

Preface

This is the second book in the series from the Monash University–King’s College London International Centre for the Study of Science and Mathematics Curriculum. This centre was established in 2002 with initial support from the Monash University Research Fund (new areas), and in the context of the signing of an agreement between Monash and King’s, two years earlier, that led to the establishment of the then Monash University London Centre.

The first book in the series, *The Re-Emergence of Values in Science Education* (D. Corrigan, J. Dillon & R. Gunstone [Eds.], Rotterdam: Sense Publishers, 2007), considered the state of science education in the twenty-first century through a lens of values. The book presented a ‘big picture’ of what science education might be like if values once again become central in science education. However, overwhelmingly the experiences of those who teach science have been in an environment which has seen the de-emphasizing of values in both science and science education. So there is a disparity between the evolutionary process that science is undertaking and that undertaken by science education (and school science education in particular). In this book, *The Professional Knowledge Base of Science Teachers*, the focus is on exploring what expert science education knowledge and practices may look like in the emerging ‘bigger picture’ of the re-emergence of values.

We used the same approach to the creation of this book as we did with the previous book focussed on values in science education. In order to attempt both the creation of a cohesive contribution to the literature and having authors able to assert their own voices without restrictive briefs from us as editors, we again organised a workshop involving the authors and ourselves to enable a more interactive and formative writing process. Authors completed a first draft of their chapters in time to distribute them to all workshop participants before we met. The workshop then involved discussions of individual chapters and feedback to authors, and considerations of the overall structure and cohesion of the volume. Authors then rewrote their chapters in the light of these forms of feedback. As with the values book, the workshop was scheduled around the European Science Education Research Association (ESERA) conference, but on this occasion the workshop took place at the Monash University Centre in Prato (Italy) rather than in the same city as ESERA.

As well as for the values book, this procedure had previously been used very successfully in the production of two other books in which the editors had variously been involved *The Content of Science: A Constructivist Approach to its Teaching and Learning* (P. Fensham, R. Gunstone & R. White [Eds.], London: Falmer Press, 2000); *Improving Science Education: The Contributions of Research*, (R. Millar, J. Leach & J. Osborne [Eds.], Milton Keynes: Open University Press, 1994). We believe that this process significantly improves the quality of the final product and provides an opportunity for what is, sadly, a very rare form of professional development—considered and formative and collaborative (and totally open) discussions of one's work by one's peers.

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A very sad postscript

Late in August, as this book was in its final stages of production with Springer, we received the tragic news that Sandi Abell had lost her battle with cancer. In 2009 this illness meant Sandi had to return home to USA from the ESERA conference, and so could not attend our workshop for this volume in Prato. Even so, as we remember with both affection and sadness, her desire to maintain engagement with our workshop meant we had a wonderful discussion of her chapter via Skype, with her in her home and all the rest of us at our workshop. We are grateful for her contributions to this book. Much more importantly we acknowledge her major contributions to science education research, and through that to the thinking of many researchers around the world including the three of us.

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The Professional Knowledge Base of Science Teaching

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