

Pearson RENTAL EDITION

Save money up front. Want to keep it at the end of the term? That's an option too.

Psychology of
**LEARNING FOR
INSTRUCTION**



FOURTH EDITION



Marcy P. Driscoll | Kerry J. Burner

Psychology of Learning for Instruction

FOURTH EDITION

Marcy P. Driscoll

Florida State University

Kerry J. Burner

Florida State University



Please contact <https://support.pearson.com/getsupport/s/contactsupport> with any queries on this content

Cover Image Credit: Shulz/E+/Getty Images

Copyright © 2022, 2005, 2000 by Pearson Education, Inc. 221 River Street, Hoboken, NJ 07030.

All Rights Reserved. Manufactured 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. For information regarding permissions, request forms, and the appropriate contacts within the Pearson Education Global Rights and Permissions department, please visit www.pearsoned.com/permissions/.

Acknowledgments of third-party content appear on the appropriate page within the text.

PEARSON, ALWAYS LEARNING, REVEL, and MYLAB are exclusive trademarks owned by Pearson Education, Inc. or its affiliates in the U.S. and/or other countries.

Unless otherwise indicated herein, any third-party trademarks, logos, or icons that may appear in this work are the property of their respective owners, and any references to third-party trademarks, logos, icons, 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: Driscoll, Marcy Perkins, author. | Burner, Kerry J. (Kerry Jean), author.

Title: Psychology of learning for instruction / Marcy P. Driscoll,

Kerry J. Burner.

Description: Fourth edition. | Hoboken, NJ : Pearson, 2021. | Includes bibliographical references and index. | Summary: "This book is about learning, but it is also about instruction and how knowledge about the psychology of learning helps to ensure the quality and effectiveness of instruction"-- Provided by publisher.

Identifiers: LCCN 2020049225 (print) | LCCN 2020049226 (ebook) |

ISBN 9780205578436 (casebound) | ISBN 9780136931522 (epub)

Subjects: LCSH: Learning, Psychology of. | Cognitive learning theory. | Teaching.

Classification: LCC LB1060 .D75 2021 (print) | LCC LB1060 (ebook) | DDC 370.15/23--dc23

LC record available at <https://lcn.loc.gov/2020049225>

LC ebook record available at <https://lcn.loc.gov/2020049226>

ScoutAutomatedPrintCode



ISBN 10: 0-20-557843-8

ISBN 13: 978-0-20-557843-6

*To Robin, for his constant and unwavering support
in all my endeavors*
—M. P. D.

For my family, the generations before and those to come
—K. J. B.

This page intentionally left blank

About the Authors



Marcy P. Driscoll is Dean Emerita of the College of Education at Florida State University, where she served as Dean from 2005 through June 2018. She was also the Leslie J. Briggs Professor of Educational Research and retired in December 2018 after a 37-year career at FSU. Dean Driscoll was co-principal investigator on projects that established at FSU the Florida Center for Research in Science, Technology, Engineering & Mathematics (FCR-STEM) and FSU-Teach, a program for preparing science and math teachers with deep content knowledge combined with deep pedagogical knowledge. Her early research included a focus on learning and instruction in technology-rich learning environments. More recently, Dean Driscoll has written about leadership in higher education and leading for learning in educational technology. In 2018, the Florida Educational Research Association awarded her the Russell B. Kropp Award in recognition of exemplary use by a policymaker or administrator of educational research and evaluation in educational decision making.

Dean Driscoll received an A.B. Magna Cum Laude in Psychology from Mount Holyoke College and an MS and PhD in Educational Psychology from the University of Massachusetts Amherst. She lives in Tallahassee, Florida, where she and her husband are enthusiasts of flying radio-control airplanes.



