SECTION I Defining the Field

Chapter 1

What Field Did You Say You Were In?

Defining and Naming Our Field[1]

Robert A. Reiser
Florida State University

What are the boundaries of the field we are in? How shall we define it? Indeed, what shall we call it? These are important questions that professionals in our field should be able to answer or, because there is no generally accepted "correct" answer, at least be able to discuss intelligently. This chapter is intended to provide you with information that should help you formulate some tentative answers to these questions. The chapter will examine how the definition of the field has changed over the years, present two new definitions, and discuss the term that we will use in this book as the label for our field.

Before beginning to examine the definitions of our field, it is important to point out that not only have the definitions changed, but the actual name of the field itself has often varied. Over the years, a variety of different labels have been used, including, among others, such terms as audiovisual instruction, audiovisual communications, and educational technology. However, the term that has been used most frequently has been *instructional technology*. This is the term that will be used in the next few sections of this chapter. However, the issue of the proper name for the field will be revisited near the end of the chapter.

[1]I would like thank Walter Dick, Don Ely, and Kent Gustafson for providing me with invaluable feedback on earlier versions of this manuscript, portions of which previously appeared in *Educational Technology Research and Development* (Reiser & Ely, 1997).

What is the field of instructional technology? This is a difficult question to answer because the field is constantly changing. New ideas and innovations affect the practices of individuals in the field, changing, often broadening, the scope of their work. Moreover, as is the case with many professions, different individuals in the field focus their attention on different aspects of it, oftentimes thinking that the work they do is at the heart of the field, that their work is what instructional technology is "really all about."

Over the years, many attempts have been made to define the field. Several such efforts have resulted in definitions that were accepted by a large number of professionals in the field, or at least by the professional organizations to which they belonged. However, even when a leading organization in the field has endorsed a particular definition, professionals in the field have operated from a wide variety of different personal as well as institutional perspectives. This has held true among intellectual leaders as well as practitioners. Thus, throughout the history of the field, the thinking and actions of a substantial number of professionals in the field have not been, and likely never will be, captured by a single definition.

Early Definitions: Instructional Technology Viewed As Media

Early definitions of the field of instructional technology focused on instructional media—the physical means via which instruction is presented to learners. The roots of the

field have been traced back at least as far as the first decade of the twentieth century, when one of these media—educational film—was first being produced (Saettler, 1990). Beginning with this period, and extending through the 1920s, there was a marked increase in the use of visual materials (such as films, pictures, and lantern slides) in the public schools. These activities were all part of what has become known as the visual instruction movement. Formal definitions of visual instruction focused on the media that were used to present that instruction. For example, one of the first textbooks on visual instruction defined it as "the enrichment of education through the 'seeing experience' [involving] the use of all types of visual aids such as the excursion, flat pictures, models, exhibits, charts, maps, graphs, stereographs, stereopticon slides, and motion pictures" (Dorris, 1928, p. 6).

During the late 1920s through the 1940s, as a result of advances in such media as sound recordings, radio broadcasting, and motion pictures with sound, the focus of the field shifted from visual instruction to audiovisual instruction. This interest in media continued through the 1950s, with the growth of television. Thus, during the first half of the twentieth century, most of those individuals involved in the field that we now call instructional technology were focusing most of their attention on instructional media.

Today many individuals who view themselves as members of the instructional technology profession still focus much, if not all, of their attention on the design, production, and use of instructional media. Moreover, many individuals both within and outside of the field of instructional technology equate the field with instructional media. Yet, although the view of instructional technology as media has persisted over the years, during the past fifty years other views of instructional technology have emerged and have been subscribed to by many professionals in the field.

1960s and 1970s: Instructional Technology Viewed as a Process

Beginning in the 1950s, and particularly during the 1960s and 1970s, a number of leaders in the field of education started discussing instructional technology in a different way—rather than equating it with media, they discussed it as being a process. For example, Finn (1960) indicated that instructional technology should be viewed as a way of looking at instructional problems and examining feasible solutions to those problems. And Lumsdaine (1964) indicated that educational technology could be thought of as the application of science to instructional practices. As you will see, most of the definitions of the 1960s and 1970s reflect this view of instructional technology as a process.

The 1963 Definition

In 1963, the first definition to be approved by the major professional organization within the field of educational technology was published, and it too indicated that the field was not simply about media. This definition (Ely, 1963), produced by a commission established by the Department of Audiovisual Instruction (now known as the Association for Educational Communications and Technology), was a departure from the "traditional" view of the field in several important respects. First, rather than focusing on media, the definition focused on "the design and use of messages which control the learning process" (p. 38). Moreover, the definition statement identified a series of steps that individuals should undertake in designing and using such messages. These steps, which included planning, production, selection, utilization, and management, are similar to several of the major steps often associated with what has become known as systematic instructional design (more often simply referred to as instructional design). In addition, the definition statement placed an emphasis on learning rather than instruction. The differences identified here reflect how, at that time, some of the leaders in the field saw the nature of the field changing.

