

Mastering the Instructional Design Process

A Systematic Approach

William Rothwell Bud Benscoter Marsha King Stephen B. King

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A revised edition based on an adaptation of Instructional Design Competencies: The Standards (4th ed.)

William J. Rothwell G.M. (Bud) Benscoter Marsha King Stephen B. King

WILEY

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William J. Rothwell: I dedicate this book to my wife, Marcelina V. Rothwell. She is the wind beneath my wings.

Bud Benscoter: I dedicate this book to the inspiring and inspired professors, colleagues, and students who influenced my commitment to the field of instructional systems design.

Marsha and **Steve King:** We dedicate this book to our son, John, who inspires us every day.

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PREFACE TO THE FIFTH EDITION

Instructional design has changed dramatically since the fourth edition of this book was published in 2008. Those changes were just as dramatic as what happened between the first edition of this book in 1992, its second edition in 1998, and its third edition in 2004.

Managers are trying harder than ever to improve human performance. In some respects, this pursuit of productivity improvement remains the modern business world's equivalent of the medieval quest for the Holy Grail. There are good reasons for improving performance. The competitive environment has never been more fierce. The outsourcing of products and services—including instructional design work—is taken for granted in many settings. And there is increasing willingness to outsource or offshore services and manufacturing. Blended learning has grown popular, and it has led many instructional designers to feel like they need to relearn their profession from scratch. Then it, too, has undergone dramatic reformation, transformed into unique learning blends that include social media and m-(mobile-) learning. But one thing has not changed: the long-term success of organizations continues to hinge on improved human performance. That is important to remember even as new forms of technology are used, and experimented with, in design and delivery. Media use remains only the means to the end of improved performance, and instructional designers are still subject to the pointed complaint

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by managers that they are too obsessed with media and not interested enough in achieving learning results that align with achieving their business strategies.

For some, efforts to improve human performance have led to headlong plunges into flashy fads and quick fixes—modern-day snake-oil remedies. Others, however, are meeting the challenges they face by taking a more thoughtful approach: supporting and participating in the systematic analysis of human performance problems, identifying the root causes of those problems, finding and leveraging organizational and individual strengths, considering various improvement strategies, and carrying out the strategies in ways designed to reduce the unintended consequences of action. The desire is keen to accelerate this process through new models and approaches to instructional design, but many people have grown wiser (and more wary) about what it takes to make change happen, even as they have tried to do things faster.

Instructional designers are often the standard-bearers of these calculated efforts to improve human performance. They continue to work under the guise of many job titles. They are sometimes called talent developers, performance technologists, performance consultants, trainers, training and development specialists, workplace learning and performance professionals, learning and performance professionals, instructional developers, staff development specialists, performance consultants, or instructional designers. A 2015 study revealed that over 30 percent of respondents to a global survey felt that the job title "instructional design" did not adequately reflect what they do-and one respondent felt that a better title was "jack of all trades" (Rothwell, Zaballero, Asino, Briskin, Swaggerty, and Bienert 2015). Whatever their titles, instructional designers share a common goal of improving human performance. Perhaps training remains as the best-known performance improvement strategy, although many people are experimenting with approaches that integrate planned learning, unplanned on-the-job learning, and social learning. Management solutions that do not include training range from using job aids, redesigning organizational structures and reporting relationships, redesigning work and jobs, refocusing employee selection methods, re-engineering workrelated feedback methods, and designing and implementing employee reward systems. Thousands of ways exist to improve human performance, and the sheer choice of strategies is as daunting as discovering root causes or building on strengths.

The examples and references incorporated in this book grow out of our own experiences in instructional design. Since our experiences have not been universal, we have attempted to focus on what we know. Our goal is to make this book a practical tool for instructional designers to develop their own skills and build their competencies in down-to-earth ways.

