

## **NCETM/BSRLM WORKING GROUP: DEVELOPING A FRAMEWORK FOR RESEARCHING CPD IN MATHEMATICS**

Rosamund Sutherland & Jane Imrie

University of Bristol; NCETM

The overall aim of this workshop is to build UK research capacity related to Continuing Professional Development for teachers of mathematics. Whereas there is an extensive research base in this area, much of the research derives from CPD initiatives in the USA. We take as a starting point that CPD for teachers of mathematics is about being stimulated to re-think, to experiment, to make fresh distinctions and to probe those distinctions to see if they are informative in enabling choices related to teaching and learning that influence learners' mathematical experiences and activity. We also take as a starting point that CPD could take many forms which include: individual inquiry; participation in professional organisations; participation in school-based or local authority groups and networks; participation in research or curriculum development projects and participation in courses. Within this broad landscape we propose to develop a framework for characterising professional development, which involves asking the following questions:

*What kinds of professional capacity are being developed?* For example, is it envisaged that the CPD will strengthen specific aspects of participants' core subject knowledge and their capacity to bring that knowledge to bear in their teaching? To what degree may this also require the CPD to address wider aspects of participants' ideas about teaching and learning mathematics, and their approaches to it?

*What forms of interaction are afforded?* For example is the CPD situated within a social network and who are the members of the network? How do the members of the network communicate? What are the characteristics of the interaction and what sorts of questions are being asked?

*What sorts of stimuli are provided?* This relates to the types of tools, artefacts and language that are worked on by the participants. It could include mathematics problems, questions, research evidence, theoretical ideas, ICT. This will involve explicitly considering how the NCETM portal is being used as a stimulus

*What forms of experimenting/reflecting are evoked?* This relates to the ways in which the CPD team experiment with their practice and the risks that this involves.

*What constitutes evidence for effective CPD?* This involves identifying the probes that members of the CPD team use to provide evidence for the effectiveness of CPD.

*What forms of reporting occur?* How is the team expected to document their engagement in professional development, which could include a video-story, a presentation, a piece of written work. Identifying the audience for the reporting will also be important.

*Are wider contributions to the field being made?* Does the CPD produce qualitatively new professional knowledge from which others in the field could benefit? How could such knowledge best be expressed in transposable forms?