The 1970 Definitions

The changing nature of the field of instructional technology is even more apparent when you examine the next major definition statement, produced in 1970 by the Commission on Instructional Technology. The Commission was established and funded by the U.S. government to examine the potential benefits and problems associated with increased use of instructional technology in schools. The Commission's report, entitled *To Improve Learning* (Commission on Instructional Technology, 1970), provided *two* definitions of instructional technology. The first definition reflected the older view of instructional technology, stating:

> In its more familiar sense, it [instructional technology] means the media born of the communications revolution which can be used for instructional purposes alongside the teacher, textbook, and blackboard. . . . The pieces that make up instructional technology [include]: television, films, overhead projectors, computers, and other items of "hardware" and "software". . . (p. 21)

In contrast to this definition, the Commission offered a second definition that described instructional technology as a process, stating:

> The second and less familiar definition of instructional technology goes beyond any particular medium or device. In this sense, instructional technology is more than the sum of its parts. It is a systematic way of designing, carrying out, and

> evaluating the whole process of learning and teaching in terms of specific objectives, based on research on human learning and communication, and employing a combination of human and nonhuman resources to bring about more effective instruction. (p. 21)

Whereas the Commission's first definition seems to reinforce old notions about the field of instructional technology, its second definition definitely defines the field differently, introducing a variety of concepts that had not appeared in previous "official" definitions of the field. It is particularly important to note that this definition mentions a "systematic" process that includes the specification of objectives and the design, implementation, and evaluation of instruction, each term representing one of the steps in the systematic instructional design procedures that were beginning to be discussed in the professional literature of the field (e.g., Finn, 1960, Gagné, 1965; Hoban, 1977; Lumsdaine, 1964; Scriven, 1967). The definition also indicates that the field is based on research and that the goal of the field is to bring about more effective learning (echoing the 1963 emphasis on this concept). Finally, the definition discusses the use of both nonhuman and human resources for instructional purposes, seemingly downplaying the role of media.

The 1977 Definition

In 1977, the Association for Educational Communication and Technology (AECT) adopted a new definition of the field. This definition differed from the previous definitions in several ways. Perhaps most noteworthy was its length—it consisted of sixteen statements spread over seven pages of text, followed by nine pages of tables elaborating on some of the concepts mentioned in the statements, as well as nine more chapters (more than 120 pages) that provided further elaboration. Although the authors clearly indicated that no one portion of the definition was adequate by itself, and that the sixteen parts were to be taken as a whole, the first sentence of the definition statement provides a sense of its breadth:

> Educational technology is a complex, integrated process involving people, procedures, ideas, devices, and organization, for analyzing problems and devising, implementing, evaluating, and managing solutions to those problems, involved in all aspects of human learning. (p. 1)

Much like the second 1970 definition put forth by the Commission, the 1977 definition placed a good deal of emphasis on a systematic ("complex, integrated") design process: the various parts of the definition mentioned many of the steps in most current systematic design processes (e.g., design, production, implementation, and evaluation). It is particularly interesting to note that the 1977 definition statement was the first such statement to mention the analysis phase of the planning process, which at that time was beginning to receive increasing attention among professionals in the field.

The 1977 definition also broke new ground by incorporating other terminology that, within a period of a few years, was to become commonplace in the profession. For example, the definition included the terms human learning problems and solutions, foreshadowing the frequent current use of these terms, especially in the context of performance improvement.

The 1977 definition also included detailed tables describing the various learning resources associated with the field. This list gave equal emphasis to people, materials, and devices, reinforcing the notion that the work of instructional technologists was not limited to the development and use of media.

The 1994 Definition: Beyond Viewing Instructional Technology as a Process

During the period from 1977 to the mid-1990s, many developments affected the field of instructional technology.[2] Whereas behavioral learning theory had previously served as the basis for many of the instructional design practices employed by those in the field, cognitive and constructivist learning theories began to have a major influence on design practices. The profession was also greatly influenced by technological advances such as the microcomputer, interactive video, CD-ROM, and the Internet. The vast expansion of communications technologies led to burgeoning interest in distance learning, and "new" instructional strategies such as collaborative learning gained in popularity. As a result of these and many other influences, by the mid-1990s the field of instructional technology was very different from what it was in 1977, when the previous definition of the field had been published. Thus, it was time to redefine the field.

