

Health Professional as Educator

*Principles of Teaching
and Learning*

Susan B. Bastable, EdD, RN

Professor and Chair
Department of Nursing
Le Moyne College

Pamela Gramet, PT, PhD

Associate Professor
Department of Physical Therapy Education
Upstate Medical University

Karen Jacobs, EdD, OTR/L, CPE, FAOTA

Clinical Professor
Department of Occupational Therapy
Boston University

Deborah L. Sopczyk, PhD, RN

Dean
School of Health Sciences
Excelsior College



JONES & BARTLETT
LEARNING

World Headquarters

Jones & Bartlett Learning
40 Tall Pine Drive
Sudbury, MA 01776
978-443-5000
info@jblearning.com
www.jblearning.com

Jones & Bartlett Learning Canada
6339 Ormindale Way
Mississauga, Ontario L5V 1J2
Canada

Jones & Bartlett Learning International
Barb House, Barb Mews
London W6 7PA
United Kingdom

Jones & Bartlett Learning books and products are available through most bookstores and online booksellers. To contact Jones & Bartlett Learning directly, call 800-832-0034, fax 978-443-8000, or visit our website, www.jblearning.com.

Substantial discounts on bulk quantities of Jones & Bartlett Learning publications are available to corporations, professional associations, and other qualified organizations. For details and specific discount information, contact the special sales department at Jones & Bartlett Learning via the above contact information or send an email to specialsales@jblearning.com.

Copyright © 2011 by Jones & Bartlett Learning, LLC

All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

This publication is designed to provide accurate and authoritative information in regard to the Subject Matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional service. If legal advice or other expert assistance is required, the service of a competent professional person should be sought.

Production Credits

Publisher: David Cella
Associate Editor: Maro Gartside
Editorial Assistant: Teresa Reilly
Production Manager: Julie Champagne Bolduc
Production Assistant: Sean Coombs
Marketing Manager: Grace Richards
Manufacturing and Inventory Control Supervisor: Amy Bacus
Composition: Publishers' Design and Production Services, Inc.
Cover Design: Kristin E. Parker
Cover Image: © Denis Tevekov/Dreamstime.com
Printing and Binding: Malloy, Inc.
Cover Printing: Malloy, Inc.

Library of Congress Cataloging-in-Publication Data unavailable at time of printing.

ISBN: 978-0-7637-9278-7

6048

Printed in the United States of America

14 13 12 11 10 10 9 8 7 6 5 4 3 2 1

To the past, present, and future students and professional colleagues from
the various healthcare disciplines who have shared, and will continue to share,
their experiences, insights, and perspectives on teaching and learning.

and

In loving memory of

Doris (Dorrie) Williams Bacorn, RN (1918–2007)
cherished mother of Susan B. Bastable

Contents

| | |
|-------------------|------|
| FOREWORD | xi |
| PREFACE | xiii |
| ACKNOWLEDGMENTS | xv |
| CONTRIBUTORS | xvii |
| ABOUT THE EDITORS | xix |

Part One: Perspectives on Teaching and Learning

| | | |
|---|---|----|
| 1 | Overview of Education in Health Care | 1 |
| | <i>Susan B. Bastable</i> | |
| | <i>Pamela R. Gramet</i> | |
| | Historical Foundations for the Teaching Role of Health Professionals | 2 |
| | Social, Economic, and Political Trends Affecting Health Care | 8 |
| | Purposes, Goals, and Benefits of Client and Staff Education | 10 |
| | The Education Process Defined | 11 |
| | Role of the Health Professional as Educator | 13 |
| | Barriers to Teaching and Obstacles to Learning | 14 |
| | Questions to Be Asked About Teaching and Learning | 18 |
| | State of the Evidence | 19 |
| | Summary | 20 |
| | References | 22 |
| 2 | Ethical, Legal, and Economic Foundations of the Educational Process | 25 |
| | <i>M. Janice Nelson</i> | |
| | <i>Catherine V. Caldicott</i> | |
| | A Differentiated View of Ethics, Morality, and the Law | 28 |
| | Evolution of Ethical and Legal Principles in Health Care | 29 |
| | Application of Ethical Principles to Healthcare Education | 32 |
| | The Ethics of Education in Classroom and Practice Settings | 39 |

