
Threshold Concepts in Secondary Geography Education

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Research focus:

What can a threshold concepts framework contribute to:

- developing geographical thinking?
- curriculum development?
- enhancing pedagogic practice?

Background to this research:

- Threshold concepts approach has proven a productive framework in higher education
- geography's conceptual frameworks can serve as a resource
- emphasis on a living geography
- importance of situated learning
- opportunities presented by new KS3, 4 and 5 curricula
- overemphasis on pedagogy at the expense of deeper learning

Refining the research problem:

To what extent can a threshold concepts approach assist in:

- effectively promoting geographical thinking?
 - democratising learning spaces?
 - making explicit disciplinary practices and ways of thinking?
 - assessing progress in disciplinary thinking?
 - making sense of student conceptual difficulty?
 - translating conceptually-led curriculum aims into learning sequences?
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Methodology:

- exploratory theoretical study
- therefore findings remain provisional and tentative
- reflection on own experiences and practice

The threshold concepts approach in outline:

“ 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 thus be a transformed internal view of subject matter, subject landscape, or even world view.”

(Meyer and Land, 2006)

Characteristics of a threshold concept:

Likely to be:

- transformative
- probably irreversible
- integrative
- possibly bounded
- potentially troublesome

(Meyer and Land, 2006)

Sources of troublesomeness:

Knowledge can appear as:

- counter-intuitive, alien or incoherent
- ritualised, inert, tacit or conceptually difficult

Difficulty can also inhere in:

- learner
 - social learning context
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The discipline is viewed as an *episteme*:

Episteme is “a system of ideas or way of understanding that allows us to establish knowledge.... manners of justifying, explaining, solving problems, conducting enquiries, and designing and validating various kinds of products or outcomes”

(Perkins 2006)

Development of a theoretical model:

Adapted and applied a model developed by Davies and Mangan (2007)

- a conceptual change model
- employs Meyer and Land's (2006) definition of threshold concepts as being transformative, irreversible, integrative, bounded and potentially troublesome

Outline of the model:

Thresholds are associated with types of conceptual change


There are three types of conceptual change:

1. Basic
2. Discipline
3. Procedural

These will be considered in turn

Basic level conceptual change :

A new concept is derived from reworking prior understanding.
This can be in one of three forms:

1. *Differentiation* e.g. Migration 

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graph LR; Migration --> forced_migration[forced migration]; Migration --> voluntary_migration[voluntary migration];
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2. *Coalescence* e.g. powerlessness/exclusion are interdefined
3. Concept defined in terms of properties, now redefined in terms of *relationships* e.g. river width

- In these ways, understanding of everyday experience is transformed through integration of personal experience with ideas from the discipline

Discipline level conceptual change:

Understanding of subject discipline ideas is integrated and transformed through the acquisition of a theoretical perspective (comprised of both the discipline's organising concepts and its procedures)

Discipline level conceptual change:

There are two levels at which discipline conceptual change might operate:

1. Students become familiar with an organising concept (e.g. scale). Most likely an iterative process over time.
2. Students employ a number of these organising concepts simultaneously to make sense of their world from a disciplinary perspective (i.e. thinking geographically)

When these disciplinary concepts are employed together with procedural knowledge, the *episteme* (ways of geographical knowing) becomes available to the student.

Procedural level conceptual change:

The ability to construct discipline-specific narratives and arguments transformed through the acquisition of ways of practising.

The thinking is geographical when certain types of procedures are applied in concert with the discipline's integrative organising concepts

Procedural level conceptual change:

- Thinking procedurally might involve using particular modes of geographical thinking. These might include:

spatial, systems, process, dimensional, relational, integrative, particular-synoptic and critical thinking.

- *Geographical enquiry* might be a procedural threshold
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What are the implications of these findings?

- Positive re-establishment of balance and dialogue between school subject and academic discipline
 - Democratisation of knowledge practices
 - Transactional curriculum enquiry rather than a teacher-centred or student centred approach
 - Teacher concern with learning journeys
 - Progression understood in terms of development of geographical thinking (might require new forms of assessment)
 - Asserts professionalism of teacher as subject-specialist
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Directions for future research:

- Development of methodologies to investigate threshold concepts within geography education
 - What is the nature of these threshold concepts?
 - Investigating appropriate pedagogic practices and learning environments to foster geographical ways of thinking and practising
 - Investigation of learner journeys
 - How do we assess progression in geographical thinking?
 - Understanding variation in the ways students negotiate thresholds
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