Kerry J. Burner is a faculty member at Florida State University where she serves in the Office of Distance Learning. For over 10 years, she has also taught graduate courses for the Instructional Systems and Learning Technologies program in FSU's College of Education. She has taught in higher education settings for over 20 years. After graduating in 2007, in an administrative capacity, Kerry helped to launch the FSU-Teach program. Prior to returning to FSU as faculty in 2013, Kerry taught and mentored doctoral students for fully online universities and did freelance instructional design. She has extensive instructional design experience in the academic and government sectors. Her research interests include teaching and learning in online environments in particular with a focus on authentic engagement and learner agency.

Kerry received a BA in World and Comparative Literature with a minor in Mathematics from San Francisco State University. Her MA in Rhetoric and Composition is from the University of South Florida, and her PhD in Instructional Systems is from FSU. She lives in Tallahassee with her spouse, two children, and three cats.

About This Book

Welcome to *Psychology of Learning for Instruction, Fourth Edition*. As the title suggests, this book is about learning, but it is also about instruction and how knowledge about the psychology of learning helps to ensure the quality and effectiveness of instruction. In other words, the focus of the book is not just on learning theory, it is also on the application of learning theory to instruction. Moreover, we are concerned not just about instruction in preK–12 schools, we are also concerned about instruction in a variety of formal and nonformal settings. Tattooed across our foreheads as we were writing this edition was the question, What do people *really* need to know about learning theory to inform their professional practice, wherever that happens to take place?

You could already be or on the way to becoming a classroom teacher, an instructional designer, a counselor or counselor educator, a professional educator, an educational technologist, or a faculty member, for instance. In any of these roles, you are helping others to learn and using various means to do it. You could be designing leadership training for a Fortune 500 company, teaching biology to high school students in a virtual school, or developing case problems for medical students learning diagnostic skills. These are among the myriad instructional situations the topics discussed in this book can help you to address.

In addition to having an applied focus, this book embodies a theme of reflexive practice. Reflexive means “to turn back on oneself” and involves continually reflecting on your own knowing and learning. We do not believe that a single learning theory is the answer to all instructional problems. Nor do we believe that scholars have yet discovered or figured out all there is to know about learning. As we updated our knowledge of the research on learning that was published since the last edition, we found ourselves rethinking some topics and changing some of our conceptions.

For instance, it is common to see contrasts made between three paradigms of learning: behaviorism (focus on behavior), cognitivism (focus on cognition), and constructivism (focus on knowledge building). But the emphasis in constructivism *is* cognitive. Moreover, both cognitivism and constructivism focus on the individual learner. What’s different about them is their views of knowledge as something acquired versus something constructed. Social constructivism, as opposed to cognitive constructivism, eventually emerged to account for the influences of social context on learning.

However, the situative perspective puts learning squarely in a social, historical, and political context with a focus on the system within which individuals are situated, not on individuals alone. Hence, we believe the appropriate contrast is between the behavioral, cognitive, and situative perspectives, and you will see this contrast reflected in the book.

As you read this book, we hope you will use the questions and activities at the end of each chapter to reflect on your learning and how it fits with your prior knowledge and beliefs about learning and instruction. Consider the multiple perspectives discussed in relation to not only the problems of practice you encounter but also your personal learning goals. Doing so will help to inform your actions and guide your future goals.

This book is unique in its applied focus and theme of reflexive practice. We take a look next at what's new to this edition.

New to This Edition

It may be a bit cheeky to ask what's *not* new in this edition, but it would perhaps be more efficient. A 15-year span from the third edition means that much has changed. Because of this, we felt unfettered from the previous edition and free to rethink both the content and organization of the book. We reflected on advances in the research on learning and instruction, we talked with our colleagues who teach courses—some using the previous edition—on learning and instruction, and we dreamed of what we wanted to see in this book.