vi CONTENTS

| | |
|--|----|
| Legality in Healthcare Education and Information | 42 |
| Documentation | 43 |
| Economic Factors in Healthcare Education: Justice and Duty Revisited | 45 |
| Financial Terminology | 46 |
| Cost Savings, Cost Benefit, and Cost Recovery | 47 |
| Program Planning and Implementation | 48 |
| Cost-Benefit Analysis and Cost-Effectiveness Analysis | 49 |
| State of the Evidence | 50 |
| Summary | 51 |
| References | 53 |

3 Applying Learning Theories to Healthcare Practice 55

Margaret M. Braungart

Richard G. Braungart

Pamela R. Gramet

| | |
|---------------------------------|----|
| Psychological Learning Theories | 58 |
| Neuropsychology and Learning | 79 |
| Comparison of Learning Theories | 81 |
| Motor Learning | 84 |
| Common Principles of Learning | 91 |
| State of the Evidence | 94 |
| Summary | 95 |
| References | 97 |

Part Two: Characteristics of the Learner

4 Determinants of Learning 103

Sharon Kitchie

| | |
|--|-----|
| The Educator's Role in Learning | 104 |
| Assessment of the Learner | 105 |
| Assessing Learning Needs | 106 |
| Methods to Assess Learning Needs | 110 |
| Readiness to Learn | 113 |
| Learning Styles | 122 |
| Learning Style Models and Instruments | 124 |
| Interpretation of the Use of Learning Style Models and Instruments | 143 |
| State of the Evidence | 144 |
| Summary | 145 |
| References | 147 |

| | | |
|---|---|-----|
| 5 | Developmental Stages of the Learner | 151 |
| | <i>Susan B. Bastable</i> | |
| | <i>Michelle A. Dart</i> | |
| | Developmental Characteristics | 153 |
| | The Developmental Stages of Childhood | 158 |
| | The Developmental Stages of Adulthood | 173 |
| | The Role of the Family in Patient Education | 190 |
| | State of the Evidence | 192 |
| | Summary | 193 |
| | References | 195 |
| 6 | Compliance, Motivation, and Health Behaviors of the Learner | 199 |
| | <i>Eleanor Richards</i> | |
| | <i>Kirsty Digger</i> | |
| | Compliance | 200 |
| | Motivation | 203 |
| | Selected Models and Theories | 209 |
| | Models for Health Education | 217 |
| | The Role of Health Professional as Educator in Health Promotion | 219 |
| | State of the Evidence | 220 |
| | Summary | 221 |
| | References | 222 |
| 7 | Literacy in the Adult Client Population | 227 |
| | <i>Susan B. Bastable</i> | |
| | Definition of Terms | 230 |
| | Scope and Incidence of the Problem | 234 |
| | Trends Associated With Literacy Problems | 238 |
| | Those at Risk | 239 |
| | Myths, Stereotypes, and Assumptions | 241 |
| | Assessment: Clues to Look For | 242 |
| | Impact of Illiteracy on Motivation and Compliance | 244 |
| | Ethical, Financial, and Legal Concerns | 246 |
| | Readability of Printed Education Materials | 248 |
| | Measurement Tools to Test Literacy Levels | 250 |
| | Formulas to Measure Readability of PEMs | 251 |
| | Tests to Measure Comprehension of PEMs | 254 |
| | Tests to Measure Reading Skills of Clients | 256 |
| | Simplifying the Readability of PEMs | 258 |
| | Teaching Strategies for Clients With Low Literacy | 265 |

