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Edited by
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INTRODUCTION

In July, 1996 the Eighth International Conference on Mathematical Education, ICME-8, was held in Seville, Spain. During the conference a number of sessions specifically relating to statistical education were held. These included a plenary lecture, in Topic Group 9, *Statistics and Probability at the Secondary Level* and as part of Working Group 14, *Linking Mathematics with Other Subjects.* This volume contains most of the papers presented in these sessions.

The sessions got off to a great start with the plenary lecture by David Moore (USA), the well known author of statistics texts and editor of the video series Against All Odds. The central theme of David's talk was that there is a *synergy in statistical education* where technology, content and pedagogy are working together to bring about change and development.

Topic Group 9, which I organised, aimed to highlight issues involved in, and to provide directions for, the teaching of statistics and probability at the secondary level. To include more topics than was possible in the initially allocated sessions, two parallel sessions were held in the first timeslot, one focusing on probability, the other on data analysis. This was a little unfortunate as it may have implied a separation of these two topics, which was not the intention. In the sessions which focused on data analysis and general statistical education matters, Susan Starkings (UK) gave an international perspective of statistical education, while Gail Burrill (USA), Shir-Ming Shen (Hong Kong) and Teresita Teran (Argentina) provided some insights into what is happening in their countries. Mike Shaughnessy (USA) considered some emerging research areas, Iddo Gal (Israel) looked at several assessment issues and Kay Lipson (Australia) showed ways in which modern technology can be used in the teaching of statistics. Anne Hawkins (UK) pointed out that although statistics is a relatively new topic in the school curriculum, a lot is expected of the teachers "today teachers are expected to provide general statistical literacy for all students and specialist training for some, and to produce understanding and skills that will continue to develop as statistics itself develops." In the session which focused on probability, Tibor Nemetz, (Hungary) and Manfred Borovnick (Austria) gave overviews of the state of the art of the teaching of probability. John and Kath Truran (Australia) considered some approaches to statistical independence while Yasar Ersoy (Turkey) looked at student teachers views on teaching probability. Robert Peard (Australia) prepared a report on the statistical education activities in chance and data which were presented at 20th Psychology of Mathematics Education conference held just prior to ICME-8. There was a brief forum discussion during the second session chaired by Peter Holmes (UK) which addressed the question *"How statistics and probability can best be incorporated into the overall school program".*

Rolf Biehler (Germany) organized the statistical education sessions of Working Group 14 . Among the papers given in these sessions, Fran Curcio (USA) outlined the Theory of Graphicy in which some issues in the understanding of graphs at the school level and a list of researchable questions were presented while Jane Watson (Australia) discussed the role of statistics in other subjects including the health and biological sciences and raised the question "who should teach statistics?" Sharleen Forbes (New Zealand) and Sue Gordon (Australia) focused on some gender issues in statistics education.

The purpose of this volume is to help make the ideas presented available to all those interested in statistical education, not just those who attended the ICME-8 sessions. In the short amount of time that was available for discussions on this topic, a wide range of issues were raised and many contacts made. At the end some felt that more questions were asked than answers given, but what became very clear was that the issues addressed and problems faced are common throughout the world. In my role as the chair of the international program committee for ICOTS-5, the experience and contacts made both at ICME-8 and at the Round Table on *Research on the Role of Technology in the Teaching of Statistics* held during the following week in Granada have been invaluable. The issues raised at these meetings, and many more, will be dealt with in greater depth at ICOTS-5 in Singapore in 1998. I encourage all those interested in statistical education to be involved in IASE activities and attend the ICOTS meetings.

I wish to thank all the organisers and speakers for their most valuable contributions which made the sessions on statistical education at ICME-8 such a success. Also I wish to acknowledge Kathy Tyler for her help in editing the papers and Marianne Tanner of the Swinburne Press for doing such an excellent job with the desktop publishing. Finally, I am most indebted to my Head of School, Peter Jones, who financed the production of this volume.

Brian Phillips,
April 1997

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