

Considering 'structural transformation' as a threshold concept in university teaching.(0062)

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This paper draws from work carried out in university settings in both the UK and in Panama. New academics within UK universities are provided with courses to prepare them for their teaching role. This is generally an in-house postgraduate certificate in which the participants are invited to reflect upon their views regarding elements of the teaching and learning process. In Panama's Technological University, on the other hand, a pilot study in peer-observation is being conducted in a similar effort to find ways to provide academics with the opportunity to critically examine their teaching in a supportive, non-threatening context. Neither the courses nor the peer-observation study are designed to tell lecturers how they should teach within their own classes, but aim to support them in developing their own personal approach that is appropriate for their context.

Inevitably, participants –in both the UK courses and the Panamanian study exhibit a diversity of backgrounds and experiences which make it difficult to determine a suitable starting point for discussions on how to develop their views of teaching. It is clear that Ausubel's comments on teaching are just as apposite for novice teachers as they are for novice students when he said that the most important single factor influencing learning is what the learner already knows (Ausubel, 1968). The value of this prior knowledge as a starting point for teaching has been explained by Taylor (2000: 166):

'providing authoritative ready-made meanings (such as those of the teacher or texts) may not challenge adults' existing beliefs. Whereas using their ideas as a starting place for further exploration is likely to raise awareness of

assumptions that are often hidden, even from themselves, thus encouraging self-questioning.'

Indeed, it is not only *what* is known, but also *how* such understanding is organised - the structure of prior understanding proving to be a potentially inflexible factor that may support or impede further learning (Hay, Wells and Kinchin, 2008). However, the task of expressing their prior conception of teaching in a discussion with their peers can present university lecturers with a problem to verbalise tacit understanding of their actions as they may lack the appropriate tools to uncover what it is that they are doing, and/or the vocabulary to articulate it. Hoffman and Lintern (2006: 216) comment that there is no indication that tacit knowledge 'lies beyond the reach of science in some unscientific netherworld of intuitions and unobservables', and that tools such as concept mapping can support colleagues in identifying and describing their practice with unprecedented clarity.

In an attempt to overcome barriers to discussing conceptions of teaching, a concept mapping activity (Novak, 2010) was introduced as a support mechanism. Numerous studies have shown concept mapping to have the potential to support learning (eg. Ritchhart *et al.*, 2009), and provide an integrated mixed-method that can be considered quantitatively or qualitatively (Kinchin *et al.*, 2000). It can be used to support reflection and the negotiation of meaning in a professional context (eg. Mackinnon and Keppell, 2005). As noted by van Boxtel *et al.*, (2002), a practical benefit of using concept mapping rather than a more traditional narrative explication of participants' views is that mapping does not require detailed writing activities that can distract from sharing and subsequent discussion of substantive concepts. For those new to the literature on higher education, Kolb's cycle is probably the most widely encountered educational theory and Kolb is

certainly the most widely cited author in the learning styles literature (Desmedt and Valcke, 2004: 451). If learning by an individual is described by Kolb's cycle (Kolb, 1984), then the interaction between teacher and student may be described by a double cycle (one for the student and one for the teacher) in which the common ground would be the shared concrete experience of the classroom. We therefore postulate a 'double cycle' as a generic model to describe the interactions of teaching and learning (Figure 1). By retaining the terminology of the Kolb cycle, we hope that colleagues will be able to translate their practice in terms that will be immediately evident in general texts on teaching in higher education.

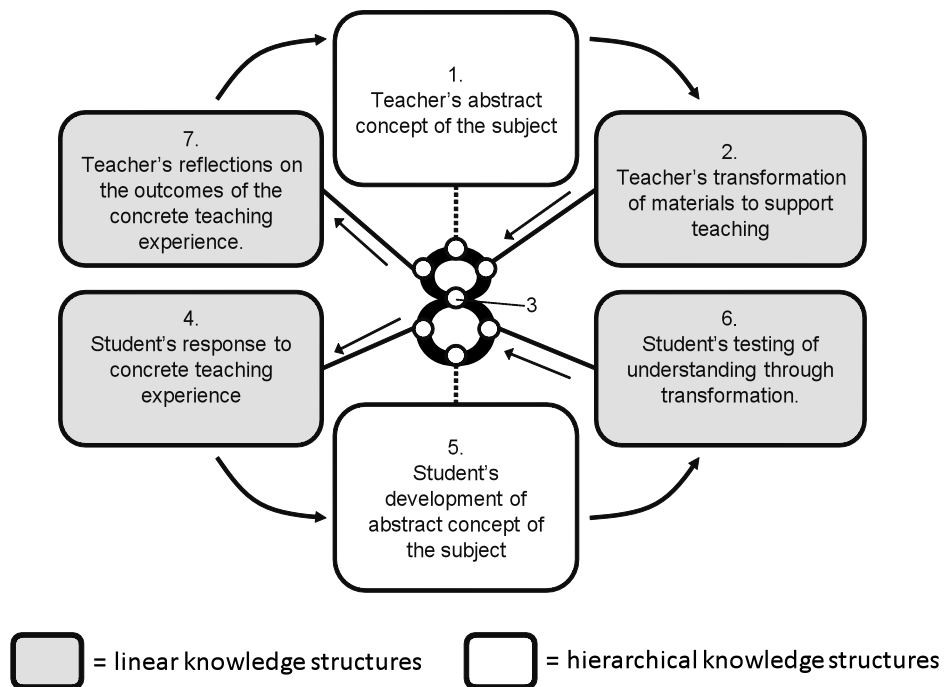


Figure 1:

Schematic representation of a double Kolb cycle as a figure 8: the upper loop representing the teacher's learning and the lower loop representing the students' learning. The 'shared concrete experience' is located at point 3 of the cycle that takes place in the classroom.

The two broad models of teaching described by Carnell (2007) as *instruction* and *construction* emerge from the way participants' concept maps relate to the double Kolb model: those who confine themselves to the upper (teacher) loop tend towards the instruction mode, whilst those with a strong emphasis on the lower (student) loop tend towards the construction mode. The development from a single to a double cycle (ie the inclusion of student learning in the participants' models) is a major step towards an appreciation of teaching as a problematic activity. Acceptance of the role of students in the classroom is a necessary step towards a scholarly pedagogy for higher education (Kinchin and Hay, 2007).

To help participants evaluate their models against the double Kolb cycle, a two phase approach was adopted. In the first phase, participants were asked to consider three written vignettes of hypothetical university teachers who had been asked to describe their approach to teaching. These were then compared with the double Kolb model (figure 1). Participants were then asked to develop their own concept of teaching by constructing a concept map of their teaching practice.

The double Kolb model has value in providing support for transformative learning that will enable some of our participants to view teaching from alternative perspectives – particularly moving from understanding the discipline towards an appreciation of the *students' construction* of understanding of the discipline. It provides a focus on

aspects of teaching that are manageable and provides possible trajectories for change. As it is not a linear model, it allows the participant to select different pathways for development from a variety of starting points.

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