viii CONTENTS

| | | |
|---|---|-----|
| | State of the Evidence | 270 |
| | Summary | 271 |
| | References | 273 |
| 8 | Gender, Socioeconomic, and Cultural Attributes of the Learner | 279 |
| | <i>Susan B. Bastable</i> | |
| | Gender Characteristics | 281 |
| | Socioeconomic Characteristics | 289 |
| | Cultural Characteristics | 294 |
| | The Four Major Ethnic Subcultural Groups | 301 |
| | Preparing Health Professionals for Diversity Care | 317 |
| | Stereotyping: Identifying the Meaning, the Risks, and the Solutions | 319 |
| | State of the Evidence | 321 |
| | Summary | 322 |
| | References | 324 |
| 9 | Educating Learners With Disabilities | 331 |
| | <i>Deborah L. Sopczyk</i> | |
| | <i>Kay Viggiani</i> | |
| | Scope of the Problem | 333 |
| | Models and Definitions | 333 |
| | The Language of Disabilities | 335 |
| | Role of the Health Professional as Educator | 336 |
| | Types of Disabilities | 337 |
| | Sensory Disabilities | 337 |
| | Learning Disabilities | 347 |
| | Developmental Disabilities | 352 |
| | Mental Illness | 356 |
| | Physical Disabilities | 358 |
| | Communication Disorders | 361 |
| | Chronic Illness | 365 |
| | The Family's Role in Chronic Illness or Disability | 366 |
| | Assistive Technologies | 366 |
| | State of the Evidence | 369 |
| | Summary | 369 |
| | References | 371 |

Part Three: Techniques and Strategies for Teaching and Learning

| | | |
|----|---|-----|
| 10 | Behavioral Objectives | 377 |
| | <i>Susan B. Bastable</i> | |
| | <i>Julie A. Doody</i> | |
| | Types of Objectives | 379 |
| | Characteristics of Goals and Objectives | 379 |
| | The Debate About Using Behavioral Objectives | 381 |
| | Writing Behavioral Objectives and Goals | 383 |
| | Common Mistakes When Writing Objectives | 386 |
| | Taxonomy of Objectives According to Learning Domains | 386 |
| | Development of Teaching Plans | 399 |
| | Use of Learning Contracts | 404 |
| | The Concept of Learning Curve | 408 |
| | State of the Evidence | 413 |
| | Summary | 413 |
| | References | 415 |
| 11 | Instructional Methods and Settings | 419 |
| | <i>Kathleen Fitzgerald</i> | |
| | Instructional Methods | 421 |
| | Selection of Instructional Methods | 444 |
| | Evaluation of Instructional Methods | 446 |
| | Increasing Effectiveness of Teaching | 447 |
| | Instructional Settings | 452 |
| | State of the Evidence | 454 |
| | Summary | 456 |
| | References | 458 |
| 12 | Instructional Materials. | 463 |
| | <i>Diane S. Hainsworth</i> | |
| | General Principles | 465 |
| | Choosing Instructional Materials | 465 |
| | The Three Major Components of Instructional Materials | 466 |
| | Types of Instructional Materials | 468 |
| | Evaluation Criteria for Selecting Materials | 494 |
| | State of the Evidence | 496 |
| | Summary | 498 |
| | References | 500 |

x CONTENTS

| | | |
|------------|---|-----|
| 13 | Technology in Education | 503 |
| | <i>Deborah L. Sopczyk</i> | |
| | <i>Nancy Doyle</i> | |
| | <i>Karen Jacobs</i> | |
| | Health Education in the Information Age | 505 |
| | The Impact of Technology on the Teacher and the Learner | 507 |
| | Strategies for Using Technology in Healthcare Education | 508 |
| | Healthcare Consumer Education and the World Wide Web | 525 |
| | Professional Education and the World Wide Web | 529 |
| | E-Learning | 532 |
| | Distance Education | 533 |
| | State of the Evidence | 535 |
| | Summary | 535 |
| | References | 537 |
| 14 | Evaluation in Healthcare Education | 541 |
| | <i>Priscilla Sandford Worral</i> | |
| | Evaluation, Evidence-Based Practice, and Practice-Based Evidence | 543 |
| | Evaluation Versus Assessment | 543 |
| | Determining the Focus of Evaluation | 544 |
| | Evaluation Models | 545 |
| | Designing the Evaluation | 554 |
| | Conducting the Evaluation | 565 |
| | Analyzing and Interpreting Data Collected | 566 |
| | Reporting Evaluation Results | 567 |
| | State of the Evidence | 569 |
| | Summary | 570 |
| | References | 571 |
| APPENDIX A | Tests to Measure Readability and Comprehension and Tools to Assess Instructional Materials | 575 |
| APPENDIX B | Resources and Organizations for People With Disabilities | 589 |
| APPENDIX C | Teaching Plans | 593 |
| | GLOSSARY | 599 |
| | INDEX | 621 |