But one theme should be stressed from the outset: instructional systems design (ISD) is not about the mindless application of step-by-step schemes or new technology. Improving human performance is hard work. Both an art and a science, instructional design requires a blend of intuitive and analytical thinking. And it requires a willingness to meet needs to solve organizational problems, which (in turn) may demand that instructional designers skip steps in traditional instructional design models, multitask to do several steps at once, rearrange steps, add steps (such as translation), or even reinvent design models to meet the unique needs of unique clients in unique situations. The growing desire for accelerated approaches that align with the fast-paced demands of new technology has prompted new interest in diverse models to guide instructional design.

The Foundation of the Book

In the past, books on instructional design have often reflected the personal opinions of the authors and have not been based on an underlying foundation of solid research. However, *Mastering the Instructional Design Process: A Systematic Approach*, Fifth Edition, is based on Koszalka, Russ-Eft, and Reiser's *Instructional Design Competencies: The Standards* (4th ed.) (2013). The fourth edition of this work is abbreviated throughout this book as *The Standards*. Prepared through the cooperation of highly respected professionals in the instructional design field, *The Standards* was sponsored by the International Board of Standards for Training, Performance, and Instruction (IBSTPI).

The fifth edition of *Mastering the Instructional Design Process: A Systematic Approach* begins where *The Standards* leaves off. While *The Standards* focuses on what instructional designers do, this book focuses on how to demonstrate instructional design competencies. Its purpose is to point the way toward building and applying instructional design competencies.

The Audience for the Book

This book is for instructional design professionals and professionals in the making, whatever their formal job titles. It is intended as a desk aid to help professionals carry out their work and as a text for students. A list

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of references appears at the end of the book. We suggest that readers use it to pursue subjects of interest to them.

Mastering the Instructional Design Process: A Systematic Approach, Fifth Edition, should also interest others, such as human resource professionals and operating managers, who have reason to analyze human performance problems systematically, pinpoint the root causes of those problems, identify strengths, consider various solutions to the problems or methods of building on strengths, and carry out the performance improvement efforts in ways designed to reduce the unintended side effects of action.

Overview of the Contents. This book is adapted from *The Standards*. The chapters do not exactly follow the sequence of competencies in *The Standards*. That is necessary because print media is linear. Some may want to follow a step-by-step approach. But others, more wisely, will know to adapt their project approach to meet client and learner demands and project constraints. See a graphic illustrating the book's organizational scheme in Exhibit P.1.

The book opens with an Advance Organizer. The advance organizer helps readers assess their own grasp of instructional systems design.

Part One comprises only one chapter. Chapter One provides a conceptual foundation for the book. Its focus is on summarizing the instructional design field. This chapter sets the stage for the remainder of the book by

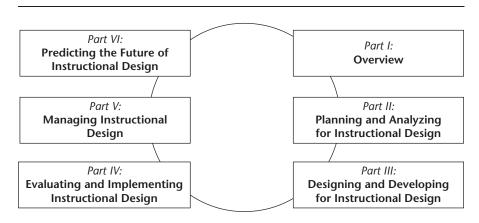


EXHIBIT P.1. AN INSTRUCTIONAL DESIGN MODEL

defining instructional design, describing instructional design as an emerging profession, and summarizing key issues affecting human performance in organizations. It also addresses several important critiques of traditional instructional design approaches.

Part Two is entitled "Planning and Analyzing for Instructional Design." It comprises Chapters Two through Six. Chapter Two is about conducting a needs assessment, Chapter Three is about collecting and analyzing data about instructional design projects, Chapter Four is about identifying the target population and environmental characteristics for instruction, Chapter Five is on using analytical techniques to determine instructional content, and Chapter Six is entitled "Analyzing the Potential Use of Existing and Emerging Technologies."

Part Three is called "Designing and Developing for Instructional Design." Chapter Seven examines how to use an instructional design process appropriate for a project, Chapter Eight discusses ways to organize instructional programs and/or products, Chapter Nine reviews how to design instructional interventions, Chapter Ten reviews ways to plan noninstructional interventions, Chapter Eleven advises on ways to select or modify existing instructional materials, Chapter Twelve offers suggestions on developing instructional materials, and Chapter Thirteen focuses on how to design learning assessments.

