

Preface

Improving the quality of science and mathematics education at universities has been a task to which governments and tertiary education institutions have committed. This was the case in Denmark at the end of the 1990s when the Danish Government, its Ministry of Research, and a network of Universities gathered efforts around the construction and functioning of the Centre for Educational Development in University Science. The centre established collaboration between seven Danish universities around the teaching and learning of science: Aalborg University, Copenhagen University, the Danish University of Education, the Pharmaceutical University, Roskilde University Centre, the Royal Veterinarian and Agricultural University, and the University of Southern Denmark. The centre operated during the period 1998-2001, thanks to the generous funding of 35 millions of Danish Kroner in total.

The Centre for Educational Development in University Science embraced a wide range of educational research and development activities through which the practice of university science education was addressed and improved. Areas such as mathematics, physics and chemistry education were central. The centre ran a Ph.D. programme, which enrolled 12 students who addressed a variety of educational issues in the subject areas of relevance for the centre. The centre also organised a series of conferences and seminars aiming at the professional development of teaching staff in the institutions associated. The centre financed a number of teaching development projects run by university staff in their own institutions and classrooms. Many leading scholars from around the world made important contributions to the work of the centre.

The present book emerged from the wide-ranging network of research and researchers, established through the Centre for Educational Development in University Science. The intention of the book, however, is not to provide any report of the research or developmental activities of the centre, but rather to contribute to the worldwide concern for analysing both challenges and possibilities for university science and mathematics education. Even if the book collects a majority of papers by Danish authors working in Danish contexts, the issues addressed by the different sections and chapters are of a general relevance for tertiary educational environments around the world. Furthermore, the dialogue between the Danish authors and leading international researchers in the field contributes reinforcing the broadness

of the book for an international audience, in a changing world where transitions in what is considered to be the core of science and mathematics education in universities are taking place.

We want to thank all the people who have contributed to the completion of this volume. Thanks to the Danish Ministry of Research and to Aalborg University for providing the necessary funding for editing the book. Thanks to Patricia Perry for a careful typographical editing of the manuscript, to Anette Larsen for editorial support, and to Anne Kepple for a language revision of several of the chapters. And thanks to Marie Sheldon and Kristina Wiggings and other members of the staff at Springer for their support and guidance during the edition process.

Finally, we would like to dedicate this collection to the memory of Leone Burton, a remarkable colleague and friend who during very many years supported our work participating in some of the activities of the Centre for Educational Development in University Science, conducting sessions with research students and staff in Denmark, and being a critical partner in our previous work and in an early stage of production of this collection. We are honoured to publish her paper, probably the last printed record of her prolific and pathbreaking academic career.

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