

Tenth Edition

Educational Psychology

Developing Learners

Jeanne Ellis Ormrod

University of Northern Colorado (Emerita)

Eric M. Anderman

The Ohio State University

Lynley H. Anderman

The Ohio State University

Director and Publisher: Kevin M. Davis
Content Producer: Janelle Rogers
Digital Studio Producer: Lauren Carlson
Portfolio Management Assistant: Maria Feliberty
Executive Field Marketing Manager: Krista Clark
Procurement Specialist: Carol Melville
Cover Designer: Pearson CSC
Cover Photo: Anna-Liisa Nixon/Offset by Shutterstock
Full-Service Project Management: Pearson CSC, Kathy Smith
Composition: Pearson CSC
Printer/Binder: LSC Communications
Cover Printer: Phoenix Color
Text Font: Palatino LT Pro

Copyright © 2020, 2017, 2014 by Pearson Education, Inc. 221 River Street, Hoboken, NJ 07030. All Rights Reserved. Printed in the United States of America. This publication is protected by copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. To obtain permission(s) to use material from this work, please visit <http://www.pearsoned.com/permissions/>

Acknowledgments of third party content appear on the page within the text, which constitute an extension of this copyright page.

Unless otherwise indicated herein, any third-party trademarks that may appear in this work are the property of their respective owners and any references to third-party trademarks, logos or other trade dress are for demonstrative or descriptive purposes only. Such references are not intended to imply any sponsorship, endorsement, authorization, or promotion of Pearson's products by the owners of such marks, or any relationship between the owner and Pearson Education, Inc. or its affiliates, authors, licensees or distributors.

Library of Congress Cataloging-in-Publication Data

Names: Ormrod, Jeanne Ellis, author.

Title: Educational psychology : developing learners / Jeanne Ellis Ormrod, University of Northern Colorado (emerita), Eric M. Anderman, The Ohio State University, Lynley Anderman, The Ohio State University.

Description: Tenth Edition. | Hoboken, NJ : PEARSON, [2019] |

Includes bibliographical references and index.

Identifiers: LCCN 2018050223 | ISBN 9780135206478 | ISBN 0135206472

Subjects: LCSH: Educational psychology. | Teaching. | Learning. | Classroom management.

Classification: LCC LB1051 .O66 2019 | DDC 370.15--dc23

LC record available at <https://lccn.loc.gov/2018050223>

Dedication

To Jack
—*Jeanne*

To our parents Gloria and Arthur, Myra and Noel,
and our children Jacob and Sarah
—*Eric and Lynley*

About the Authors

Jeanne Ellis Ormrod received her A.B. in psychology from Brown University and her M.S. and Ph.D. in educational psychology from The Pennsylvania State University. She earned licensure in school psychology through postdoctoral work at Temple University and the University of Colorado at Boulder and has worked as a middle school geography teacher and school psychologist. She was Professor of Educational Psychology at the University of Northern Colorado until 1998, when she moved east to return to her native New England. She has published and presented extensively on cognition and memory, cognitive development, instruction, and related topics but is probably best known for this book and four others: *Human Learning* (currently in its eighth edition); *Essentials of Educational Psychology* (currently in its fifth edition and now coauthored with Brett D. Jones); *Child Development and Education* (co-authored with Teresa McDevitt, soon to come out in its seventh edition); and *Practical Research* (co-authored with Paul Leedy, currently in its twelfth edition). She and her husband Richard live in New Hampshire, where (she is happy to report) she is within a 90-minute drive of her three young grandchildren. Her most recent challenge has been to stretch her mind in new directions through improvisational theater, which is more fun than she could ever have imagined.





Eric M. Anderman holds a B.S. degree in Psychology and Spanish from Tufts University, an Ed.M. from Harvard University, and a Ph.D. in Educational Psychology from The University of Michigan. After completing his Masters degree, he worked as a high school and middle school teacher for several years, before returning to graduate school. He is currently Professor of Educational Psychology and Chair of the Department of Educational Studies at The Ohio State University. His research focuses on (a) academic motivation, (b) academic cheating, and (c) motivation and risky behavior during adolescence. He is currently the editor of the journal *Theory into Practice*, and formerly was associate editor of the *Journal of Educational Psychology*. He co-authors two other textbooks also published by Pearson: *Classroom Motivation* (now in its second edition) with Lynley Anderman, and *Adolescent Development for Educators*, with Alison Ryan and Tim Urdan. He recently co-edited the third edition of the *Handbook of Educational Psychology* (published by Routledge) with Lyn Corno, and *The International Guide to Student Achievement* (published by Routledge) with John Hattie.

Lynley H. Anderman received her B.A. and M.A. (Hons.) in Education from the University of Auckland, New Zealand, and her Ph.D. from the Combined Program in Education and Psychology at The University of Michigan. A graduate of North Shore Teachers College (Auckland, New Zealand), she taught for several years in primary and intermediate schools in Auckland. Currently, she is Professor of Educational Psychology at The Ohio State University. She has published and presented extensively on academic motivation, particularly in relation to the roles of instructional and social-relational characteristics of classrooms that support students' motivation and engagement, including students' sense of belonging, teacher–student and peer relationships. She also has written and presented on the role of educational psychology in teacher education. Dr. Anderman is the former editor of the *Journal of Experimental Education*, and former associate editor of *Theory into Practice*. She has co-edited *Psychology of Classroom Learning* (published by Cengage) and *Classroom Motivation* (published by Pearson) with Eric Anderman.



