

# An Introduction to Medical Teaching



William B. Jeffries · Kathryn N. Huggett  
Editors

# An Introduction to Medical Teaching

 Springer

*Editors*

Dr. William B. Jeffries  
University of Vermont  
College of Medicine  
Office of Medical Education  
Burlington VT 05405  
E-125 Given Bldg.  
USA  
William.B.Jeffries@med.uvm.edu

Dr. Kathryn N. Huggett  
Creighton University  
School of Medicine  
2500 California Plaza  
Omaha NE 68178  
USA  
KathrynHuggett@creighton.edu

ISBN 978-90-481-3640-7 e-ISBN 978-90-481-3641-4

DOI 10.1007/978-90-481-3641-4

Springer Dordrecht Heidelberg London New York

Library of Congress Control Number: 2009943719

© Springer Science+Business Media B.V. 2010

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the Publisher, with the exception of any material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work.

Printed on acid-free paper

Springer is part of Springer Science+Business Media ([www.springer.com](http://www.springer.com))

# Preface

This book was conceived as a tool for the many varieties of medical teacher: the basic scientist, the clinical faculty member, the resident physician and the community practitioner. Individuals from each of these groups often assume the responsibility for educating the physicians of tomorrow. However, the formal training of these teachers is usually not centered on educational principles. Medical teachers often enter their careers ill equipped to engage in a scholarly approach to teaching. Thus we chose to create this volume as a how-to guide for medical teachers who wish to gain an understanding of educational principles and apply them to their teaching.

In keeping with the spirit of the book as an introduction, we have not produced a comprehensive textbook on medical education. Rather, the book is intended to introduce the reader to a variety of major topics that might serve specific needs. This work will be particularly useful to the educator who wants to introduce new methods into their teaching. As such, all of the chapters are grounded in the modern literature underlying adult learning theory and educational methods; however, the advice contained in each chapter is overwhelmingly practical and can be put to immediate use. The chapters begin with a focus on the learner, followed by a survey of the most common teaching modalities encountered by a medical teacher (large group, small group, problem-based, team based, clinical, simulation, and laboratory). We also examine critical elements that comprise the essentials of teaching and learning (using technology, student assessment, teaching evaluation, course design). Finally, we introduce the topic of educational scholarship and supply advice on documenting teaching for career advancement. In addition, to encourage the reader to further investigate each topic, chapters are fully referenced and the appendix provides additional educational resources.

The scope of educational scholarship is now quite broad. Thus no single author could adequately address the topics presented herein. We have thus assembled an exceptionally qualified and highly regarded team of authors who represent a diverse pool of teachers, clinicians and educational scholars. We are extremely grateful to the authors, who generously devoted their time and talents to this project.



# Contents

<b>1 Facilitating Student Learning</b> . . . . .	1
Kristi J. Ferguson	
<b>2 Teaching Large Groups</b> . . . . .	11
William B. Jeffries	
<b>3 Teaching in Small Groups</b> . . . . .	27
Kathryn N. Huggett	
<b>4 Problem-Based Learning</b> . . . . .	41
Mark A. Albanese	
<b>5 Team-Based Learning</b> . . . . .	55
Kathryn K. McMahon	
<b>6 Teaching Clinical Skills</b> . . . . .	65
Janet M. Riddle	
<b>7 Teaching with Simulation</b> . . . . .	79
Susan J. Pasquale	
<b>8 Teaching with Practicals and Labs</b> . . . . .	91
Travis P. Webb, Carole S. Vetter, and Karen J. Brasel	
<b>9 Teaching with Technological Tools</b> . . . . .	101
David A. Cook	
<b>10 Designing a Course</b> . . . . .	123
Christopher B. Reznich	
<b>11 Assessing Student Performance</b> . . . . .	143
Brian Mavis	
<b>12 Documenting the Trajectory of Your Teaching</b> . . . . .	179
Nicole K. Roberts	
<b>13 Teaching as Scholarship</b> . . . . .	187
Deborah Simpson and M. Brownell Anderson	
<b>Appendix: Additional Information About Medical Education</b> . . . . .	199
<b>Index</b> . . . . .	203





# Contributors

**Mark A. Albanese, PhD** University of Wisconsin School of Medicine and Public Health, Madison, WI, USA

**M. Brownell Anderson, MEd** Association of American Medical Colleges, Washington, DC, USA

**Karen J. Brasel, MD, MPH** Medical College of Wisconsin, Milwaukee, WI, USA

**David A. Cook, MD, MHPE** Mayo Clinic College of Medicine, Rochester, MN, USA

**Kristi J. Ferguson, PhD** University of Iowa Carver College of Medicine, Iowa City, IA, USA

**Kathryn N. Huggett, PhD** Creighton University School of Medicine, Omaha, NE, USA

**William B. Jeffries, PhD** University of Vermont College of Medicine, Burlington, VT, USA

**Brian Mavis, PhD** College of Human Medicine, Michigan State University, East Lansing, MI, USA

**Kathryn K. McMahon, PhD** Department of Medical Education, Paul L. Foster School of Medicine, Texas Tech University Health Sciences Center, El Paso, TX, USA

**Susan J. Pasquale, PhD** University of Massachusetts Medical School, Worcester, MA, USA

**Christopher B. Reznich, PhD** College of Human Medicine, Michigan State University, East Lansing, MI, USA

**Janet M. Riddle, MD, FACP** Department of Medical Education, University of Illinois-Chicago, College of Medicine, Chicago, IL, USA

**Nicole K. Roberts, PhD** Southern Illinois University School of Medicine, Springfield, IL, USA

**Deborah Simpson, PhD** Medical College of Wisconsin, Milwaukee, WI, USA

**Carole S. Vetter, MD** Medical College of Wisconsin, Milwaukee, WI, USA

**Travis P. Webb, MD** Medical College of Wisconsin, Milwaukee, WI, USA