 21(1), 175-188. Retrieved from <http://www.wje.org.nz/index.php/WJE/article/view/208>
- Meyer, J.H.F. (2012). 'Variation in student learning' as a threshold concept. *Journal of Faculty Development*, 26(3), 8-12.
- Meyer, J.H.F. (2013, November). *Making threshold concepts 'work' at a course level*. Paper presented at the Transforming Disciplines: Emergent Learning and Threshold Concepts Boutique Conference, Hamilton, New Zealand.
- Meyer, J.H.F., & Land, R. (2003). Threshold concepts and troublesome knowledge: Linkages to ways of thinking and practising within the discipline. In C. Rust (Ed.), *Improving student learning: Ten years on*. Oxford, England: 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. <https://doi.org/10.1007/s10734-004-6779-5>
- Meyer, J.H.F., & Land, R. (2006). Threshold concepts and troublesome knowledge: Issues of liminality. In J.H.F. Meyer & R. Land

- Meyer, J.H.F., Land, R., & Davies, P. (2008). Threshold concepts and troublesome knowledge (4): Issues of variation and variability. In R. Land, J.H.F., Meyer, & J. Smith (Eds.), *Threshold concepts within the disciplines* (pp. 59-74). Rotterdam, Netherlands: Sense.
- Perkins, D. (1999). The many faces of constructivism. *Educational Leadership*, 57(3), 6-11.
- Perkins, D. (2006). Constructivism and troublesome knowledge. In J.H.F. Meyer & R. Land (Eds.), *Overcoming barriers to student understanding: Threshold concepts and troublesome knowledge* (pp. 33-47). London, England: Routledge.
- Quinlan, K.M., Male, S., Baillie, C., Stamboulis, A., Fill, J., & Jaffer, Z. (2013). Methodological challenges in researching threshold concepts: A comparative analysis of three projects. *Higher Education*, 66(5), 585-601.
<https://doi.org/10.1007/s10734-013-9623-y>
- Turner, V. (1979). *Betwixt and between: The liminal period in rites de passage*. In W. A. Lessa & E. Z. Vogt (Eds.), *Reader in comparative religion: An anthropological approach* (pp. 234-243). New York, NY: Harper and Row.
- Turner, V.W. (1969). *The ritual process: Structure and anti-structure* (The Lewis Henry Morgan Lectures, 1966). London, England: Routledge & Kegan Paul.
- van Gennep, A. (1960). *The rites of passage*. London, England: Routledge & Kegan Paul.