Preface

New to This Edition

Many features that have made previous editions of the book so popular with instructors and students remain in this edition, including a conversational writing style, Experiencing Firsthand features, organizational tables and diagrams, a focus within each chapter on both developmental issues and diversity, and an ongoing emphasis on classroom applications. Yet there are also significant changes. First, we went through the entire book and really tried to make sure that all of our explanations are clear and conversational in nature; thus we eliminated some highly specific details (e.g., research findings) that were not relevant for practicing teachers. As always, all 15 chapters have been updated to reflect recent advances in research, theory, and classroom practices. In this edition, we also made a concerted effort to discuss technology throughout the book; we focus both on how teachers can use new technologies to enhance instruction, and on how technology has changed the lives of the students in our classrooms. We have continued to enhance the eText and MyLab Education to provide even more interactivity than in the previous edition. Thus in each chapter, readers can regularly apply what they're learning to actual and hypothetical classroom scenarios and problems. Interactive features include Self-Check Quizzes, Application Exercises, and case study analyses in the Licensure Exam activities; all of these features ask readers to respond to either open-ended or multiple-choice questions, and then give readers immediate feedback about their responses. Such features, along with many hot-linked Video Examples and Video Explanations—the latter of which target concepts and principles that students in educational psychology classes sometimes struggle to understand and apply—make the tenth edition of the book a truly multimedia learning experience. In this edition of *Educational Psychology: Developing Learners*, Jeanne Ormrod revised chapters 1, 6, 7, 8, and 9; Eric and Lynley Anderman revised chapters 2, 3, 4, 5, 10, 11, 12, 13, 14, and 15.

More specific additions and changes to this edition include the following:

- Chapter 1: Reorganized major sections of the chapter; added a new beginning section “Reflecting on What You Already Know About Learning and Instruction”; added an additional recommendation regarding self-regulation in the “Studying and Learning Effectively” section.
- Chapter 2: Added a new introductory scenario focusing on differences in conceptual understanding in young children; added new research on the effects of the quality of preschool experiences and exposure to diversity on cognitive development; incorporated new research suggesting that children develop some cognitive strategies earlier than researchers had previously thought; increased discussion of the role of technology in cognitive development; expanded discussion of bilingual education.
- Chapter 3: Expanded discussion of the relevance of Erikson’s theory of identity development for educators; added new information regarding technology and its role in peer relationships; updated three of the visual examples (classroom artifacts); added information about the benefits of autonomy-supportive parenting.
- Chapter 4: Incorporated new content, including a discussion of intersectionality at the beginning of the chapter, and integrated this concept throughout the chapter; added definition and examples of cultural competence; added discussion on cultural biases in textbooks; increased coverage of immigration; expanded discussion of implications of between and within group variability.
- Chapter 5: Added information about Multi-Tiered Systems of Support; updated sections on PBIS and SPBIS; added a new section on “Medication and ADHD”; reduced discussion of Catell and Catell-Horn; added discussion and description of universal design; added perspectives on improving learning environments for students with hearing loss.
- Chapter 6: Shortened descriptions of theoretical perspectives in Table 6.1; added a new section, “Using Technology to Promote Meaningful Learning”; added a new Application Exercise that illustrates the use of technology in a high school nutrition class; added a new Experiencing Firsthand exercise that evokes the Stroop effect as an example of automaticity; added a new recommendation regarding the importance of explicitly discouraging late-night studying sessions (“pulling all-nighters”).
- Chapter 7: Added a new bulleted paragraph regarding the importance of self-regulation skills in strategic learning; added a new bulleted section on the use of computer-based simulations to promote transfer; integrated the previous edition’s sections on problem solving and creativity into a single section “Problem Solving and Creativity,” incorporated a section on simulations and games (previously in Chapter 12), with major updates to the content; expanded the section “Critical Thinking” to include (a) *argument analysis* as a key term, (b) reasons why people often don’t engage in

- critical thinking, (c) prevalence of “fake news” in popular media, and (d) assessment of critical thinking skills.
- Chapter 8: Expanded discussion of communities of learners to include the concept of *knowledge building*; expanded the section “Cultures as Contexts” to include the idea that cultures change over time, especially as they come into contact with other cultures; divided the previous edition’s single section “Society and Technology as Contexts” into two sections; incorporated a new example illustrating collaboration with a local community agency; significantly revised and reorganized the discussion of technology, with a new section on *online learning*; added a new Application Exercise 8.3 regarding the use of technology to foster communication with and learning from students in diverse geographical locations.
- Chapter 9: Reduced discussion of the nature of early behaviorist views; added information on the use of clickers; integrated strategies for encouraging productive behaviors and discouraging undesirable behaviors into a single section; included a new section “Thinking Carefully About the Consequences You Either Intentionally or Unintentionally Impose”; expanded discussion of *schoolwide positive behavioral interventions and supports* (building on what was presented earlier in Chapter 5).
- Chapter 10: Added a new scenario comparing students at two different developmental levels; added discussion of using technology to model skills that involve motor reproduction; added strategies teachers can use to enhance self-efficacy in their students; added two new Experiencing Firsthand exercises; included a new section on “Self-Regulation in Online Learning Environments.”
- Chapter 11: Updated section on work-avoidance goals; added a new section on “Short-Term Motivation Interventions”; added a new table (11.2) describing implementation and results of short-term motivation interventions; provided additional discussion of the importance of expectancies and values as determinants of student motivation and of future academic and career choices.
- Chapter 12: Updated information on using websites; added a new section on helping students learn how to learn; removed specific suggestions for aligning instructional practices with the Common Core State Standards; updated examples to include use of current technology (e.g., use of *Google Earth* in geography lessons; cautious use of YouTube videos).
- Chapter 13: Added a new section on bullying and cyberbullying; added a new section on “recognizing microaggressions”; added discussion on the importance of creating a sense of belonging, as well as some cautions to consider; expanded discussion of parental involvement,

including some of the fiscal and job-related constraints that preclude some parents from being as involved as they might want.

- Chapter 14: Added a table on how to provide effective feedback; included a new Experiencing Firsthand exercise illustrating the concept of reliability of measurement; updated the section on the use of digital technologies for assessment to reflect current information, technology, and terminology.
- Chapter 15: Added a discussion of implications of the *Every Student Succeeds Act*; added a discussion regarding cautions to think about when considering the role of effort in students’ grades; related information on norm-referenced testing to the discussion of student motivation from Chapter 11.