Part Four is called "Evaluating and Implementing Instructional Design." It includes Chapters Fourteen through Sixteen. Chapter Fourteen suggests ways to evaluate instructional and noninstructional interventions, Chapter Fifteen examines ways to revise instructional and noninstructional solutions, and Chapter Sixteen gives advice on implementing instructional and noninstructional interventions.

Part Five is "Managing Instructional Design." Chapter Seventeen explains how to apply business skills to managing the instructional design function, Chapter Eighteen offers tips on managing partnerships and collaborative relationships, and Chapter Nineteen suggests how to plan and manage instructional design projects.

Part Six is "Predicting the Future of Instructional Design." It comprises Chapter Twenty, which concludes the book. It lists some trends that will shape the future of instructional design.

ACKNOWLEDGMENTS

We wish to thank members of the International Board of Standards for Training, Performance and Instruction (IBSTPI) for their encouragement of this project and their permission to use *The Standards* as the foundation for this book. (A description of IBSTPI appears on the next page for those who are curious about what the board is and what it stands for.) While any mistakes in this book are entirely our responsibility and not that of the International Board, we are indebted to the board members for their support.

William J. Rothwell also thanks his graduate research assistant Jae Young Lee for her assistance in helping to secure, and repeatedly follow up on, necessary copyright permissions.

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ABOUT THE INTERNATIONAL BOARD OF STANDARDS FOR TRAINING, PERFORMANCE, AND INSTRUCTION

For more than three decades, The International Board of Standards for Training, Performance, and Instruction (IBSTPI®) has been developing and validating the standards for professionals in the fields of training and performance.

IBSTPI's standards come about as a result of a rigorous research process, development, international validation, and publication.

IBSTPI leads the way in developing standards for the training and performance professions.

Worldwide, aspiring and active professionals, educational institutions, and organizations in a wide variety of sectors, including private industry, academia, military, and government, use IBSTPI's standards to establish professional benchmarks, improve individual performance and organizational results, and to further extend the research about and around the competencies.

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ADVANCE ORGANIZER

Use it as a diagnostic tool to help you assess the need for improving your instructional design practices. You may also wish to use this instrument to refer directly to parts of the book that may be of special importance to you right now.

The Advance Organizer

Directions: Read each item in the left column on the following pages. Spend about 10 minutes on this assessment. In the center column, circle a response that best fits your opinion: 0 = not applicable; 1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; and 5 = strongly agree. Be honest! Think of instructional design as you believe you practice it. When you finish, add up the scores and then interpret them as shown at the end of this assessment. Be prepared to share your responses with others, perhaps your mentor(s), as a starting point for improving your instructional design practices. If you would like to learn more about an item, refer to the number in the right column to find the chapter in this book in which the subject is discussed.

xxiv Advance Organizer

Characteristics of Successful Instructional Design	How Well Do You Meet the Characteristic Based on Your Opinion? (Circle response below)					Chapter in the Book Covering the Topic	
As an instructional designer, I effectively	0	0 1 2		3	3 4		
1. Define instructional design	0	1	2	3	4	5	1
2. Conduct a needs assessment	0	1	2	3	4	5	2
Collect and analyze data for instructional design projects	0	1	2	3	4	5	3
4. Identify the target population	0	1	2	3	4	5	4
Identify environmental characteristics influencing instruction	0	1	2	3	4	5	4
6. Use analytical techniques to determine instructional content	0	1	2	3	4	5	5
7. Analyze the potential use of existing technologies	0	1	2	3	4	5	6
8. Analyze the potential use of emerging technologies	0	1	2	3	4	5	6
9. Use an instructional design process appropriate for a project	0	1	2	3	4	5	7
10. Organize instructional programs and/or products	0	1	2	3	4	5	8
11. Design instructional interventions	0	1	2	3	4	5	9
12. Plan noninstructional interventions	0	1	2	3	4	5	10
13. Select instructional materials	0	1	2	3	4	5	11
14. Modify instructional materials	0	1	2	3	4	5	11
15. Develop instructional materials	0	1	2	3	4	5	12
16. Design learning assessments	0	1	2	3	4	5	13
17. Evaluate instructional interventions	0	1	2	3	4	5	14
18. Evaluate noninstructional interventions	0	1	2	3	4	5	14
19. Revise instructional and noninstructional interventions	0	1	2	3	4	5	15
20. Implement instructional and noninstructional interventions	0	1	2	3	4	5	16