Foreword

During the next decade, health care in the United States will be experiencing the most significant change since the founding of Medicare and Medicaid in the 1960s. Health reform will drive much greater integration of healthcare providers and settings of care, improved efficiency of care processes, and a higher level of accountability for clinical and administrative outcomes. All of this will take place within the context of highly technical, complex care provided by a team of healthcare professionals using sophisticated clinical and information tools to an increasingly diverse population of patients.

Health Professional as Educator recognizes these sea changes and builds on Susan Bastable's three successful editions of *Nurse as Educator*, which have given nurses invaluable methods for partnering with patients and serving the community.

Health Professional as Educator is a comprehensive guide that addresses all of the practical issues health professionals confront as they strive to provide effective patient/family education. The book could not be more timely, as health professionals work to enhance their patients' ability to self-manage their care, educate family members to support the daunting complexity of treatment protocols, and understand the needs of the learners who have highly variable levels of healthcare literacy and cultural requirements.

The authors have anticipated and explored all the dimensions of teaching and learning in this important text. While including the fundamentals of learning theories and teaching methods, *Health Professional as Educator* also focuses on critical issues such as readiness to learn, learning styles, health literacy, and teaching people with disabilities, all based on the latest research and theoretical underpinnings.

All health professionals will benefit from the content and format of this book and will be fully prepared to embrace the opportunities of health reform to improve patient safety, engage patients and families, and reduce costs. Well-informed patients and family members who partner with a team of highly effective health educators will be at the center of positive change in health care.

Nancy M. Schlichting
President and CEO
Henry Ford Health System
Detroit, Michigan

Preface

This text is written for health professionals—physical therapists, occupational therapists, pharmacists, social workers, nutritionists, respiratory therapists, physician assistants, nurses, physicians, and many other members of the healthcare workforce—who are involved on a daily basis in educating clients, fellow colleagues, and/or prospective members of their respective disciplines. No matter who their audience may be, health professionals are expected to educate individuals to assist them in achieving independence. This role expectation involves helping clients and their significant others to manage self-care activities as well as promoting the growth and development of staff and students to deliver high-quality, safe, and cost-effective care to the consumers they serve.

The recent healthcare reform movement, the technological advances in health care, the changing demographics of the population, the increased interest of consumers in health and wellness, the rise in chronic illnesses, and many other factors have resulted in a growing demand for health professionals to meet the public's increasing need and desire for health care. These trends, to name just a few, have given rise to the recognition of consumer health literacy as a significant concern, the increasing importance of client education for the improvement of health outcomes, and the growing need for continuing education to sustain a well-prepared professional workforce of healthcare providers. This text is a timely resource to address these pressing issues.

Educating others has been an essential component of health professional practice for many years, yet the majority of health providers acknowledge that they have not had the formal preparation to successfully and securely assume the teaching role. In today's healthcare arena, practice requirements mandate that health professionals possess the knowledge and skills necessary to educate various audiences in a variety of settings with efficiency and effectiveness as well as with competency and confidence.

This text was written to assist health professionals to understand the many principles of teaching and learning. It is comprehensive in scope and depth of information, taking into consideration the basic foundations of the teaching–learning process, the needs and characteristics of learners, the appropriate techniques and strategies for instruction, and the methods to evaluate the achievement of changes in learner behavior. In essence, this text addresses the components that pertain to the education process and answers the questions who, what, where, when, how, and why.

The chapters in this text reflect a balance between current theoretical perspectives on teaching and learning and the application of these theories and models to practice. Many current as well as classic references are included to bolster any claims made. Also, the changing role of the health professional

and consumer is acknowledged with respect to the accountability and responsibility for teaching and learning. No longer should the health professional function as the “giver of information” when teaching but as the “guide by the side” and the “facilitator” in partnership with the consumer, who must assume a much greater role in learning. This new educational paradigm of interdependence between the teacher and the learner is emphasized throughout the chapters.