General Rationale for the Book

As teachers, we play critical roles in the lives of children and adolescents. Some of us help them learn to read and write. Some of us help them understand their physical and social worlds through explorations of science, mathematics, geography, history, foreign languages, or literature. Some of us help them express themselves through physical movement, the visual arts, or music. And some of us teach them specific skills they will need as adult professionals in, say, auto mechanics, cooking, or new technologies. But regardless of the subject matter we teach, we help those in the generations that follow us to become knowledgeable, self-confident, and productive citizens.

In our minds, teaching is the most rewarding profession we could possibly choose. Yet it’s often a challenging profession as well. Students don’t always come to us ready or eager to learn. How can we help them develop the knowledge and skills they need to become productive adults? What strategies can we use to motivate them? What tasks and instructional materials are appropriate for students at different developmental levels? Are the instructional practices that we use sensitive to the diversity of our students? Over the years, researchers and practitioners have worked together to answer such questions. Collectively, we’re in the fortunate position of being able to benefit from the many insights that such experts offer.

All three of us have been teaching educational psychology for many years, and we’ve loved every minute of it. How children and adolescents learn and think, how they change as they grow and develop, why they do the things they do, how they’re often very different from one another—our understandings of all of these things have innumerable implications for classroom practice and, ultimately, for the lives of young people. Because we want the

field of educational psychology to captivate you the way it has captivated us, we've tried to make the book interesting, meaningful, and thought provoking as well as informative and timely.

Helping Our Readers Learn and Apply Educational Psychology

You can gain much more from your study of educational psychology when you:

- Focus on core concepts and principles of the discipline
- See these principles in action in your own learning and behavior
- Use the principles to understand the learning and behavior of children and adolescents
- Consistently apply the principles to classroom practice

You'll find numerous features throughout the book to help you do all of these things. We authors hope you'll learn a great deal from what educational psychology has to offer, not only about the students you may be teaching but also about yourself.

Focusing on Core Concepts and Principles

Rather than superficially explore every aspect of educational psychology, this book zeroes in on fundamental concepts and principles that have broad applicability to classroom practice. Throughout the book, core concepts appear in bold-faced blue font. Core principles are clearly identified within each section with boldfaced blue headings. See the following sections for some examples: *General Principles of Human Development* in Chapter 2 and *Basic Assumptions of Cognitive Psychology* in Chapter 6.

Seeing Concepts and Principles in Action in Your Own Learning

A central goal of this book has always been to help our readers discover more about themselves as thinkers and learners. Thus we include *Experiencing Firsthand* exercises throughout the book—exercises that illustrate such diverse concepts as constructive processes, working memory, sense of self, social cognition, ethnic stereotyping, and confidentiality in assessment. All of these exercises are designed to do exactly what their name implies: help our readers observe principles of educational psychology *in themselves*. See the sections on *The Nature of Working (Short-Term) Memory* and *Moving Information to Long-Term Memory* in Chapter 6 for some examples.

Understanding Children's and Adolescents' Learning and Behavior

Throughout the book we continually urge our readers to look closely at and try to make sense of what children and

adolescents do and say. Each chapter begins with a *Case Study* that situates chapter content in a real-life scenario. We also make frequent use of *real artifacts* from children's journals and school assignments to illustrate concepts and principles in action. For example, see sections *Roles of Peers in Children's Development* in Chapter 3 and *How Knowledge Can Be Organized* in Chapter 6.

Examining Developmental Trends

Unique to this book is a focus on children's and adolescents' development in every chapter. For example, most chapters have one or more *Developmental Trends* tables that summarize age-typical characteristics at four grade levels (K–2, 3–5, 6–8, and 9–12), present concrete examples, and offer suggested classroom strategies for each level. You can find examples of these tables in the sections *Gender Differences* in Chapter 4 and *How Procedural Knowledge is Learned* in Chapter 6.

Applying Core Ideas of Educational Psychology to Classroom Practice

Throughout this text, psychological concepts and principles are consistently applied to classroom practice. We also provide *Into the Classroom* and *Creating a Productive Classroom Environment* boxes that suggest and illustrate strategies related to particular areas of concern for teachers. You can find examples in the sections *Contemporary Extensions and Applications of Vygotsky's Theory* in Chapter 2 and *How Knowledge Can Be Organized* in Chapter 6.

This book is consistently praised for its emphasis on application. Throughout the book we identify suggested strategies—within the text, in tables, and in the margins—with apple icons; for instance, see the *Applying Brain Research* feature in Chapter 2.

Helping You Prepare for Licensure

All chapters end with *Practice for Your Licensure Exam* exercises. These exercises provide readers with opportunities to use the content they've learned in a particular chapter to answer multiple-choice and constructed-response questions similar to those that appear on many teacher licensure tests. See the end of any chapter.

New Digital Features in the Pearson eText with MyLab Education

In the tenth edition, we have continued to expand the digital learning and assessment resources embedded in the eText and MyLab Education. Designed to bring you more directly into the world of K–12 classrooms and to help you see the very real impact that educational psychology concepts and principles have on learning and development, these digital learning and assessment resources also

- Provide you with practice using educational psychology concepts in teaching situations;
- Help you and your instructor see how well you understand the concepts presented in the book and the media resources; and
- Help you think about, and process more deeply, educational psychology and how to use it both as a teacher and as a learner.

The online resources in the Pearson eText with MyLab Education include:

Video Examples Several times per chapter, an embedded video provides an illustration of an educational psychology principle or concept in action. These video examples most often show students and teachers working in classrooms. Sometime they show students or teachers describing their thinking or experiences.

Video Explanations Throughout the text, we have provided video explanations of essential concepts. Excerpted from Jeanne’s series of longer educational psychology modules, these brief lectures include animated slides and worked examples.

Self-Checks Throughout the chapters you will find MyLab Education: Self-check quizzes. There are three to six of these quizzes in each chapter at the ends of major text sections. They are meant to help you assess how well you have mastered the learning outcome addressed in the section you just read. These self-checks are made up of self-grading multiple-choice items that not only provide feedback on whether questions are answered correctly or incorrectly, but also provide rationales for both correct and incorrect answers.

