

INTRODUCTION

We are pleased to present the ESERA 2001 Conference book, which is based on contributions submitted and presented to the Third International Conference “Science Education Research in the Knowledge Based Society” that was organised by the Department of Primary Education of the Aristotle University of Thessaloniki and held in Thessaloniki from August 21 to August 26, 2001.

The focus of the Conference was to discuss the scope, methods, outcomes and perspectives of research in science education in the context of the rapidly developing knowledge-based society. Some 450 researchers, teachers, and postgraduate students attended the conference. They came mainly from European countries, with a substantial proportion – some 20% – from countries outside Europe. While ESERA conferences reflect research carried out in Europe, they are increasingly becoming international events attracting researchers from all over the world.

A total of 220 works were presented in guest lectures, symposia, poster workshops, individual papers and poster sessions that took place during the conference along with alternative activities and informal meetings. All these works are already published in the Proceedings of the Conference (edited by D. Psillos, P. Kariotoglou, V.Tselfes, G.Bisdikian, G.Fassoulopoulos, E. Hatzikraniotis, M.Kallery).

For the publication of this book, participants who had presented their work to the Conference were asked by an open call to submit papers based on their work to be considered for publication in the Conference Book. All submitted papers were assessed, according to standard peer review procedure, by two independent reviewers, and forty-seven of them were accepted for publication in the present book.

The book is divided into six chapters. The first chapter includes papers focusing on certain theoretical approaches, research overviews and research methodologies. The second and third chapters focus on the teaching and learning of science, which, as in the previous conferences, attracted the wider interest of the researchers. Specifically, the second chapter deals with research on students’ reasoning and understanding of science as well as learning in various contexts, while the third chapter includes papers which focus on the teaching and communication of science in a variety of contexts. Given the importance of new technologies in the knowledge-based society, a separate chapter, the fourth, is devoted to studies that are related to the development, use and integration of Information and Communication Technologies in Science Education. The fifth chapter focuses on science

teachers' knowledge and aspirations as well as on the linking of research to teaching practices, an issue that is of particular concern to the researchers. The sixth chapter contains presentations of completed or current international research projects in which several groups in different countries are collaborating, which is a promising practice for the future.

Certainly, any classification contains elements of arbitrary placement. We felt that the one adopted facilitates the reading of the book and the issues that are under study for improving science education research in the context of the knowledge-based society.

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