The text is divided into three parts. Part I focuses on the perspectives on teaching and learning; Part II focuses on the many characteristics of the learner; and Part III emphasizes the techniques and strategies for teaching and learning. Although all topics covered in this text are essential to the complete understanding of the teaching and learning process, some unique aspects include: the ethics of the student/teacher and client/teacher relationship highlighted in Chapter 2; a review of motor learning integrated into the content of learning theories in Chapter 3; the approaches to educating learners with disabilities in Chapter 9; and the importance of new technology as a tool for pedagogy but not a substitute for the role of the educator as described in Chapter 13. In addition, case studies in every chapter address interprofessional education and interdisciplinary collaboration efforts to enhance teaching and learning.

Accompanying this text is a companion Web site that offers various resources for instructors and students. Faculty will find tools to assist them with the delivery of content as well as with the assessment and evaluation of students who are learning the educator role. Students will find materials to help them achieve learning objectives. In addition, this book can be used not only in a specific course on teaching and learning, but as a reference throughout a curriculum that integrates client education in multiple courses. Also, it is an invaluable reference in all practice settings where the health professional is involved in client and staff education.

This text for health professionals is intended for use by faculty teaching in academic programs, by direct care providers practicing in any setting as caregivers, by staff development and in-service educators, and by upper-level undergraduate and graduate students who are to become the future professionals of tomorrow. No matter what their role or status, it is an ethical, moral, and in many cases a legal responsibility of health providers to teach others with proficiency and expertise.

Acknowledgments

A special appreciation is extended to the original authors of chapters in the *Nurse as Educator* text whose valuable work provided the foundation for revision of information and addition of new material by the editor and co-editors of this textbook, which is more broadly designed for use by professionals in various healthcare disciplines. We value and recognize the contributions of everyone involved in this significant undertaking.

Also, many thanks are offered to the entire publishing staff in the Health Professions division of Jones & Bartlett Learning, in particular David Cella, Publisher, Maro Gartside, Associate Editor, and Julie Bolduc, Production Manager, for their technical expertise, organizational skills, expert advice, and administrative support throughout the process of launching this publication. They are truly a wonderful, talented team!

Also instrumental in the preparation of this manuscript are the librarians who worked behind the scenes in locating the references used for each chapter. Specifically, Cathleen Scott, science librarian at Le Moyne College, and Jim Capodagli, librarian at Upstate Medical University, are recognized for their significant efforts devoted to data collection.

Nancy Schlichting, President and CEO of the Henry Ford Health System, is gratefully acknowledged for her insightful remarks expressed in the Foreword, which highlight the need for a well-educated workforce of health professionals to meet the public's need for high-quality, safe, and cost-effective care.

And last, but certainly not least, sincere gratitude goes to our families and colleagues for their unwavering support, endless patience, and consistent encouragement over the many months of research, writing, and editing. They sacrificed a great deal on our behalf to make this text a reality.

Contributors

Margaret M. Braungart, PhD

Professor Emeritus, Center for Bioethics and
Humanities
Upstate Medical University Health System
Syracuse, New York

Richard G. Braungart, PhD

Professor Emeritus, Maxwell School of
Citizenship and Public Affairs
Syracuse University
Syracuse, New York

Catherine V. Caldicott, MD, FACP

Associate Professor, Center for Bioethics and
Humanities
Upstate Medical University Health System
Syracuse, New York

Michelle A. Dart, MSN, PNP, CD

Pediatric Associates
Syracuse, New York

**Kirsty Digger, MS, RN, CEN, Doctoral
Candidate**

Lecturer, Department of Nursing
State University of New York at New Paltz
New Paltz, New York

Julie A. Doody, MS, RN

Nurse Administrator, Wellness Center for
Health and Counseling
Le Moyne College
Syracuse, New York

