

Initiating Interdisciplinary Discourse about Learning: some early challenges for a TEL Development Project

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The “Transforming Perspectives” Project (full name: “Transforming Perspectives Technology to Support the Teaching and Learning of Threshold Concepts”) is a six-month development project funded under the ESRC/EPSRC Technology Enhanced Learning Programme to develop interdisciplinary perspectives on Threshold Concepts in Higher Education. These concepts are characterised by Meyer and Land (2006) as transformative, irreversible, integrative, bounding and problematic. Primary project activities are two sets of seminar series leading up to a final project conference to be held in Cambridge in March 2007. The first of these will explore further the nature and role of threshold concepts in a number of disciplines and the second will use these case studies as the basis of interdisciplinary discourse about threshold concepts and conceptual change more generally. These discussions will also inform the specification of appropriate technological systems and environments to support teaching and learning of threshold concepts.

In our work to date with research participants drawn from a range of disciplines, we have found that while the idea of Threshold Concepts may be challenging (perhaps even a ‘threshold concept’ in its own right!) it appears to have considerable appeal and authenticity and has many of the characteristics of what Hargreaves (2004) describes as a ‘high leverage’ idea or strategy. That said, we have found disciplinary differences in how they are identified and conceptualised; physical scientists, for example, tend to be most interested in their transformative potential for individual learners (‘eureka moments’), while bioscientists stress their integrative, cross-disciplinary role (‘big ideas’). In other disciplines (notably social sciences, arts and humanities) they are more often characterised as being an element of discipline-specific and theory-laden ‘ways of seeing’ (Hanson, 1958) or ‘ways of thinking and practicing’ (Entwistle, 2005).

The descriptions, metaphors and analogies used by participants to describe the role and scope of Threshold Concepts in learning go beyond ascertaining how they might be identified. They also point up epistemological and pedagogical differences across disciplines which represent a significant challenge for a project which is primarily concerned with enabling and encouraging interdisciplinary discussions and activities. This is particularly evident where this project represents a first opportunity for participants (both teachers and students) to engage with learning theories and take part in structured discourse about teaching and learning. While we recognise that there are ‘many meanings of theory and practice’ (Eraut, 2003) and that the teachers with whom we are working have ‘theories’ of teaching and learning, these are largely oriented towards ‘mastery’ and achievement on the part of individual students; according to this perspective, identification of Threshold Concepts may be perceived as an element in the ‘problem solution’ space, rather than a point of focus in that of ‘problem formulation’.

This means that the project is concerned not with initiation of a discourse in which the participants ‘set problems’ for each other (‘find us some threshold concepts that conform to this description’ or ‘does your theory suggest that this is a threshold concept?’). Rather, the discourse itself needs to be established as a legitimate activity for all participants; both the research and disciplinary teams need to move into a common ‘problem formulation space’ or ‘boundary zone’ where understanding of the nature, role and scope of Threshold Concepts (both general and specific) can take place as processes of co-configuration (Boyton and Victor, 1998; Ludvigsen, Havnes and Lahn, 2003). The role of ‘brokers’ (Burt, 2006; Wenger, 1998) who recognise opportunities for boundary-crossing and facilitate new patterns

of activity may be particularly significant. This suggests that the project will, in addition to its declared objectives, also be concerned to discover what characterises the 'space' in which these processes are enabled and the individual, disciplinary and organisational enablers and barriers which may come into play.

References

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