

This work builds on the application of a vast body of research that has used concept mapping to illustrate the structure of knowledge – structure that is often overlooked, or masked by common teaching practices. That knowledge has structure at all is often unrecognized by students, who are often keen to just memorize enough facts to pass the examination, and by teachers who are concerned with covering the curriculum within the time available. The explicit visualization of these knowledge structures makes them tangible in ways that facilitate high level dialogue between students and their teachers. This structural perspective resonates with the sociology of Basil Bernstein looking at the internal structures of specialized knowledges (Bernstein, 2000), and the psychology of David Ausubel on the nature of meaningful learning (Ausubel, 2000). This bringing together of complementary research traditions in the context of academic development is considered by the authors to be a strength of the work.

The movement between linear/experiential and hierarchical/conceptual knowledge structures has been described as *the* fundamental issue in education by Novak and Symington (1982). The corresponding learning orientations that generate these knowledge structures (segmented learning supporting experiential understanding and cumulative learning supporting conceptual understanding) have been identified by Maton (2009) as a focus for the development of curriculum structures that support this movement. The relationship between these knowledge structures has been formalized as a dual-processing model of professional expertise by Kinchin and Cabot (2010) (Figure 1).

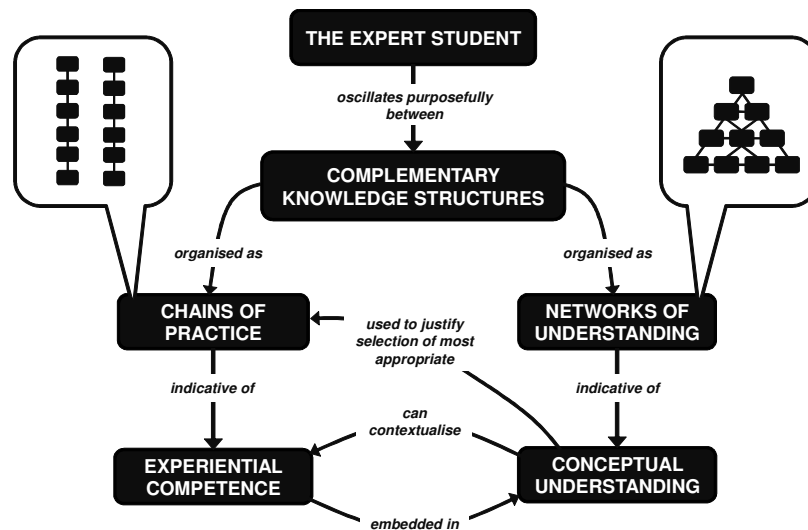


Figure 1. The expert student model (modified from Kinchin and Cabot, 2010)

The ability to manipulate and transform knowledge representations within a domain has been described by Mislevy (2010) as being ‘inseparable from becoming an expert in that domain’. Tsui (2009) has explained how expert teachers model these transformations in their classroom practice, whilst Kinchin and Miller (2012) have described structural transformation of knowledge as a threshold concept in university teaching. However, the literature on this issue has been very research-oriented and teacher-centered. To develop a more practice-based view, we suggest that the role of the student needs to be reconsidered in terms of knowledge transformations that may help to avoid non-learning outcomes (Kinchin, Lygo-Baker and Hay, 2008). The development of this idea into a practical approach to facilitate curriculum reform requires that the *expert student* is recognized through a knowledge structures perspective as ‘one who recognizes the existence and complementary purposes of different knowledge structures, and seeks to integrate them in the application of practice’ (Kinchin, 2011). This model is summarized in Figure 1.

The concept of the expert student puts ‘learning’ at the centre of the student experience agenda, encouraging students to study in ways that reflect the research activity of their particular discipline and hence towards developing disciplinary expertise. Over forty years ago, West (1966: 767) pointed to the tensions that teachers feel when faced with the conflicting demands created by the desire to help students pass exams on one hand and the desire to help students develop expertise on the other:

“Most teachers understand the importance of developing the students’ capacity for critical thinking and self-education, but most of us are too busy telling them what we know to get around to showing them how we learn. Possibly they would gain more from watching us learn than from watching us teach.”

More recently, the same issue has been explored by DiCarlo (2009: 260), stating:

“rather than telling students what we know, we should show students how we learn”.

Therefore, since West made his comments it would appear that little has happened to help students to achieve disciplinary expertise by accessing the way in which academics learn. To address this, the underpinning research on professional expertise (previously published by the authors) has been exploited to inform this work. This research has been shared with students who have then been encouraged to participate in dialogue to develop curriculum materials to help align their learning orientations with those who are already expert in the discipline.

This presentation will illustrate ways in which the expert student concept complements contemporary educational theories in ways that enable it to act as a point of articulation between theory and practice and provide a basis for curriculum reform that can unite theorists and practitioners.

Once a knowledge structures perspective on the expert student is recognized, a number of subsequent implications start to come into view – including the acceptance of a punctuated model of learning in which long periods of conceptual stability (stasis) are punctuated by brief bursts of conceptual change (e.g. Mintzes and Quinn, 2007). That in turn requires a reappraisal of curricular structure, instructional practices, assessment regimes and administrative procedures. In this context, Mintzes and Quinn (2007: 303) conclude that education:

‘would emphasize meaningful learning, knowledge restructuring, and conceptual understanding rather than “covering” a standard curriculum, and it would emphasize formative and diagnostic assessment rather than the evaluation of student performance at pre-determined times for the purposes of “accountability”.’

These are curriculum characteristics that have been advocated in the literature for some time (e.g. DiCarlo, 2009) but for which there appears to have been insufficient driving force to make them a reality in UK undergraduate programmes. Discussions we have undertaken over the past year with groups of undergraduates suggest that students would be receptive to a curriculum that puts greater emphasis on meaningful learning, knowledge restructuring and conceptual understanding, but that they are inhibited in the adoption of this perspective in their studies by a hegemonic assessment regime that is perceived by students to be largely for purposes of accountability and has little to do with supporting their learning.

The authors will present student-focused materials that are being trialed in the light of these discussions to initiate the development of ‘the expert student’ in a large undergraduate programme within an academic School.

956 words

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