Work on a new definition of the field officially commenced in 1990 and continued until 1994, when AECT published *Instructional Technology: The Definitions and Domains of the Field* (Seels & Richey, 1994). This book contains a detailed description of the field, as well as the following concise definition statement:

> Instructional Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning. (p. 1)

As is evident in the definition, the field is described in terms of five domains—design, development, utilization,

---

[2]Many of these developments will be discussed in detail in succeeding chapters in this book.

management, and evaluation—five areas of study and practice within the field. The interrelationship between these domains is visually represented by a wheel-like visual, with each domain on the perimeter and connected to a "theory and practice" hub. This representation scheme was designed, in part, to prevent readers from coming to the erroneous conclusion that these domains are linearly related (Richey & Seels, 1994).

Unlike the second 1970 definition and the 1977 AECT definition, the 1994 definition does not describe the field as process oriented. In fact, the authors of the 1994 definition state they purposely excluded the word "systematic" in their definition so as to reflect current interests in alternative design methodologies such as constructivist approaches (Richey & Seels, 1994). Nonetheless, the five domains that are identified in the definition are very similar to the steps that comprise the "systematic" processes described in the previous two definitions. Indeed, each of the five terms (design, development, utilization, management, and evaluation) or a synonym is used directly or indirectly in one or both of the previous two definitions.

The 1994 definition statement moves in some other new directions and revisits some old ones. For example, much like the 1963 definition statement, the 1994 statement describes the field in terms of theory and practice, emphasizing the notion that the field of instructional technology is not only an area of practice, but also an area of research and study. The documents in which the 1970 and 1977 definition statements appear also discuss theory and practice, but the definition statements themselves do not mention these terms.

In at least two respects, the 1994 definition is similar to its two most recent predecessors. First, it does not separate teachers from media, incorporating both into the phrase "resources for learning." And second, it focuses on the improvement of learning as the goal of the field, with instruction being viewed as a means to that end.

Although the 1994 definition discusses instruction as a means to an end, a good deal of attention is devoted to instructional processes. The authors indicate that the "processes . . . for learning" (Seels & Richey, 1994, p. 1) mentioned in their definition refer to both design and delivery processes. Their discussion of the latter revolves around a variety of instructional strategies, and reflects the profession's current interest in a wide variety of instructional techniques, ranging from traditional lecture/discussion approaches to open-ended learning environments.

Two Recent Definitions

In the past few years, several definitions have been published. In this section of the chapter, we will focus on two of these—one that an AECT committee has recently produced and one that we, the authors of this textbook, have developed.

The Latest AECT Definition

In 2008, an AECT committee produced a book that presented a new definition of the field of educational technology (AECT Definition and Terminology Committee, 2008). The definition statement that appears in the book is as follows:

> Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. (p. 1)

One of the many useful features of the book is a series of chapters devoted to explaining each of the key terms in the definition statement and discussing how the new definition differs from previous ones. Some of the key terms that the authors discuss in the chapters are described below.

One key term in the new definition is the word *ethical*. This term focuses attention on the fact that those in the profession must maintain a high level of professional conduct. Many of the ethical standards professionals in the field are expected to adhere to are described in the AECT Code of Ethics (Association for Educational Communications and Technology, 2007).

The new definition also focuses on the notion that the instructional interventions created by professionals in field are intended to *facilitate* learning. The authors contrast this viewpoint with those expressed in earlier definitions, in which it was stated or implied that the instructional solutions that were produced would cause or control learning. The new perspective recognizes the important role that learners play in determining what they will learn, regardless of the instructional intervention they are exposed to.

The new definition also indicates that one of the goals of professionals in the field is to *improve performance*. The authors indicate that this term emphasizes that it is not sufficient to simply help learners acquire inert knowledge. Instead, the goal should be to help learners *apply* the new skills and knowledge they have acquired.

Unlike previous definitions, in which terms such as design, development, and evaluation were often used to denote major processes or domains within the field, the new definition uses the terms *creating*, *using*, and *managing* to describe the major functions performed by educational technology professionals. The *creation* function includes all of the steps involved in the generation of instructional interventions and learning environments, including analysis, design, development, implementation, and evaluation. The *utilization* function includes the selection, diffusion, and institutionalization of instructional methods and materials,

and the *management* function incorporates project, delivery system, personnel, and information management. The authors point out that these three less technical terms are used to describe the major functions so as to convey a broader view of the processes used within the field.