The result is a simplified organization (i.e., no parts, only chapters), more chapters to fit easily into a semester-length course, and an intentional interspersing of application chapters after every two theory chapters. We discuss instructional implications in every learning theory chapter, but the instructional application chapters allowed us to examine some well-established, well-researched applications in more detail. Here, then, is what's new to this edition:

- **Four new application chapters.** In Chapters 4, 7, 10, and 13, we describe specific instructional applications of the theories that were discussed in the two chapters preceding each application chapter. The application chapters provide additional opportunities for practice in using learning and instructional theories in professional settings. Application is a major strength of this book, and our experience has taught us the importance of articulating a few examples in detail to illustrate what learning theories look like in practice.
- **A new chapter on learning and development.** The new Chapter 5 merges the two development chapters from the third edition and includes a new section on lifespan development. Questions concerning development have broadened from what makes children's learning different from adults to understanding how cognition and learning change over an individual's lifespan. Results from neuroscience are

also aligning with results from psychology to provide a more complete picture of development.

- **A new chapter on learning and prior knowledge.** The new Chapter 6 focuses on the learning of principled knowledge in subject-matter domains, including how learners revise implicit, intuitive theories about the world to align with canonical knowledge. Theories discussed in Chapter 4 of the third edition are revisited here, along with theories of conceptual change and the role of prior knowledge in comprehension, problem solving, and transfer.
- **A new chapter on learning and situativity.** As mentioned earlier, the situative perspective represents a significant departure from the behavioral and cognitive perspectives that preceded it. The new Chapter 8 incorporates situated cognition from Chapter 5 of the third edition as a core concept of the situative perspective and expands the discussion to the learning context as an activity system and knowing as successful situated participation.
- **A new chapter on learning and (digital) technology.** With shifts in perspectives on learning along with advances in computer tools and networking, technology can enhance learning in untold ways. The new Chapter 9 takes a look at the landscape of learning technology, including how technology supports learning, what technologies enhance learning, and what issues arise when technology is integrated into instruction.
- **A new chapter on learning and neuroscience.** The new Chapter 12 replaces Chapter 8 of the third edition, which focused on the biological bases of learning and memory. In the new chapter, we focus on the burgeoning field of educational neuroscience, which is bringing together scholars in neuroscience, psychology, and education to understand how the brain and mind together inform the learning process. We highlight the problem of neuromyths and examine the role of emotions in learning, showing that cognition and emotion are integrated in the brain, both contributing to the control of mental activities and behavior.
- **A new chapter on learning and instruction: Toward a personal theory.** The new Chapter 14 replaces Chapter 12 of the third edition. The overall focus of the chapter remains the same, that is, on developing a personal theory of learning and instruction. However, we elaborate in the new chapter on personal epistemology, including one's conceptions of knowledge and the ways one thinks about and evaluates knowledge. We also present a framework for epistemic reflexivity designed to guide you in being reflexive about your own learning and knowledge.
- **Opening Chapter Scenarios at a Glance.** Opening chapter scenarios provide a useful means of situating theoretical concepts in practical problems. Because the readers of this book come from different professional settings, we were intentional in the problems we chose for the scenarios to ensure that equivalent attention was given to K–12, higher education, and corporate examples. In some instances, scenarios cross settings, as when Anne in *Curricular Conundrum* (Chapter 7) relies on

her teaching experience in middle school to plan instruction for higher-education students. Similarly, *Sim Central* (Chapter 9) involves both nursing students and practicing nurses as participants in training to help them learn how to respond to respiratory emergencies. We provide an overview of all the chapter scenarios in *Opening Chapter Scenarios at a Glance* as part of the upcoming section on Pedagogical Features.

