Using audio diaries to identify threshold concepts in "softer" disciplines: surprises, questions and implications.

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Much of the literature around threshold concepts (1) is found in "hard" disciplines such as mathematics, science and technology rather than in the "softer" or applied disciplines (2). The notion of threshold concepts is rarely discussed in medical education.

Professionalism, psychology and sociology are key themes within our medical undergraduate programme. At Plymouth Medical School, much of this learning takes place in "Jigsaw" groups where students share, reflect on, and make sense of their clinical experiences. Tutors report that students often find "soft" non-biomedical concepts hard to grasp and struggle to see their relevance to the daily world of "doing medicine". We wondered if threshold concepts might provide a 'way in' to these subjects.

Solicited audio diary methodology is an underused but powerful tool for researchers (3). We decided to use audio diaries to explore threshold concepts and troublesome knowledge related to sociology, psychology and professionalism within medicine. Over a 6 month period, following each "Jigsaw" session, students record relevant experiences or critical incidents on a smart phone, including their reflections on a) "aha" moments, times when things seem to come together or change the way they see things b) struggles, times when they don't understand or cannot see the relevance of something c) "I've got it" "No, I haven't got it" oscillations. Jigsaw facilitators also record reflections of sessions on their phone.

This project has led to fascinating and often unexpected insights into what, how and when students learn through reflecting within a group on their clinical experiences. It has led us to ask important questions:

- How do we recognise, from student reflections and use of language, where learning is transformative, integrative or troublesome? How can we recognise where thresholds have been crossed?
- How does the notion of boundedness apply to threshold concepts in the "softer" disciplines?
- How important are practical experience and the notions of "relevance" and "transfer" in facilitating the crossing of thresholds?
- Can dialogue between participants and/or individuals "looking back" over their year provide us with additional understandings, including evidence of irreversibility?
- How can our new understandings be incorporated into the curriculum in our own and other schools and disciplines? How might we adapt teaching and learning methodology in the light of these insights?

1 Meyer, J.H.F. and Land, R. (2003). Threshold Concepts and Troublesome Knowledge: Linkages to Ways of Thinking and Practising within the Disciplines. Enhancing Teaching-Learning Environments in Undergraduate Courses, ETL Project, Occasional Report 4, May 2003.
2. Atherton J, Hadfield P and Meyers R. Threshold Concepts in the Wild. Expanded version of a paper presented at Threshold Concepts: from Theory to Practice conference, Queen's University, Kingston Ontario 18-20 June 2008.
3. Monrouxe LV. Solicited audio diaries in longitudinal narrative research: a view from inside. Qualitative Research 2009; 9 81-103