

## **Developing Mathematics Teaching and Teachers:**

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### **PREFACE**

This monograph focuses on research and practice in the professional development of mathematics teachers and the associated development of mathematics teaching. The professional context is almost entirely UK based, although insights from research have been drawn from elsewhere in order to inform understanding of current practice. The monograph has been written and compiled by a number of mathematics education researchers who are also practitioners in the field. Most are currently teacher-educators and, in addition, have been mathematics teachers in school or higher education for some period of their professional lives. A full list of contributors is provided at the end of this preface.

The origins of the monograph are worthy of note as they are significant to the way in which it developed. Work began as part of the *FRAME* initiative (*Formulating a Research Agenda in Mathematics Education*) organised by the *Committee of Professors in Mathematics Education* (CoPriME) in collaboration with *The British Society for Research in Learning Mathematics* (BSRLM). This initiative was designed to look critically at research in mathematics education in the UK, in order to inform, and possibly to influence, educators and policy-makers. Early discussion led to the formation of a number and variety of areas of interest, as detailed in Morgan and Jones (2001). These were subsequently reduced to form five major groups: Transitions, Curriculum, Mathematics Teaching and Teachers' Professional Education and Development, Teaching, Learning and Assessment, and Mathematics and Society.

A day conference was held in October 2000 to promote the project; each group worked separately and coordinators fed back to the FRAME committee. Group 3, *Mathematics Teaching and Teachers' Professional Education and Development*, used as starting points for discussion a set of short, informal papers contributed by participants and circulated in advance. Following the day conference these papers, and further electronic communication within the group, led to a draft document being produced by a small subgroup. This draft, posted on the BSRLM website, provided advance reading for a FRAME Teaching Development strand at a subsequent BSRLM Conference (Jaworski, 2001). The day meeting, and further electronic contributions and communications, encouraged critical reflection on the draft document. The subgroup subsequently produced a more comprehensive document, part of which was included as one chapter of a FRAME draft report circulated informally to members of the CoPriME/FRAME working groups.

The subgroup decided that work should continue on the full document. From the various contributions, the considerable extent, diversity and complexity of the field became clear. There was a substantial focus in mathematics teacher education with a

concern for the development of mathematics teaching that would enhance the learning experiences of students of mathematics, mainly at primary and secondary school levels. Teacher knowledge and its development seemed to be a key element across phases, with initial teacher education and the continuing professional development of practising teachers as obvious areas for consideration. Finally, important to a UK focus on teaching development across several decades, was the notion of *inquiry* as it related to the teaching of mathematics in classrooms, and the associated learning of teachers.

The original focus, within the FRAME initiative, subsequent meetings associated with BSRLM, and gathering material from colleagues in the UK meant that the monograph was based very firmly in the UK teacher education scene. A guiding principle was to report on major initiatives in teaching development and teacher education in the UK that had an associated research base. In addition, we included references to relevant research literature from a wider field. This took us into areas that went beyond mathematics education and beyond the UK. We tried to show how issues and practices in *mathematics* education related to education more broadly, and how those in the UK fitted into a more international perspective.

The monograph is written primarily for academics and professionals who are concerned with knowledge in mathematics teaching and its development and thus have an interest in literature in the area. This includes teachers, teacher educators and researchers, but might also include education providers and policy makers.

Contributors to the monograph at its various stages have included: Tamara Bibby, Laurinda Brown, Margaret Brown, Tony Brown, Diana Coben, Maria Goulding, Linda Haggarty, Jeremy Hodgen, Barbara Jaworski, Sue Jennings, Sylvia Johnson, Keith Jones, Olwen McNamara, Pat Perks, Stephanie Prestage, Alison Price, Tim Rowland, Sue Sanders, Margaret Sangster, Ian Stevenson and Julian Williams.

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