Key Content Updates by Chapter

- **Chapter 1:** Added a deeper discussion on learning theories and instructional theories; oriented readers to an epistemology of learning and instruction; moved historical approaches to other chapters of the book where they fit best; outlined the organization of the book
- **Chapter 2:** Added discussion of new behaviorism; added information about application of behaviorism in settings ranging from formal education to the workplace
- **Chapter 3:** Added a revised model of information processing; added discussions of new models of working and long-term memory; added new implications of information processing for instruction
- **Chapter 4:** (old Chapter 10, revised plus new content) Reoriented chapter to focus on instructional applications; added content on behavioral skills training; added discussion of the transtheoretical model of intentional behavioral change
- **Chapter 5:** (old Chapters 6 and 7, substantially revised plus new content) Added lifespan development theory; added implications of development theory for learning across the lifespan
- **Chapter 6:** (old Chapter 4, substantially revised plus new content) Added new work on conceptual change and knowledge revision; added discussion of the development of expertise in subject-matter domains
- **Chapter 7:** (old Chapter 11, substantially revised plus new content) Reoriented chapter to focus on instructional applications; added discussion of constructionism; added instructional design models that support constructivist learning; added an exploration of criticisms of constructivism
- **Chapter 8:** (old Chapter 5, substantially revised plus new content) Added exploration of the need for a situative perspective on learning; added discussion of the learning context as an activity system; added exploration of relevant learning concepts and processes; added discussion of instructional applications from a situative perspective
- **Chapter 9:** Entirely new chapter that discusses the learning technology landscape, what and how technology supports learning, and issues of learning technology for instruction
- **Chapter 10:** Entirely new chapter that focuses on technology-enhanced learning environments; discusses incorporating technology into instruction, computer-supported collaborative learning, game-based instruction, and open pedagogy

- **Chapter 11:** (old Chapter 9) Added discussion of mindsets; added discussion of emotions in learning, motivation, and self-regulation
- **Chapter 12:** (old Chapter 8, substantially revised with mostly new content) Added discussion of educational neuroscience including neuro-myths; added discussion of learning and the brain including the impact of adverse childhood experiences; added discussion of the neuroscience of cognition and emotion
- **Chapter 13:** Entirely new chapter that focuses on motivation and neuroscience for instruction, including a model of motivational design, self-regulated learning strategies, socioemotional learning, and culturally responsive teaching
- **Chapter 14:** (old Chapter 12, substantially revised plus mostly new content) Added discussion of personal epistemology; added exploration of a model of epistemic cognition; added discussion of reflexivity and epistemic climate

Pedagogical Features

Concept Maps orient the reader to the important concepts discussed in each chapter and visually display how they are related to one another.

Content Outlines provide a verbal means of orienting the reader to important content discussed in each chapter.

Opening Scenarios present learning and instructional problems that are used throughout each chapter to illustrate theoretical concepts and how they can be applied. An overview of the opening scenarios is provided in *Opening Chapter Scenarios at a Glance* immediately following this section.

Reflective Questions and Activities at the end of every chapter provide a means for readers to apply chapter concepts and make connections across chapters.

Chapter	K–12	Higher Ed	Business and Industry	Other
2	<p>Mr. Taheri’s Class Mr. Taheri and his fourth-grade, ethnically diverse students discuss what behavior is expected of them during class.</p>		<p>Health Control Ethan decides he needs to change his eating habits and increase his physical activity rather than take medications for high cholesterol and high blood pressure.</p> <p>Customer Loyalty Jayla earns points she can use for free room nights and other amenities by being a member of her favorite hotel’s loyalty program.</p>	
3	<p>Learning and Cognition</p>	<p>Medical Training Medical students Camila, Gabe, and Hana observe and attempt to interpret symptoms in a patient at a clinic under the guidance of an attending physician.</p>	<p>Accounting Crunch Time Trainees Mason and Benjamin struggle to understand their workshop instructor, William, who, expert that he is in tax law, uses concepts they don’t understand and works through examples faster than they can follow.</p>	
4	<p>Behavioral and Cognitive Instruction</p>	<p>Continuing Education State University launches a training program on sexual misconduct. The mandatory training is intended to help employees understand the university’s policies and treat their coworkers and students with respect.</p>	<p>Driver Change The goal of a 3-in-3 <i>Driver Change Course</i> is to help drivers who’ve had three crashes in 3 years to gain ownership over their unsafe driving behaviors and develop a realistic plan for change.</p>	

Huh?!

Three-year-old Eliza struggles to understand what it means to be alive and why she can still see things that are not alive (like statues).

Math Whiz

Sixth-grade student Minhee attends school for the first time in the United States. She discovers that her classmates are having difficulty dividing fractions—problems she has already learned how to solve.