Application Exercises Also at the ends of major sections and tied to specific chapter learning outcomes, these scaffolded analysis exercises challenge you to use chapter content to reflect on teaching and learning in real classrooms. The questions you answer in these exercises are usually open-ended, constructed-response questions. Once you provide your own answers to the questions, you receive feedback in the form of model answers written by experts.

Practice for Your Licensure Exam Every chapter ends with an exercise that gives learners an opportunity to answer multiple-choice and constructed-response questions similar to those that appear on many teacher licensure tests. As with the other exercises in MyLab Education, Practice for Your Licensure Exam exercises provide feedback.

Simulations in Classroom Management These interactive cases focus on the classroom management issues teachers most frequently encounter on a daily basis. Each simulation presents a challenge scenario at the beginning and then offers a series of choices to solve each challenge. Along the way students receive mentor feedback on their choices and have the opportunity to make better choices if necessary.

Study Modules In the left-hand navigation bar of MyLab Education, you will find a set of Study Modules. These interactive, application-oriented modules provide opportunities to learn foundational educational psychology concepts in ways other than reading about them. The modules present content through screen capture videos that include animations, worked examples, and classroom videos. Each module consists of three parts: a Learn section that presents several key concepts and strategies, an Apply section that provides practice applying the concepts and strategies to actual teaching and learning scenarios, and an Assess section that contains a multiple-choice test to measure mastery.

Video Analysis Tool Exercises The Video Analysis Tool is designed to help build skills in analyzing teaching. Exercises provide classroom videos and rubrics to scaffold analysis. Timestamp and commenting tools allow learners to easily annotate the video and connect their observations to the concepts they have learned in the work.

Ancillary Materials

The following resources are available for instructors to download on www.pearsonhighered.com/educators. Instructors can enter the author or title of this book, select this particular edition of the book, and then click on the “Resources” tab to log in and download textbook supplements.

Instructor’s Resource Manual (ISBN 0-13-520815-7)

An Instructor’s Resource Manual includes suggestions for learning activities, additional Experiencing Firsthand exercises, supplementary lectures, case study analyses, discussion topics, group activities, and additional media resources.

PowerPoint® Slides (ISBN 0-13-520822-X)

The PowerPoint slides include key concept summarizations, diagrams, and other graphic aids to enhance learning. They are designed to help students understand, organize, and remember core concepts and theories.

Test Bank (ISBN 0-13-520819-X)

Jeanne personally wrote many of the test questions in the Test Bank that accompanies the book. Test Bank coauthors have added new ones to reflect the updates to the tenth edition. Some items (lower-level questions) simply ask students to identify or explain concepts and principles they have learned. But many others (higher-level questions) ask students to apply those same concepts and principles to specific classroom situations—that is, to actual student behaviors and teaching strategies. Ultimately it is these higher-level questions that assess students' ability to use principles of educational psychology in their own teaching practice.

TestGen (ISBN 0-13-520814-9)

TestGen is a powerful test generator that you install on your computer and use in conjunction with the TestGen test bank file for your text. Assessments, including equations, graphs, and scientific notation, may be created for both print and online testing.

TestGen is available exclusively from Pearson Education publishers. You install TestGen on your personal computer (Windows or Macintosh) and create your own tests for classroom testing and for other specialized delivery options, such as over a local area network or on the web. A test bank, which is also called a Test Item File (TIF), typically contains a large set of test items, organized by chapter and ready for your use in creating a test, based on the associated textbook material.

The tests can be downloaded in the following formats:

TestGen Test bank file—MAC

TestGen Test bank file—PC

Angel TestGen Conversion

Test Bank for Blackboard Learning System

Desire to Learn TestGen Conversion

Moodle TestGen Conversion

Sakai TestGen Conversion

Test Bank for Blackboard CE/Vista

Case Studies: Applying Educational Psychology (2nd ed.)

Many instructors use Ormrod and McGuire's *Case Studies* book (0-13-198046-7) as a supplement to this book. It includes 48 real cases involving students and classrooms ranging from preschool to high school. It illustrates concepts and principles in many areas of educational psychology, including child and adolescent development, learning and cognition, motivation, classroom management, instructional practices, and assessment.

Acknowledgments

We've been fortunate to have had a great deal of help in writing this book. First and foremost, the book wouldn't be what it is today without long-term partnerships with Kevin Davis. Kevin first came on board as developmental editor for the book with Jeanne in 1989 and, except for a two-year hiatus while he served in other roles at Pearson, has continued to guide the book through its multiple iterations, first only in paper and now in the ever-changing digital world. Although Kevin hasn't penned the words, his influence permeates every page of text and every hotlinked activity. His ideas, suggestions, and occasional gentle demands have consistently pushed and stretched us to new heights in our efforts to create the best possible pedagogical experience for readers.

We are also deeply indebted to developmental editor Pam Bennett, who has kept all three of us on course, reminding us of both our short-term and long-term targets. Pam gently encouraged us to stay on track, and to strive for excellence and quality throughout the entire book. Project manager Kathy Smith expertly organized and oversaw the countless steps involved in transforming our word-processed manuscripts and rough sketches into the finished product you see before you. In this high-tech day and age, publishing a book is a very complicated process and we are grateful for her expertise. Many thanks, too, to Alyssa Emery, who has updated the Self-Check Quizzes and some of the new Application Exercises in MyLab Education. In fact, she took charge of the overall media plan for Chapters 2–5 and Chapters 10–15, and created all of the new Application Exercises for those chapters.

