

Mathematical knowledge in teaching about fractions

Discussion Group theme – auditing and assessing mathematical knowledge in teaching

We came to this discussion in advance of any explicit consideration of this theme within the seminar series – this is scheduled for the next meeting. What meanings then, were we to attach to the terms ‘auditing’ and ‘assessing’? The latter falls within the mainstream of research in education, whereas ‘auditing’ is more alien to our culture, and brings to mind Circular 10/97 and its successors, together with a concern for accountability, quantitative measures, control and lack of trust (ref. Michael Power’s book *The Audit Society: Rituals of verification*; also Anna Tsatsaroni’s paper in IJSME 2006).

All forms of assessment are mediated through a discourse of some kind. The papers considered during the day indicate that these discourses may be impoverished. What kind of theoretical attention is being given to social representations of mathematics? What agreement is there about the concept(s) of model, representation, and their relationship to mathematical ‘objects’ and processes?

A mathematics lesson is itself a form of discourse. Just one of the three papers drew on a lesson in progress. How is MKiT to be assessed in teaching?

We acknowledged that one possible perception of auditing teachers’ knowledge - one that might attract sympathy outside the world of education - is as a mechanism for ‘taking out’ (‘auditing out’) incompetent, or potentially incompetent, professionals. A situation in which a health professional routinely administered incorrect drug doses, say, would be unlikely to be acceptable, whereas the education system is ‘soft’ on teachers at the fringes of competence ... are we less concerned about doing harm to minds than we are to bodies?

What is the role of partnership schools in the assessment of MKiT? Or is it seen to be the responsibility of the university partners?

MKiT is, to some extent, dependent on the materials made available (such as on-line unit plans). Can the teacher know the purpose and rationale of a lesson ‘borrowed’ from someone else? One of the group recalled teaching such a lesson once in the past, and somehow missing the point of an otherwise-OK lesson script.

Tim Rowland, April 2007

Group members: Dolores Corcoran, Zurina Harun, Tim Rowland, Julie Ryan, Johannes Siemons, Julian Williams.