Nancy Wolcott Doyle, MS, OTR/L

OT Doctoral Student
Boston University
Boston, Massachusetts

Kathleen Fitzgerald, MS, RN CDE

Patient Educator
St. Joseph's Hospital Health Center
Syracuse, New York

Diane S. Hainsworth, MS, RN-C, ANP

Clinical Case Manager – Oncology (retired)
Upstate University Hospital
Upstate Medical University Health System
Syracuse, New York

Sharon Kitchie, PhD, RN, ACNS-BC

Patient Education and Interpreter Services
Director
Upstate University Hospital
Upstate Medical University Health System
Syracuse, New York
Adjunct Faculty, Nursing Division
Keuka College
Keuka Park, New York

M. Janice Nelson, EdD, RN

Professor and Dean Emeritus, College of
Nursing
State University of New York
Upstate Medical University Health System
Syracuse, New York

xviii CONTRIBUTORS

Eleanor Richards, PhD, RN

Professor Emeritus, Department of Nursing
State University of New York at New Paltz
New Paltz, New York

Kay Viggiani, MS, RN, CNS

Associate Professor (retired) and Adjunct,
Nursing Division
Keuka College
Keuka Park, New York

Priscilla Sandford Worrall, PhD, RN

Coordinator of Nursing Research
Upstate University Hospital
Upstate Medical University Health System
Syracuse, New York

About the Editors

Susan Bacorn Bastable, EdD, RN, earned her MEd in community health nursing and her EdD in curriculum and instruction in nursing at Teachers College, Columbia University, in 1976 and 1979 respectively. She received her diploma from Hahnemann Hospital School of Nursing (now known as Drexel University of the Health Sciences) in Philadelphia in 1969 and her bachelor's degree in nursing from Syracuse University in 1972.

Dr. Bastable is currently Professor and founding Chair of the Department of Nursing at Le Moyne College in Syracuse, New York. She began her academic career in 1979 as Assistant Professor at Hunter College, Bellevue School of Nursing, in New York City where she remained on the faculty for two years. From 1987 to 1989, she was Assistant Professor in the College of Nursing at the University of Rhode Island. In 1990, she joined the faculty of the College of Nursing at Upstate Medical University of the State University of New York (SUNY) in Syracuse, where she was Associate Professor and Chair of the Undergraduate Program for 14 years. In 2004, she assumed her present leadership position at Le Moyne and has successfully established an RN-BS completion program, created an innovative 4-year undergraduate Dual Degree Partnership in Nursing with the associate's degree program at St. Joseph's College of Nursing in Syracuse, and instituted an MS program and two post-MS certificate programs with tracks in nursing education and nursing administration.

Dr. Bastable has taught undergraduate courses in nursing research, community health, and the role of the nurse as educator, and courses at the master's and post-master's level in the academic faculty role, curriculum and program development, and educational assessment and evaluation. For the past 29 years, she has been a consultant and external faculty member for Excelsior College (formerly known as Regents College of the University of the State of New York). Her clinical practice includes experience in community health, oncology, rehabilitation and neurology, occupational health, and medical/surgical nursing.

Dr. Bastable is the recipient of the 1996 President's Award for Excellence in Teaching at Upstate Medical University; the SUNY 1999 Chancellor's Award for Excellence in Teaching; the 2002 Award for Nursing Excellence as well as the 2008 Lifetime Achievement Award from District #4 of the New York State Nurses Association; and the 2001 Distinguished Achievement Award in Nursing Education from the Nursing Education Alumni Association of Teachers College, Columbia University. Also in 2001, she was inducted into the Nursing Education Alumni Association's Hall of Fame at Teacher's College, Columbia University.

xx ABOUT THE EDITORS

She is a member of numerous nursing education advisory boards, serves as a consultant on curriculum and program development, and is the author of two other textbooks on the principles of teaching and learning.

Pamela Gramet, PT, PhD, is currently associate professor in the Department of Physical Therapy Education at Upstate Medical University in Syracuse, New York. During her tenure at Upstate, she has also served in a variety of administrative positions including department vice chair, department chair, and academic coordinator of clinical education.

