

**Norman GR, van der Vleuten CPM, Newble DI, editors. International Handbook of Research in Medical Education. Dordrecht: Kluwer Academic Publishers; 2002. 1136 pages; ISBN 1-4020-0466-4; price: € 350.00**

**Field:** Medical education.

**Format:** Hardbound/hardcover.

**Audience:** Medical teachers, researchers and scholars.

**Purpose:** Review of current research findings and issues in medical/health sciences education, to be used for evidence- and empirically-based teaching in medicine and health sciences.

**Content:** The book consists of six sections edited by different section editors, further divided into thirty-three detailed chapters. Section one, Research Traditions, is divided into four chapters, briefly presenting current state-of-the-art research domains in medical education. The rationale behind this section was to introduce the evidence-based approach to education, as it has been introduced to both scientific research and clinical medicine. Chapter One approaches the education process as an experiment or a project, with answers to questions of research design and hypothesis testing. Chapter Two examines qualitative methods and focuses on characteristic questions, research methods, and forms of reporting. Chapter Three covers psychometric methods giving both a review of the common terms, and the logical steps of construction for an assessment instrument. Finally, Chapter Four examines why it is easier to focus on easily measurable things, like knowledge, than on more important things, like performance and skills. It also examines the indicators of long term outcomes, e.g., residency choice, licensing and certification, peer review and malpractice. Section two, Learning, deals with learning from various perspectives. Its five chapters cover topics on learning and cognitive styles and instructional preferences, or how students acquire knowledge/medical expertise and raise questions about how medical students and physicians make, and how they should make decisions about patients. This section also has an interesting historical/educational perspective, giving the reader insight into the North American cognitive as opposed to the European learning style. One of the dilemmas this section leaves for the readers to contemplate on is the (de)contextualization of medical education. Section three, Educational Continuum, consists of five chapters, all synthesizing current knowledge and new understanding(s) of the entire medical education, begin-

ning with student selection (and its implications for both the students and the school), issues and transitions in basic and clinical science education, postgraduate education, and continuing professional education. Although describing different timepoints in education, this section accentuates their common topics and connections, and interestingly raises the point of absence of findings on learners' needs at transitional stages of their education. Appendices to this section give an overview of medical student selection criteria, as well as some national examples. Section four, Instructional Strategies, investigates through its five chapters the assumptions of evidence-based teaching in four instructional approaches: clinical simulations with five classes of simulation (ie, manikins, models, computer simulations, simulators, and standardized patients), computer-based instruction (with an international scope), distance education (as a new means continuing as well as under- and postgraduate education), and problem-based learning (PBL). It accentuates the impact of teacher-learner relationship has on the quality of both learning and teaching (including distance education). In the final chapter of this section, and of Book I, five aspects of problem-based learning/teaching are dissected (training of faculty as PBL tutors, roles and behaviors of effective tutors, "expert" or "non-expert" tutors, student assessment for PBL-associated educational objectives, and useful application of PBL in the clinical curriculum).

Section five, Assessment, deals with a topic of great value for medical education. Assessment plays the central role in determining what and how students learn. This section's eight chapters explore key issues, from testing cognitive knowledge (MCQs, essays, written simulations) and non-cognitive skills and attitudes, to testing clinical performance. This section also examines the role of computers in assessment and various usages of computers in different countries. This section also tackles issues of (re)licensure and (re)certification, with an interesting note that the assessment of competence and performance is becoming more internationalized. Section six, Implementing the Curriculum, with its six chapters reviews evidence on changing curricula (medical education or professional) and gives advice on making the change more pleasant, successful, and rewarding.

**Highlights and limitations:** This book is an excellent resource, lacking in no respect. Curriculum reform, management, and implementation, topics most medical teachers are involved in, covered in Section six, comes as the icing of the cake. In order for every medical teacher/ educator to be able to see the “big picture”, this final section is a must read.

**Related reading:** The publishers are dedicated to excellence in education, and this book is just one in a series of seven (hand)books in that area. As both the editors and the publishers are dedicated to evidence-based teaching, one can only suggest that related reading can either be found in the references at

the end of every chapter, or in Web resources and journals dedicated to medical education. A book that may further help educators understand differences in approach to medical education from country to country, or just differences due to geography, culture, and language, is the 544 page International Handbook of Medical Education, by Sajid AW, McGuire CH, Monroe Veach R, Aziz LR, and Gunzburger LK; published by Greenwood Publishing Group in 1994, with chapters from 28 different nations presenting the state and structure of medical education.

Vedran Katavić