

BOOK REVIEW

The reviewer of this book is Dave Pratt, Director of the Centre for New Technologies Research in Education and a Senior Lecturer in Mathematics Education at the University of Warwick, England.



The Challenge of Developing Statistical Literacy, Reasoning and Thinking. Dani Ben-Zvi and Joan Garfield (Editors). Springer, 2004

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Statistics has classically been founded on probabilistic lines and traditionally students have needed to master difficult concepts in order to understand the basis of the discipline. In practice, many students have resorted to a mechanistic approach, compromising their abilities to apply the techniques appropriately or indeed to be in any way creative in their approach. In more recent times, technology has been exploited to allow novel exploratory data-analysis techniques, which focus on making sense of data through its manipulation and re-presentation. These approaches are less demanding on probabilistic understanding but aim to stimulate the emergence of what these authors are referring to as 'statistical literacy', an intuitively

based feel for how to tease out trends and to appreciate limitations (although the authors point out in Chapter 1 that understanding probability remains an important part of statistical literacy).

The research interest therefore in statistical teaching and learning has intensified in recent years with the aim of finding a more sophisticated (than that described above!) appreciation of what is meant by statistical literacy, how it is learned, perhaps in relation to the design of new tools, and how it might be taught. These three areas in fact form the structure of this newly published book. Part 1 introduces the notion of statistical literacy and reasoning, and attempts through five separate but linked contributions to elaborate what is meant by the term. Part 2 presents eight studies of students' statistical reasoning, thus providing an up-to-date synopsis of research on learning in this field. Part 3 considers through four further chapters the pedagogical issues involved in trying to teach statistical literacy.

This book is written by many of the leading researchers of statistics education and is essential reading for anyone researching in this field. It is professionally produced with both an author and subject index, which I found very helpful.

Most of the work relates to research already reported, but across a diverse set of journals. The convenience of finding this research in one place means that this book will be the starting point for many new researchers. I will certainly be directing my own doctoral students to the book and it will find its place in the university library. At the same time, the book promises to be a helpful synthesis for those who have been involved in the game for a longer period. For example, my own interests focus primarily on learning and so I recognized much of the research on variation and distribution reported in Part 2. Nevertheless, reading these ideas freshly presented and in juxtaposition with linked work, with which I was less familiar, provided me with new insights.

Teachers who wish to evaluate and perhaps change their teaching approach would find their practice undoubtedly informed by the studies presented. On the back cover, David Moore, renowned Professor of Statistics Education Emeritus at Purdue University, is quoted as regarding the book as a potential classic. I have no reason to depart from this point of view.

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