In addition, numerous colleagues across the nation have strengthened the book itself by reviewing one or more of its previous versions. Reviewers for the first eight editions were Jane Abraham, Virginia Tech University; Joyce Alexander, Indiana University; Eric M. Anderman, then at University of Kentucky; Linda M. Anderson, Michigan State University; Margaret D. Anderson, SUNY–Cortland; Cindy Ballantyne, Northern Arizona University; J. C. Barton, Tennessee Technical University; Timothy A. Bender, Southwest Missouri State University; Stephen L. Benton, Kansas State University; Karen L. Block, University of Pittsburgh; Kathryn J. Biacindo, California State University–Fresno; Barbara Bishop, Eastern New Mexico University; Angela Bloomquist, California University of Pennsylvania; Phyllis Blumenfeld, University of Michigan; Gregory Braswell, Illinois State University; Robert Braswell, Winthrop College; Kathy Brown, University of Central Oklahoma; Randy L. Brown, University of Central Oklahoma; Kay S. Bull, Oklahoma State University; E. Namisi Chilungu, Georgia State University; Margaret W. Cohen, University of Missouri–St. Louis; Theodore Coladarci, University of Maine; Sharon Cordell, Roane State Community College; Roberta Corrigan,

University of Wisconsin–Milwaukee; Richard D. Craig, Towson State University; José Cruz, Jr., The Ohio State University; David Yun Dai, SUNY–University at Albany; Darlene DeMarie, University of South Florida; Peggy Dettmer, Kansas State University; Joan Dixon, Gonzaga University; Leland K. Doebler, University of Montevallo; Kellah Edens, University of South Carolina; Catherine Emilovich, SUNY–Buffalo; Joanne B. Engel, Oregon State University; Kathy Farber, Bowling Green State University; William R. Fisk, Clemson University; Victoria Fleming, Miami University of Ohio; M. Arthur Garmon, Western Michigan University; Roberta J. Garza, Pan American University–Brownsville; Mary Gauvain, University of California–Riverside; Sister Nancy Gilchrist, St. Joseph’s College; Nathan Gonyea, SUNY–Oneonta; Cheryl Greenberg, University of North Carolina–Greensboro; Richard Hamilton, University of Houston; Jennifer Mistretta Hampston, Youngstown State University; Ken Hay, Indiana University; Arthur Hernandez, University of Texas–San Antonio; Lynley Hicks, University of Missouri–Kansas City; Heather Higgins, University of North Carolina–Greensboro; Frederick C. Howe, Buffalo State College; Peggy Hsieh, University of Texas–San Antonio; Dinah Jackson, University of Northern Colorado; Janina M. Jolley, Clarion University of Pennsylvania; Caroline Kaczala, Cleveland State University; CarolAnne M. Kardash, University of Missouri–Columbia; Pamela Kidder-Ashley, Appalachian State University; Kenneth Kiewra, University of Nebraska–Lincoln; Nancy F. Knapp, University of Georgia; Mary Lou Koran, University of Florida; Randy Lennon, University of Northern Colorado; Howard Lloyd, University of Kentucky; Susan C. Losh, Florida State University; Pamela Manners, Troy State University; Hermine H. Marshall, San Francisco State University; Teresa McDevitt, University of Northern Colorado; Beverly K. McIntyre, University of North Carolina–Charlotte; Sharon McNeely, Northeastern Illinois University; Michael Meloth, University of Colorado–Boulder; Kelly S. Mix, Michigan State University; Bruce P. Mortenson, Louisiana State University; Janet Moursund, University of Oregon; P. Karen Murphy, The Pennsylvania State University; Gary A. Negin, California State University; Joe Olmi, The University of Southern Mississippi; Helena Osana, Concordia University; James Persinger, Emporia State University; Judy Pierce, Western Kentucky University; Joseph Pizzillo, Rowan University; James R. Pullen, Central Missouri State University; Gary F. Render, University of Wyoming; Robert S. Ristow, Western Illinois University; Jeff Sandoz, University of Louisiana–Lafayette; Rolando Santos, California State University–Los Angeles; Thomas R. Scheira, SUNY–Buffalo; Gregg Schraw, University of Nebraska–Lincoln; Dale H. Schunk, University of North Carolina–Greensboro; Mark Seng, University of Texas; Johnna Shapiro, University of California–Davis; Glenn E. Snelbecker, Temple University; Kenneth Springer, Southern Methodist University; Harry L.

Steger, Boise State University; Bruce Torff, Hofstra University; Ann Turnbull, University of Kansas; Julianne C. Turner, University of Notre Dame; Tina Van Prooyen, Heartland Community College; Enedina Vazquez, New Mexico State University; Courtney Vorell, Minnesota School of Business; Alice A. Walker, SUNY–Cortland; Mary Wellman, Rhode Island College; Jane A. Wolffe, Bowling Green State University; Ya-Shu Yang, University of Nebraska–Lincoln; Julia Yoo, Lamar University; and Karen Zabrocky, Georgia State University.

Coming on board for the tenth edition were these reviewers, who offered helpful suggestions now reflected in the book: Karen Cross, University of North Carolina–Charlotte, and Erin McClure, The Ohio State University.

Some of our own students and teacher interns—especially Jenny Bressler, Kathryn Broadhead, Ryan Francoeur, Gerry Holly, Michel Minichiello, Shelly Lamb, Kim Sandman, Melissa Tillman, Nick Valente, and Brian Zottoli—have at one time or another agreed to let us use their interviews, essays, and experiences as examples. Teachers and administrators at schools both home and abroad (including two of Jeanne’s children, now teachers themselves) have allowed us to share their strategies with our readers; we thank Liz Birnam, Berneen Bratt, Tom Carroll, Barbara Dee, Jackie Fillion, Tina Ormrod Fox, Sarah Gagnon, Dinah Jackson, Sheila Johnson, Don Lafferty, Gary MacDonald, Sharon McManus, Linda Mengers, Mark Nichols, Jeff Ormrod, Ann Reilly, and Gwen Ross. The Andermans are particularly grateful to three of their current and former graduate students, Megan Sanders, Alyssa Emery, and Elizabeth Kraatz, who assisted them with administrative tasks in the preparation of their chapters, and their graduate teaching assistants, especially Naima Khandaker, Elizabeth Kraatz, and Kristin Henkaline, who have provided valuable feedback on the book, as they use it with their own students.