(continued)

<i>Chapter</i>	<i>K–12</i>	<i>Higher Ed</i>	<i>Business and Industry</i>	<i>Other</i>
6 Learning and Prior Knowledge		<p>Misconceptions about Meteorites Professor Flores leads teacher education students in an activity designed to reveal students’ misconceptions in science.</p>		<p>Making Mayonnaise An elementary student and a psychology professor reveal differences in their schemas about mayonnaise.</p>
7 Constructivism and Instruction		<p>New to Nursing First-year faculty member Eduardo wants to implement new approaches to nurse education based on constructivism.</p>		
		<p>Curricular Conundrum Former middle school teacher Anne wants to incorporate collaborative learning and problem-solving approaches in her classes with education students. Those approaches worked well with her middle school students. Will they work with her college students as well?</p>		
8 Learning and Situativity		<p>The Research Assistant As a graduate student in educational psychology, Carlo is learning from his mentor and major professor how to develop and carry out a research agenda.</p>	<p>Design Challenge Kylee and Sameer lead an interdisciplinary team working on a proof-of-concept for an unmanned aerial vehicle. The team has a lot to learn about aircraft design and flight.</p>	

9	Learning and (Digital) Technology	Pandemic Possibilities	Schootteachers and college professors had to move their instruction online when the coronavirus pandemic hit. Most had little previous experience with online learning and faced a myriad of instructional decisions.	Sim Central	Nurses JoJo, Shenita, Olivia, and Rae participate in training with a high-fidelity simulation mannequin to learn how to respond to respiratory emergencies.
10	Situating and Technology-Enhanced Instruction	Voting Rights	High school teacher Lauren plans a lesson using the principles of CSEL (computer-supported collaborative learning).	Smarter City	Instructional design consultant Kevin incorporates a city simulation game into training for city employees on sustainability issues and programs in the city of Perkinsburg.
11	Learning and Motivation	Professional Development Decisions	Jenicia, a high school chemistry teacher, wants to become certified in ESOL to help her overcome language barriers with the nonnative English speakers in her class.	Workshop Worries	Ari, a field education officer in a developing country, attends a workshop on action research, which has become a part of his job. He is anxious about his lack of prior knowledge and doesn't want to look stupid in class.

<i>Chapter</i>	<i>K–12</i>	<i>Higher Ed</i>	<i>Business and Industry</i>	<i>Other</i>
12 Learning and Neuroscience	<p>Reading Riddle Alyssa’s teacher thinks she might be dyslexic because she struggles to read texts that are easy for her third-grade classmates. Alyssa’s parents reveal common misconceptions about dyslexia.</p> <p>Rural Hitches First-year teacher Rehn is at his wife’s end. The third-grade students in his class are children of either local farmers or migrant farm workers, unlike each other and different from anyone in his experience.</p>			
			<p>Talent Development In her evaluation of a client’s leadership workshops, Tiana discovers a number of neuromyths embedded in the materials, revealing misconceptions about learning and the brain.</p>	
13 Motivation and Neuroscience for Instruction			<p>Writing Woes Izara is developing a technical writing and professional speaking class to be delivered online and taken by employees throughout the large corporation she works for. She considers what’s needed to reduce dropout rates and increase completion.</p>	

Brief Contents

1	Introduction to Learning and Instruction	1
2	Learning and Behavior	28
3	Learning and Cognition	65
4	Behavioral and Cognitive Instruction	103
5	Learning and Development	146
6	Learning and Prior Knowledge	177
7	Constructivism and Instruction	218
8	Learning and Situativity	238
9	Learning and (Digital) Technology	275
10	Situated and Technology-Enhanced Instruction	312
11	Learning and Motivation	336
12	Learning and Neuroscience	370
13	Motivation and Neuroscience for Instruction	401
14	Learning and Instruction: Toward a Personal Theory	423
	References	439
	Index	485

