02 March 2008 Version

Nuffield Seminar Series on Mathematical Knowledge in Teaching

Seminar 5: 18th March 2008. *Developing and deepening mathematical knowledge in teaching*

Each plenary speaker will provide a paper to be read by participants in advance of the seminar, which:

(1) Describes some form of innovative approach to developing and deepening forms of mathematical knowledge for teaching, explaining guiding principles, underlying rationale and supporting analysis.

(2) Provides some illustration and evaluation of such an approach in action.

(3) Explains how and why such an approach represents a significant advance on, or alternative to, existing ones.

(4) Identifies significant issues which might arise in developing further and wider use of such an approach, and ways in which these issues might be addressed.

At the seminar, each plenary speaker will give a short presentation summarising the key points of their paper, and then lead initial discussion of it. In addition to critically appraising and developing the approaches presented, the focus of conference discussions will be on:

(i) Exploring commonalities and contrasts, complementarities and conflicts between the approaches, and their guiding principles, underlying rationales and supporting analyses.

(ii) Exploring any significant limitations or oversights of these approaches.

(iii) Exploring significant limitations or oversights of current policy and practice as regards developing and deepening mathematical knowledge in teaching in the light of these innovative approaches.

The timetable for the seminar will be as follows:

10.30-11.00	Arrival
11.00-11.15	Introduction to the seminar: Kenneth Ruthven, University of Cambridge [Room A.0.39]
11.15-12.00	Plenary presentation and discussion led by Anne Watson, University of Oxford: 'Developing and deepening mathematical knowledge in teaching: being and knowing.'
12.00-12.45	Plenary presentation and discussion led by Tim Rowland and Fay Turner, University of Cambridge: 'The Knowledge Quartet: a means of developing and deepening mathematical knowledge in teaching.'
12.45-13.30	Lunch. Tea/coffee to be available afterwards.
13.30-14.15	Plenary presentation and discussion led by Birgit Pepin, University of Manchester: 'Making connections and seeking understanding: Mathematical tasks in English, French and German textbooks'.
14.15-15.15	Group discussions
15.15-15.30	Short break
15.30-17:00	Plenary discussion, including future plans, chaired by Kenneth Ruthven and Tim Rowland