Many young people, too, deserve thanks for letting us use their work. In particular, we want to acknowledge the contributions of the following present and former elementary and secondary school students: Andrew and Katie Belcher; Noah and Shea Davis; Zachary Derr; Amartyth, Andrew, and Anthony Gass; Ben and Darcy Geraud; Dana Gogolin; Colin Hedges; Erin Islo; Charlotte Jeppsen; Laura Linton; Michael McShane; Frederik Meissner; Alex, Jeff, and Tina Ormrod; Patrick Paddock; Isabelle Peters; Cooper Remignanti; Ian Rhoads; David and Laura Riordan; Corey and Trisha Ross; Ashton and Haley Russo; Alex and Connor Sheehan; Matt and Melinda Shump; Andrew Teplitz; Emma Thompson; Grace Tober; Grant Valentine; Caroline and Hannah Wilson; and Geoff Wuehrmann.

Last but certainly we must thank our families, who have forgiven our countless hours spent either buried in our books and journals or else glued to our computers. Without their continuing understanding and support, this tenth edition would never have seen the light of day.

Brief Contents

1	Teaching and Educational Psychology	1
Part 1 Development and Diversity		
2	Cognitive and Linguistic Development	20
3	Personal and Social Development	61
4	Group Differences	106
5	Individual Differences and Special Educational Needs	144
Part 2 Learning and Motivation		
6	Learning, Cognition, and Memory	193
7	Complex Cognitive Processes	240
8	Learning and Cognition in Context	280
9	Behaviorist Views of Learning	325
10	Social Cognitive Views of Learning	362
11	Motivation and Affect	403
Part 3 Classroom Strategies		
12	Instructional Strategies	461
13	Creating a Productive Learning Environment	506
14	Classroom Assessment Strategies That Promote Learning	554
15	Summarizing Students' Achievements and Abilities	603
Appendix A Describing Associations with Correlation Coefficients		
		643
Appendix B Determining Reliability and Predictive Validity		
		645
Appendix C Matching Text and MyLab Education Content to the Praxis® <i>Principles of Learning and Teaching</i> Tests		
		648
	Glossary	665
	References	676
	Name Index	792
	Subject Index	814

Contents

About the Authors	v	Language Development	51
Preface	ix	Theoretical Issues Regarding Language Development	51
1 Teaching and Educational Psychology	1	Diversity in Language Development	53
Case Study: The “No D” Policy	2	Second-Language Learning and English Language Learners	54
Reflecting on What You Already Know About Learning and Instruction	3	3 Personal and Social Development	61
Studying and Learning Effectively	5	Case Study: Hidden Treasure	62
Developing as a Teacher	6	Personality Development	63
Understanding and Interpreting Research Findings	9	Temperament	63
Quantitative Research	9	Environmental Influences on Personality Development	64
Qualitative Research	12	The “Big Five” Personality Traits	66
Mixed-Methods Research	13	Temperament, Personality, and Goodness of Fit	68
Interpreting Research Results: A Cautionary Note	14	Development of a Sense of Self	68
From Research to Practice: The Importance of Principles and Theories	14	Factors Influencing Sense of Self	69
Collecting Data and Drawing Conclusions About Your Own Students	16	Developmental Changes in Sense of Self	70
Assessing Students’ Achievements and Interpreting Their Classroom Behaviors	16	Diversity in Sense of Self	75
Conducting Action Research	17	Development of Peer Relationships and Interpersonal Understandings	76
Part 1 Development and Diversity		Roles of Peers in Children’s Development	77
2 Cognitive and Linguistic Development	20	Common Social Groups in Childhood and Adolescence	78
Case Study: Carrots	21	Popularity and Social Isolation	81
General Principles of Human Development	21	Social Cognition	83
The Multiple Layers of Environmental Influence: Bioecological Systems and the Importance of Culture	23	Aggression	86
Role of the Brain in Learning and Development	25	Technology and Peer Relationships	88
Piaget’s Theory of Cognitive Development	28	Diversity in Peer Relationships and Social Cognition	89
Piaget’s Basic Assumptions	30	Promoting Healthy Peer Relationships	89
Piaget’s Proposed Stages of Cognitive Development	32	Moral and Prosocial Development	93
Critiquing Piaget’s Theory	36	Developmental Trends in Morality and Prosocial Behavior	93
Considering Diversity from the Perspective of Piaget’s Theory	38	Factors Influencing Moral and Prosocial Development	97
Contemporary Extensions and Applications of Piaget’s Theory	39	Diversity in Moral and Prosocial Development	98
Vygotsky’s Theory of Cognitive Development	41	Encouraging Moral and Prosocial Development at School	100
Vygotsky’s Basic Assumptions	42	4 Group Differences	106
Critiquing Vygotsky’s Theory	45	Case Study: Why Jack Wasn’t in School	107
Considering Diversity from the Perspective of Vygotsky’s Theory	46	Cultural and Ethnic Differences	109
Contemporary Extensions and Applications of Vygotsky’s Theory	46	Navigating Different Cultures at Home and at School	110
Contrasting Piaget’s and Vygotsky’s Theories	50	Cultural Competence	111
		Creating a Culturally Inclusive Classroom Environment	117
		Gender Differences	124

Research Findings Regarding Gender Differences	124
Origins of Gender Differences	129
Making Appropriate Accommodations for Gender Differences	131
Socioeconomic Differences	132
Challenges Associated with Poverty	133
Fostering Resilience	136
Working with Homeless Students	137
Students at Risk	138
Characteristics of Students at Risk	138
Why Students Drop Out	139
Supporting Students at Risk	140
5 Individual Differences and Special Educational Needs	144
Case Study: Tim	145
Intelligence	145
Theoretical Perspectives of Intelligence	146
Measuring Intelligence	150
Nature and Nurture in the Development of Intelligence	152
Cultural and Ethnic Diversity in Intelligence	153
Being Smart About Intelligence and IQ Scores	154
Cognitive Styles and Dispositions	156
There's No Such Thing as Learning Styles	156
Does It Make Sense to Teach to Students' "Right Brains" or "Left Brains"?	157
Analytic and Holistic Thinking	157
Dispositions	157
Educating Students with Special Needs in General Education Classrooms	159
Public Law 94-142: Individuals with Disabilities Education Act (IDEA)	159
Potential Benefits and Drawbacks of Inclusion	161
Identifying Students' Special Needs	162
Students with Specific Cognitive or Academic Difficulties	164
Learning Disabilities	164
Attention-Deficit Hyperactivity Disorder (ADHD)	167
Speech and Communication Disorders	170
General Recommendations	171
Students with Social or Behavioral Problems	172
Emotional and Behavioral Disorders	172
Autism Spectrum Disorders	174
General Recommendations	176
Students with General Delays in Cognitive and Social Functioning	178
Intellectual Disabilities	178
Students with Physical or Sensory Challenges	179
Physical and Health Impairments	180
Visual Impairments	181
Hearing Loss	182
General Recommendations	184
Students with Advanced Cognitive Development	184