Contents

1	Introduction to Learning and Instruction	1
	What Is Learning Theory?	2
	A Definition of Learning	9
	A Definition of Learning Theory	9
	What Is Instructional Theory?	10
	A Definition of Instruction	12
	A Definition of Instructional Theory	12
	The Epistemology of Learning and Instruction	15
	Epistemological Traditions	16
	Personal Epistemology	20
	The General Plan of This Book	24
	Conclusion	25
	Reflective Questions and Activities	26
	Suggested Readings	27
2	Learning and Behavior	28
	Foundations of Behaviorism	30
	Pavlov's Classical Conditioning	30
	Thorndike's Law of Effect	33
	Early Behaviorism	33
	The Experimental Analysis of Behavior: B. F. Skinner's Approach to Behaviorism	37
	Respondent and Operant Behavior	37
	Contingencies of Reinforcement	37

Strengthening or Weakening of Operant Behaviors	39
Positive Reinforcement	40 / Negative Reinforcement 42 / Punishment 43 / Reinforcement Removal 46
Learning New Behaviors	49
Shaping	49 / Chaining 50 / Discrimination Learning and Fading 51
Maintaining Behavior	52
Predicting and Controlling Behavior	54
The Special Case of Verbal Behavior	55
A New Behaviorism	56
Contributions of Behaviorism to Instruction	58
Applied Behavior Analysis	59
Self-Change	59
Classroom Instruction	60
Performance Improvement in Organizations	61
Conclusion	63
Reflective Questions and Activities	63
Suggested Readings	64

3 Learning and Cognition 65

Early Conceptions of Information Processing	70
A Revised Model of Information Processing	74
Sensory Memory and Perception	77
Working Memory	80
Working Memory Capacity	81
Working Memory Duration	83
How Working Memory Works	84
Working Memory and Encoding	86
Long-Term Memory	88
Representation and Storage of Information	89
Retrieval of Learned Information	93
Recall	93 / Recognition 94 / Encoding Specificity 95
Forgetting	96

Implications of Information Processing for Instruction	97
Providing Organized Instruction	98
Arranging Extensive and Variable Practice	98
Enhancing Learners' Encoding and Memory	99
Enhancing Learners' Self-Control of Information Processing	100
Conclusion	101
Reflective Questions and Activities	102
Suggested Readings	102

4 Behavioral and Cognitive Instruction **103**

Early Approaches to Instructional Theory	105
The Tyler Rationale	106
Carroll's Model of School Learning	106
Bloom's Mastery Learning	107
Summary	108
Behavioral Skills Training	109
Components of BST	110
Implementation of BST	112
Define the target behavior	113
Develop the BST components	114
Conduct a baseline assessment, implement BST, and record results	114
Evaluate progress and revise as necessary	115
Transtheoretical Model of Intentional Behavior Change	116
Stages of Change	117
Processes of Change	119
Implementation of TTM	123
Robert M. Gagné and the Conditions of Learning	125
A Taxonomy of Learning Outcomes	126
Conditions for Learning	136
The Nine Events of Instruction	140
Implementing Gagné's Instructional Theory	143
Conclusion	144
Reflective Questions and Activities	145
Suggested Readings	145

5 Learning and Development 146

Contributions of Jean Piaget 150

Piaget's Stage Theory 150

Piaget's Constructivism 152

Post-Piaget Theories of Cognitive Development 154

General Mechanisms of Development 154

Domain-Specific Developmental Processes 157

Interaction, Culture, and Cognitive Growth: Contributions of Bruner and Vygotsky 159