Dr. Gramet earned her doctoral degree in child and family studies from Syracuse University, her master of science degree in education from Stony Brook University, and her bachelor of science in physical therapy, magna cum laude, from Ithaca College. She holds advanced certifications in neurodevelopmental treatment, teaching improvement, clinical instruction, and board leadership.

Dr. Gramet has more than 30 years of teaching experience, and her areas of expertise include education theory and practice, clinical education, neurologic physical therapy, professionalism, and complementary and alternative medicine. Dr. Gramet was a member of the American Physical Therapy Association task force that developed the first national Clinical Performance Instruments (CPIs) for assessment of physical therapist and physical therapist assistant student clinical performance. She was also a founding member of the New York Physical Therapy Clinical Education Consortium. Over the years, Dr. Gramet has developed and taught numerous workshops on clinical teaching skills for clinical instructors. She was instrumental in developing the curriculums for both the master's degree program and the professional and post professional doctoral physical therapy programs at Upstate Medical University. She has served as a curriculum consultant for several graduate physical therapy programs.

Dr. Gramet is a recipient of the President's Award for Excellence in Teaching and received Certificates of Appreciation from the New York Physical Therapy Association and the American Physical Therapy Association. She is also a recipient of the Outstanding Academic Coordinator of Clinical Education Award and a Certificate of Excellence from the Clinical Education Consortium. Dr. Gramet's research interests include education, clinical teaching, and the professional and psychosocial aspects of physical therapy.

Karen Jacobs, EdD, OTR/L, CPE, FAOTA, is a past president and vice president of the American Occupational Therapy Association (AOTA). She is a 2005 recipient of a Fulbright Scholarship to the University of Akureyri in Akureyri, Iceland; is the 2009 recipient of the Award of Merit from the Canadian Association of Occupational Therapists (CAOT); and received the Award of Merit from the American Occupational Therapy Association in 2003.

Dr. Jacobs is a clinical professor of occupational therapy and the program director of the distance education post professional occupational therapy programs at Boston University. She has expertise in the development and instruction of online and on-campus graduate courses. In addition, she has faculty appointments at Stony Brook University in Stony Brook, New York, and the University of Indianapolis in Indianapolis, Indiana.

Dr. Jacobs earned a doctoral degree at the University of Massachusetts, a master of science at Boston University, and a bachelor of arts at Washington University in St. Louis, Missouri.

Dr. Jacobs's research examines the interface between the environment and human capabilities. In particular, she examines the individual factors and environmental demands associated with increased

risk of functional limitations among populations of university and middle-school-aged students, particularly in notebook computing, backpack use, and the use of games such as WiiFit (<http://blogs.bu.edu/kjacobs/>). Most recently, she is co-developing with Dr. Nancy Baker at the University of Pittsburgh the Telerehabilitation Computer Ergonomics System (*tele-CES*) for computer users with arthritis. The *tele-CES* is a remote systematic ergonomics program aimed at substantially reducing work disability among workers with any type of arthritis.

In addition to being an occupational therapist, Dr. Jacobs is also a certified professional ergonomist (CPE) and the founding editor-in-chief of the international, interdisciplinary journal *WORK: A Journal of Prevention, Assessment and Rehabilitation* (IOS Press, The Netherlands), which celebrates its 20th anniversary this year. Dr. Jacobs is the chairperson of the Ergonomics for Children in Educational Environments Technical Committee (ECEE) for the International Ergonomics Association (IEA) and the program chair for the Environment Design Technical Group for the Human Factors and Ergonomics Society (HFES). Dr. Jacobs has a small business that provides consulting services in ergonomics and entrepreneurship.

Deborah Sopczyk, PhD, RN, earned a baccalaureate in nursing from the State University of New York at Plattsburgh, a master of science in nursing from the State University of New York at Buffalo, and a doctoral degree in social welfare from the State University of New York at Albany. Dr. Sopczyk has more than 30 years of experience in higher education and is currently the dean of the School of Health Sciences at Excelsior College in Albany, New York. She has also taught at D'Youville and Trocaire Colleges, both in Buffalo, New York. Dr. Sopczyk is an expert in adult and distance education. Her clinical practice areas include child health, pediatric oncology, and family violence.