Giftedness	185
Considering Diversity When Identifying and Addressing Special Needs	187
General Recommendations for Working with Students Who Have Special Needs	188

Part 2 Learning and Motivation

6 Learning, Cognition, and Memory	193
Case Study: Bones	194
Basic Assumptions of Cognitive Psychology	195
A Model of Human Memory	198
The Nature of the Sensory Register	199
Moving Information to Working Memory: The Role of Attention	200
The Nature of Working (Short-Term) Memory	201
Moving Information to Long-Term Memory: Connecting New Information with Prior Knowledge	203
The Nature of Long-Term Memory	204
Learning, Memory, and the Brain	205
Critiquing the Three-Component Model	206
Long-Term Memory Storage	207
How Knowledge Can Be Organized	208
How Declarative Knowledge Is Learned	210
How Procedural Knowledge Is Learned	215
Roles of Prior Knowledge and Working Memory in Long-Term Memory Storage	217
Encouraging a Meaningful Learning Set and Conceptual Understanding	218
Using Technology to Facilitate Meaningful Learning	219
Using Mnemonics in the Absence of Relevant Prior Knowledge	220
When Knowledge Construction Goes Awry: Addressing Learners' Misconceptions	222
Obstacles to Conceptual Change	224
Promoting Conceptual Change	225
Long-Term Memory Retrieval	227
Factors Affecting Retrieval	228
Why Learners Sometimes Forget	231
Diversity in Cognitive Processes	233
Facilitating Cognitive Processing in Students with Special Needs	234
7 Complex Cognitive Processes	240
Case Study: Taking Over	241
Thinking About Thinking and Learning How to Learn: The Importance of Metacognition	242
Effective Learning Strategies	244
Factors Affecting Strategy Use	247
Metacognitive Strategies in the Digital Age	251
Diversity, Disabilities, and Exceptional Abilities in Metacognition	253

Transfer	255	The Various Forms That Reinforcement Can Take	334
Factors Affecting Transfer	256	The Various Forms That Punishment Can Take	339
Problem Solving and Creativity	260	Strategies for Encouraging Productive Behaviors and Discouraging Undesirable Ones	341
Factors Affecting Problem-Solving Success and Creative Thinking	261	Using Reinforcement Effectively	342
Teaching Problem-Solving Strategies	265	Shaping New Behaviors	347
Fostering Creative Thinking	266	Encouraging Desired Behaviors Through Antecedent Stimuli and Responses	348
Using Computer Technology to Foster and Support Creative Problem-Solving	268	Creating Conditions for Extinction	350
Critical Thinking	270	Cueing Inappropriate Behaviors	350
Encouraging Critical Thinking in the Classroom, the Outside World, and Cyberspace	273	Reinforcing Incompatible Behaviors	350
Diversity in Transfer, Problem Solving, Creativity, and Critical Thinking	275	Using Punishment When Necessary	351
Accommodating Students with Special Needs	276	Reflecting on the Consequences You Either Intentionally or Unintentionally Impose	353
8 Learning and Cognition in Context	280	Addressing Especially Difficult Classroom Behaviors	353
Case Study: It's All in How You Look at Things	281	Applied Behavior Analysis	354
Basic Assumptions of Contextual Theories	282	Functional Analysis	354
Social Interactions as Contexts	285	Positive Behavioral Interventions and Supports	355
Interactions with More Advanced Individuals	285	Schoolwide Positive Behavioral Interventions and Supports	356
Interactions with Peers	286	Diversity in Student Behaviors and Reactions to Consequences	357
Creating a Community of Learners	287	Accommodating Students with Special Needs	358
Cultures as Contexts	289	10 Social Cognitive Views of Learning	362
Schemas, Scripts, and Worldviews as Aspects of Culture	290	Case Study: Two Students, Same Problem	363
Communities of Practice as Aspects of Culture	292	Basic Assumptions of Social Cognitive Theory	363
Societies as Contexts	293	The Social Cognitive View of Reinforcement and Punishment	365
Authentic Activities	294	Modeling	368
Digital Technologies as Contexts	296	Behaviors and Skills That Can Be Learned Through Modeling	369
Technology in Learning and Instruction	296	Characteristics of Effective Models	371
Promoting Technological Literacy	298	Essential Conditions for Successful Modeling	371
Online Learning	300	Self-Efficacy	374
Academic Content Domains as Contexts	301	How Self-Efficacy Affects Behavior and Cognition	375
Language Arts: Reading and Writing	302	Some Overconfidence—But Not Too Much—Can Be Beneficial	376
Mathematics	309	Factors in the Development of Self-Efficacy	376
Science	311	Teacher Self-Efficacy	380
Social Studies	314	Self-Regulation	382
Taking Student Diversity into Account	319	Self-Regulated Behavior	384
9 Behaviorist Views of Learning	325	Self-Regulated Learning	389
Case Study: The Attention Getter	326	Self-Regulated Problem Solving	391
Basic Assumptions of Behaviorism	326	Diversity in Self-Regulation	394
Building on Existing Stimulus–Response Associations:		Promoting Self-Regulation in Students at Risk	394
Classical Conditioning	328	Revisiting Reciprocal Causation	398
Classical Conditioning of Involuntary Emotional Responses	330	Comparing Theoretical Perspectives of Learning	400
Common Phenomena in Classical Conditioning	331	11 Motivation and Affect	403
Addressing Counterproductive Emotional Responses	332	Case Study: Passing Algebra	404
Learning from Consequences: Instrumental Conditioning	332	The Nature of Motivation	405
Contrasting Classical Conditioning and Instrumental Conditioning	333	Intrinsic versus Extrinsic Motivation	406