Social Origins of Thought 160

Learning as Internalizing the Tools of a Culture 164

Development over the Lifespan 167

Development as a Life-Long Process 167

Development as Growth and Decline 169

Development as Co-determined by Multiple Influences 170

Implications of Development Theory for Instruction 171

Structuring Active Learning Environments 171

Assessing and Exploiting Prior Knowledge 172

Facilitating Conceptual Development 174

Supporting Adult Learning 175

Conclusion 175

Reflective Questions and Activities 176

Suggested Readings 176

6 Learning and Prior Knowledge 177

Organization of Knowledge 181

Cognitive Structure and Anchoring Ideas 182

Schemas, Scripts, and Mental Models 184

Intuitive Theories and Knowledge-in-Pieces 188

Summary 191

Knowledge Activation in Learning and Transfer 193

Activating Prior Knowledge 193

	Prior Knowledge in Problem Solving	195
	Prior Knowledge and Learning Transfer	197
	Conceptions of transfer	197 / Processes of transfer
	transfer	200
	Knowledge Revision	203
	Knowledge Revision Through Refutation	203
	Conceptual Change Through Knowledge Restructuring	206
	Countering Misinformation	207
	The Impact of Subject Matter	209
	Implications for Instruction: Development of Expertise	210
	The Model of Domain Learning	210
	Enhancing Knowledge Organization	212
	Promoting Understanding	214
	Facilitating Transfer and Use of Prior Knowledge	215
	Conclusion	216
	Reflective Questions and Activities	217
	Suggested Readings	217
7	Constructivism and Instruction	218
	<hr/>	
	Constructivism	221
	Constructionism	224
	4-CID: Four Component Instructional Design Model	226
	ICAP Theory of Instruction	229
	Criticisms Associated with Constructivism	233
	Conclusion	236
	Reflective Questions and Activities	236
	Suggested Readings	237
8	Learning and Situativity	238
	<hr/>	
	The Case for Situatedness	242
	Situativity and Learning	244
	Learning Context as Activity System	244
	What Is Learned?: Knowing as Successful Situated Participation	247

Situative Learning Concepts and Processes	249
Dynamic Affordance	249
Cognition as Situated	250
Participation in Communities of Practice	253
The Role of History and Culture in Activity Systems	258
Summary	259
Implications of the Situative Perspective for Instruction	261
Apprenticeship	263
Communities of Practice as Instructional Strategy	265
Instruction Anchored in Authentic Problems	271
Situative Assessment	271
Assessing Individual Learning	271 / Assessing CoLs and CoPs
Assessing CoLs and CoPs	272
Conclusion	273
Reflective Questions and Activities	274
Suggested Readings	274

9 Learning and (Digital) Technology 275

The Learning Technology Landscape	278
How Technology Supports Learning	281
Enabling Repetition and Practice	283
Supporting Autonomy and Self-Regulation	285
Facilitating Conceptual Knowledge and Knowledge Creation	287
Promoting Collaboration Through Communication	289
What Technology Supports Learning	290
Multimedia Learning	292
Simulation Learning	295
Virtual Applications	297
Game-Based Learning	298
Tools for Communication, Collaboration, and Community	302
Issues of Learning Technologies for Instruction	304
Availability of Evidence-Based Products	304
Universal Design for Learning	305

	Digital Divide/Digital Inclusion	306
	Privacy in Digital Learning Environments	307
	Preparation for Technology Integration	308
	Conclusion	310
	Reflective Questions and Activities	310
	Suggested Readings	311
10	Situated and Technology-Enhanced Instruction	312
<hr/>		
	Incorporating Technology into Instruction	315
	Computer-Supported Collaborative Learning	317
	Finding and Building Groups and Communities	318
	Establishing a Joint Task, Communicating, and Sharing Resources	323
	Engaging in Productive Processes and Co-Construction	323
	Monitoring and Regulating	324
	Game-Based Instruction	325
	Open Pedagogy	330
	Conclusion	334
	Reflective Questions and Activities	334
	Suggested Readings	335
11	Learning and Motivation	336
<hr/>		
	Motivation	339
	Self-Efficacy Beliefs	341
	Enactive Mastery Experiences	343 / Vicarious Experiences 343 / Verbal Persuasion 346 / Physiological States 346 / Integration of Efficacy Information 347
	Curiosity and Interest	347
	Goals and Goal Orientation	348
	Satisfying Expectancies and Intrinsic and Extrinsic Motivation	351
	Making Attributions	353
	Mindsets and Self-Determination Theory	356
	Self-Regulation	359