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Characteristics of Successful Instructional Design	How Well Do You Meet the Characteristic Based on Your Opinion? (Circle response below)						Chapter in the Book Covering the Topic
As an instructional designer, I effectively	0	1	2	3	4	5	
21. Apply business skills to manage the instructional design function	0	1	2	3	4	5	17
22. Manage partnerships and collaborative arrangements	0	1	2	3	4	5	18
23. Plan instructional design projects	0	1	2	3	4	5	19
24. Manage instructional design projects	0	1	2	3	4	5	19
25. Predict the future of instructional design projects	0	1	2	3	4	5	20
Total							

Scoring and Interpreting the Advance Organizer

Total the scores above. Then interpret your score as follows:

Score	Interpretation
125–101	Grade your skills at the A level in instructional design. Excellent. Now plan for additional self-improvement.
100–76	Grade your skills at the B level in instructional design. Now plan for self-improvement in those areas you indicated needed additional improvement.
75–51	Grade your skills at the C level in instructional design. Average. Now plan for improvement.
50-26	Grade your skills at the D level in instructional design. Below average. Plan for improvement in those areas you indicated need. Get a mentor, listen to the advice you get, and act on it.
25–0	Grade your skills at the F level in instructional design. Far below average. Plan for improvement in all areas of instructional design. Get several mentors, listen to the advice they give you, and act on it. Failing that, you might consider a new career.

ABOUT THIS BOOK

Why Is This Topic Important?

The term *instructional design* has two possible meanings. One meaning refers to a field of practice. A second meaning refers to ways to get good work results from human beings in organizational settings.

Instructional design was invented to organize efficient, effective, systematic, and results-oriented training. In recent years, however, the term instructional design has gained a broader meaning associated with the myriad ways by which to achieve improvement in human performance. Those ways transcend mere training. But a key focal point of interest for many instructional designers remains how to improve human performance in organizational settings through effective training.

What Can You Achieve with This Book?

How do you troubleshoot problems with human performance? When problems stem from individuals who lack knowledge, skill, or attitude to carry out the work effectively, how do you establish rigorous training that gets results? This book is primarily, though not exclusively, about

xxviii About This Book

how to get results from training. It is based on research by seasoned practitioners on what it takes to analyze human performance problems and then—when training is an appropriate solution—to design and develop effective training, implement that training, and evaluate it.

How Is This Book Organized?

This book is divided into seven distinct parts. Part One is an overview, describing instructional design. Part Two focuses on planning and analyzing for instructional design. Part Two also describes how to conduct a needs assessment, identify the targeted learner and environmental characteristics that affect instructional design projects, examine content to be used in instructional design, and how to examine the potential application of instructional technologies. Part Three reviews the design and development of instructional design projects. It reviews how to use an instructional design process appropriate for a project, organize and design instructional and noninstructional interventions, select or modify existing instructional materials, develop materials, and design learning assessments. **Part Four** centers on evaluating and implementing instructional design. It describes how to evaluate interventions, revise interventions, and implement interventions. Part Five summarizes how to manage instructional design, focusing on how to apply business skills to manage instructional design functions, manage partnerships, and plan and manage instructional design projects. Part Six, the final part, offers predictions for the future of instructional design.

How Is the Fifth Edition Different from the Fourth Edition?

This book is updated with many new references and new sections on current issues in instructional design. It is based on the current edition (4th ed.) of *Instructional Designer Competencies: The Standards* (Koszalka, Russ-Eft, and Reiser 2013) and is also informed by the *ASTD Competency Study: The Training and Development Profession Revisited* (Arneson, Rothwell, and Naughton 2013) and by *Skills, Trends, and Challenges in Instructional Design* (Rothwell, Zaballero, Asino, Briskin, Swaggerty, and Bienert 2015).