Basic Human Needs	409
Arousal	409
Cognitive and Sociocultural Factors in Motivation	410
Expectancies and Values	411
Interests	413
Self-Determination	415
Diversity in Addressing Needs	421
Attributions	423
Goal Theories	427
Mindsets	432
Short-Term Motivation Interventions	434
Diversity in Cognitive and Sociocultural Factors Affecting Motivation	435
Effects of Teacher Attributions and Expectations on Students' Motivation	439
How Teacher Attributions and Expectations Affect Students' Achievement	441
Targets: A Mnemonic for Remembering Motivational Strategies	444
Affect and Its Effects	446
How Affect and Motivation Are Interrelated	446
Anxiety in the Classroom	449
Diversity in Affect	454
Motivating Students in Any Environment	457

Part 3 Classroom Strategies

12 Instructional Strategies	461
Case Study: Westward Expansion	462
General Principles That Can Guide Instruction	463
Planning for Instruction	466
Identifying the Goals of Instruction	466
Conducting a Task Analysis	470
Developing a Lesson Plan	472
Creating a Class Website to Share Goals and Facilitate Communication Throughout the School Year	473
Teacher-Directed Instructional Strategies	473
Presenting New Material Through Traditional Expository Methods: Lectures and Textbooks	474
Asking Questions and Giving Feedback	475
Providing Practice Through In-Class Assignments	477
Giving Homework	478
Conducting Direct Instruction	479
Promoting Mastery	481
Using Instructional Websites Effectively	482
Promoting Deliberate Practice	483
Helping Students Learn How to Learn	484
Learner-Directed Instructional Strategies	486
Stimulating and Guiding Class Discussions	486
Conducting Reciprocal Teaching Sessions	488
Conducting Discovery and Inquiry Activities	489

Conducting Cooperative Learning Activities	492
Structuring Peer Tutoring Sessions	496
Conducting Technology-Based Collaborative Learning Activities	498
Taking Instructional Goals and Student Diversity into Account	499
Considering Group Differences	501
Accommodating Students with Special Needs	502
13 Creating a Productive Learning Environment	506
Case Study: A Contagious Situation	507
Creating a Setting Conducive to Learning	507
Arranging the Classroom	509
Establishing and Maintaining Productive Teacher–Student Relationships	510
Creating an Effective Psychological Climate	513
Setting Limits	516
Planning Activities That Keep Students on Task	519
Monitoring What Students Are Doing	522
Modifying Instructional Strategies	522
Taking Developmental Differences into Account	523
Taking Individual and Group Differences into Account	524
Expanding the Sense of Community Beyond the Classroom	527
Working with Other Faculty Members	527
Working with the Community at Large	528
Working with Parents	528
Dealing with Misbehaviors	533
Ignoring Certain Behaviors	534
Cueing Students	535
Discussing Problems Privately with Students	535
Recognizing Microaggressions	537
Teaching Self-Regulation Skills	538
Conferring with Parents	539
Conducting Planned, Systematic Interventions	541
Taking Students' Cultural Backgrounds into Account	544
Addressing Aggression and Violence at School	545
Bullying and Cyberbullying	546
Addressing Gang-Related Problems	550

14 Classroom Assessment Strategies That Promote Learning	554
Case Study: The Math Test	555
The Many Forms and Purposes of Assessment	556
Guiding Instructional Decision Making	559
Determining What Students Have Learned from Instruction	559
Evaluating the Quality of Instruction	560
Diagnosing Learning and Performance Problems	560
Promoting Learning	561

Enhancing Learning Through Ongoing Assessments and Regular Feedback	563	Individual versus Group Administration of Standardized Tests	623
Including Students in the Assessment Process	565	Guidelines for Choosing and Using Standardized Tests	624
Using Digital Technologies in Formative Assessment	566	Interpreting Standardized Test Scores	626
Important Qualities of Good Assessments	567	High-Stakes Testing and Teacher Accountability	628
Reliability	568	The Every Student Succeeds Act	629
Standardization	570	Problems with High-Stakes Testing	629
Validity	571	Productive Steps Forward in High-Stakes Testing	631
Assessing Students' Progress and Achievement Both Informally and Formally	577	Taking Student Diversity into Account	633
Informally Observing Students' Behaviors	577	Cultural Bias in Test Content	633
Using Paper–Pencil Assessments	579	Cultural and Ethnic Differences	634
Using Performance Assessments	587	Language Differences and English Language Learners	635
Additional Considerations in Formal Assessment	592	Accommodating Students with Special Needs	636
Taking Student Diversity into Account in Classroom Assessments	597	Confidentiality and Communication About Assessment Results	637
Accommodating Group Differences	598	Communicating Assessment Results to Students and Parents	639
Accommodating Students with Special Needs	598		
15 Summarizing Students' Achievements and Abilities	603	Appendix A Describing Associations with Correlation Coefficients	643
Case Study: B in History	604		
Summarizing the Results of a Single Assessment	605	Appendix B Determining Reliability and Predictive Validity	645
Raw Scores	605		
Criterion-Referenced Scores	605	Appendix C Matching Text and MyLab Education Content to the Praxis® <i>Principles of Learning and Teaching</i> Tests	648
Norm-Referenced Scores	606		
Using Criterion-Referenced versus Norm-Referenced Scores in the Classroom	610	Glossary	665
Determining Achievement Using Final Grades and Portfolios	611	References	676
Considering—or Not Considering—Other Factors in Grading	614	Name Index	792
Including Students in the Grading Process	616	Subject Index	814
Using Portfolios	617		
Types and Purposes of Portfolios	618		
Benefits and Limitations of Portfolios	618		
Helping Students Construct Portfolios	619		
Standardized Tests	621		
Types of Standardized Tests	621		

