Threshold Concepts
An Introduction

UNIVERSITY OF WATERLOO
uwaterloo.ca

Julie Timmermans, Ph.D.
Centre for Teaching Excellence
julie.timmermans@uwaterloo.ca

November 14, 2012

Typical Questions about Course Content

- What content will I include in the course?
- What are the key concepts/ideas in this course?
- How do I decide the appropriate amount of knowledge to teach?
- How do I balance the depth and the scope of the subject?

Why look at Threshold Concepts?

- Helps us make the shift from teaching to learning

  From “What do we teach?” to

  “What do we want students to learn?”

- Enables us design courses around troublesome, yet potentially transformative concepts

UNIVERSITY OF WATERLOO

Definition

"A threshold concept can be considered 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 be a **transformed internal view** of subject matter, subject landscape, or even world view. This **transition 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 particular 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)

UNIVERSITY OF WATERLOO

Definition – Key Points

- Portal
- Opening up new way of thinking
- Transformed way of understanding
- Transformed internal view of subject matter
- Transformation may be sudden or protracted
- Transition may be troublesome
- How people ‘think’ in a particular discipline

(Meyer & Land, 2003, p. 412)

UNIVERSITY OF WATERLOO

Features/Characteristics

- **Transformative** (causes a shift in learner's view of subject)
- Irreversible (unlikely to be forgotten or "unlearned")
- Integrative (exposes previously-hidden interrelatedness of something)
- Potentially troublesome (may cause learners to struggle or "get stuck")
- Bounded (demarcates the boundaries of a discipline)
- Discursive, reconstitutive, liminality

(Meyer & Land, 2003)

Examples

- *Depreciation* in Accounting
- *Central limit theorem* in Statistics
- *Opportunity cost* in Economics
- *Entropy* in Physics
- *Irony* in English literature

Example

Pain in Medicine

> "…A professor of Physiology in a London medical school describes the way that an understanding of 'pain', as a threshold concept, serves to transform the professional thinking and discourse of medical undergraduates. From earlier understandings and accounts of pain as something negative, to be removed or diminished, the clinical practitioner learns to 'see' or read pain differently, as an ally that aids diagnosis and healing." (Meyer & Land, 2005, p. 374)

Identifying Threshold Concepts
Implications for teaching and course design

Threshold concepts as…

- "jewels in the curriculum" (Land, 2010)
- "bridging devices" (Meyer & Land, 2003)
- a "lens" for "critical reflection" on one's discipline (McLean, 2009)
- instigators of development in ways of knowing (Timmermans, 2010)

UNIVERSITY OF WATERLOO

How can we intentionally design/organize courses, so that we maximize the chance of students discovering threshold concepts?

References

Land, R. (2010) *Threshold concepts and troublesome knowledge: A transformative approach to learning*. Keynote address at the New Zealand Association of Bridging Educators 9th National Conference, September 29-October 1, Wellington, New Zealand: http://www.utdc.vuw.ac.nz/events/RayLand/201009RayLandSlides.ppt

McLean, J. (2009). Triggering engagement in SoTL through Threshold Concepts. *International Journal for the Scholarship of Teaching and Learning, 3*(2), 1-5.

UNIVERSITY OF WATERLOO

References

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 – 10 years on* (pp. 412-424). Oxford, UK: 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

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, the Netherlands: Sense.

UNIVERSITY OF WATERLOO