Preface

How to help people learn better. That is what instructional theory is all about. It describes a variety of methods of instruction (different ways of facilitating human learning and development) and when to use—and not use—each of those methods.

Volume I of *Instructional-Design Theories and Models* (1983) provides a "snapshot in time" of the status of instructional theory in the early 1980s. Its main purpose was to raise awareness of instructional theories. Volume II (1999) provides a concise summary of a broad sampling of work in the late 1990s on a new paradigm of instructional theories for the Information Age. Its main purpose was to raise awareness of the diversity of theories that provide a customized or learner-centered learning experience in all different domains of human learning and development. It also raised awareness of the importance of values in instructional theory.

However, after the appearance of Volume II, we became increasingly concerned about the extent to which instructional theorists seemed to be working in relative isolation from each other, building their own view of instruction with little regard to building on what knowledge already exists and what terminology has already been used for constructs they also describe. We recognized that every area of knowledge goes through an initial developmental phase in which these differences predominate. We also saw that, as an area of knowledge matures, it enters a second phase of development in which work focuses more on contributing to a common knowledge base with a consistent terminology. While it would be a mistake to push an area of knowledge into phase 2 too soon, we believe that instructional theory is now ready to begin such a transition.

Therefore, the purpose of this Volume III is to take some early steps in building a common knowledge base about instruction with a common use of terms. The primary audience for this volume, like that of the previous two volumes, is instructional theorists, researchers, and graduate students. An additional audience is instructional designers, teachers, and trainers who are interested in guidance about how to design instruction of high quality.

Unit 1 offers some organizational schemes for understanding and developing a common knowledge base about instruction. We strongly urge you to read the four chapters in this unit before reading any of the theories that follow. Unit 2 offers a chapter on each of five major *approaches* to instruction: the direct-instruction, discussion, experiential, problem-based, and simulation approaches. Each of these chapters synthesizes the current knowledge about that approach as a step toward building a common knowledge base. Unit 3 offers a chapter on

instruction for each of four major *outcomes* of instruction: skill development, understanding, affective development, and integrated learning outcomes. Each of these chapters also synthesizes the current knowledge about that kind of instruction. Finally, Unit 4 offers ideas that may prove useful for building a common knowledge base about instruction.

Because this volume contains many ideas that may be difficult for all but the most experienced to digest, we have tried to make it easier for the reader by preparing the same kind of unconventional **foreword** for each chapter as was done for Volume II. Each chapter foreword outlines the major ideas presented in the chapter. This offers something akin to a hypertext capability for you to get a quick overview of a chapter and then flip to parts of it that particularly interest you. It can also serve preview and review functions and make it easier to compare different theories. Furthermore, we have inserted **editors' notes** in most chapters to help you relate elements in a chapter to fundamental ideas presented in other chapters. Finally, each unit has a foreword that introduces the chapters in that unit.

It is our sincere hope that this book will help to move instructional theory to the next stage of development—creating a truly common knowledge base with a consistent terminology. We hope it will help instructional theorists and researchers to contribute to the growing knowledge base about instruction in a way that acknowledges and builds on prior work, and that it will help instructional designers and graduate students to understand and utilize the full range of accumulated knowledge about how to help people learn.

— CMR & ACC

Unit 1
Frameworks for Understanding Instructional Theory

Unit Foreword

This unit lays the groundwork for a shared language and a set of common understandings in instructional theory. This unit foreword provides brief descriptions of the primary ideas in each of the chapters in this unit, which offer some organizational schemes for understanding and developing a common knowledge base about instruction. We strongly recommend reading this unit before reading any of the other chapters in this book.

In chapter 1 we (Reigeluth & Carr-Chellman) look at the constructs and terminology used to describe and understand instructional theory. First, we define instruction as anything that is done purposely to facilitate learning. Based on this definition and understanding of the entire field of instructional design, we make the case for the need for a common knowledge base and then relate design theory, instructional design theory, student-assessment design theory, curriculum design theory, learning theory, and the learning sciences to instruction. We identify several aspects of instructional design theory, including event, analysis, planning, building, implementation, and evaluation design theory within instructional design theory. These aspects are then related to the concept of layers of design (Gibbons & Rogers, chapter 14). We identify the need for a significantly new paradigm for future change efforts and describe the need for learner-centeredness in that paradigm. We share the results of a small Delphi study to help build consensus on common terms, which lays a foundation for a common language in our field.

Chapter 2 takes up the issue of what we mean by instruction itself (as opposed to instructional theory, which we deal with in chapter 1). Here Reigeluth and Keller take up the issues associated with major constructs that make up instructional theories. They settle on instructional situations, methods, approaches, components, and content sequencing as the categories of constructs concerned with instruction. Built on an analogy to rules of English grammar, these constructs are linked and designers are advised to carefully consider the relationships among the categories.

In chapter 3 Merrill discusses the principles of good instruction that may be common to all instruction. Calling these "First Principles," Merrill lays out