

## Threshold Concepts

### 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.”*

Source: Meyer, J.H.F. and Land, R. (2003) Threshold concepts and troublesome knowledge: linkages to ways of thinking and practicing.

Threshold concepts are ...

- **Transformative:** Once understood, a threshold concept changes the way in which the student views the discipline.
- **Troublesome:** Threshold concepts are likely to be troublesome for the student. Perkins [1999, 2006] has suggested that knowledge can be troublesome e.g. when it is counter-intuitive, alien or seemingly incoherent.
- **Irreversible:** Given their transformative potential, threshold concepts are also likely to be irreversible, i.e., they are difficult to unlearn.
- **Integrative:** Once learned, they are likely to bring together different aspects of the subject that previously did not appear, to the student, to be related.
- **Bounded:** A threshold concept will probably delineate a particular conceptual space, serving a specific and limited purpose.
- **Liminal:** Meyer and Land have likened the crossing of the pedagogic threshold to a ‘rite of passage’ (drawing on the ethnographical studies of Gennep and Turner in which a transitional or liminal space has to be traversed)

Source: Flanagan, M. (2015) Threshold Concepts: Undergraduate Teaching, Postgraduate Training and Professional Development: A short introduction and bibliography (<http://www.ee.ucl.ac.uk/~mflanaga/thresholds.html>)

### Examples

**physics:** heat transfer, gravity

**chemistry:** atomic structure, phase equilibria

**mathematics:** complex numbers, linearity

**economics:** opportunity cost, elasticity

**history:** narrative and fact, sources

**structural engineering:** governing mode of failure

**political science:** sovereignty, the state

**biology:** adaptation, variation

**law:** precedent, ratio/obiter