The definition also uses the adjective *technological* to describe the types of processes professionals in the field engage in, and the type of resources they often produce. The authors, drawing on the work of Galbraith (1967), indicate that technological processes are those that involve "the systematic application of scientific or other organized knowledge to accomplish practical tasks" (AECT Definition and Terminology Committee, 2008, p. 12). The authors also indicate that technological resources refer to the hardware and software that is typically associated with the field, including such items as still pictures, videos, computer programs, DVD players, and so on.

The Definition Used in This Textbook

One of the many strengths of the new AECT definition of educational technology is that the definition clearly indicates that *a focus on systematic processes* and *the use of technological resources* are both integral parts of the field. The definition that we will use in this textbook emphasizes these two aspects of the field as well as the recent influence the human performance technology movement has had on the profession.

As will be pointed out in later chapters in this textbook (e.g., Chapter 14), in recent years many professionals in the field of instructional design and technology (ID&T), particularly those who have been primarily trained to design instruction, have been focusing their efforts on improving human performance in the workplace. Although such improvements may be brought about by employing instructional interventions, careful analysis of the nature of performance problems often leads to non-instructional solutions, such as instituting new reward structures, providing clearer feedback to workers, developing performance support tools (see Chapter 15), creating knowledge management systems (see Chapter 16), and/or promoting and enhancing opportunities for informal learning (see Chapter 17). This new emphasis on improving performance in the workplace via non-instructional as well as instructional methods has been dubbed the human performance technology, or performance improvement, movement. We believe that any definition of the field of instructional design and technology should reflect this emphasis. The definition that we have developed, and that we will use in this book, clearly does so. The definition is as follows:

> The field of instructional design and technology (also known as instructional technology) encompasses the analysis of learning and performance problems, and the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance in a variety of settings, particularly educational institutions and the workplace.
>
> Professionals in the field instructional design and technology often use systematic instructional design procedures and employ instructional media to accomplish their goals. Moreover, in recent years, they have paid increasing attention to non-instructional solutions to some performance problems. Research and theory related to each of the aforementioned areas is also an important part of the field.

As noted earlier, this definition highlights two sets of practices that have, over the years, formed the core of the field. We believe that these two practices—the use of media for instructional purposes and the use of systematic instructional design procedures (often simply called *instructional design*)—are the key defining elements of the field of instructional design and technology. Individuals involved in the field are those who spend a significant portion of their time working with media and/or with tasks associated with systematic instructional design procedures. We believe that one of the strengths of this definition is the prominent recognition it gives to both aspects of the field. More importantly, we feel the proposed definition, unlike those that have preceded it, clearly points to the efforts that many professionals in the field are placing on improving human performance in the workplace through a variety of instructional and non-instructional means. There is no doubt that many of the concepts and practices associated with performance improvement have been integrated into the training that future ID&T professionals receive (Fox & Klein, 2003), and the activities those individuals undertake once they enter the profession (Van Tiem, 2004). The definition we have put forward clearly reflects this reality.

Naming the Field: Why Should We Call It Instructional Design and Technology?

The definition proposed in this chapter also differs from most of the previous definitions in that it refers to the field as *instructional design and technology*, rather than *instructional technology*. Why? Most individuals outside of our profession, as well as many inside of it, when asked to define the term *instructional technology*, will mention computers, DVDs, mobile devices, and the other types of hardware and software typically associated with the term *instructional media*. In other words, most individuals will equate the term *instructional technology* with the term

instructional media. This is the case in spite of all the broadened definitions of instructional technology that have appeared over the past thirty to forty years. In light of this fact, perhaps it is time to reconsider the label we use for the broad field that encompasses the areas of instructional media, instructional design, and more recently, performance improvement. Any of a number of terms comes to mind, but one that seems particularly appropriate is *instructional design and technology*. This term, which has also been employed by one of the professional organizations in our field (Professors of Instructional Design and Technology), mentions both of the areas focused on in earlier definitions. Performance improvement, the most recent area to have a major impact on the field, is not directly mentioned because adding it to the term *instructional design and technology* would make that term unwieldy, and because in recent years, instructional design practices have broadened so that many of the concepts associated with the performance improvement movement are now regularly employed by those individuals who call themselves instructional designers.

In this book, our field will be referred to as *instructional design and technology*, and we will define this term as indicated above. However, regardless of the term that is used as the label for our field and the specific definition you prefer, it is important that you understand the ideas and practices that are associated with the field, and the trends and issues that are likely to affect it. The purpose of this book is to introduce you to many of those ideas, practices, trends, and issues. As you proceed through this book, we anticipate that your view of the field will evolve, and we are confident that your understanding of the field will increase. Moreover, we expect that you will be able to add your reasoned opinion to the ongoing debate concerning the "proper" definition and label for the field we have called instructional design and technology.

Summary of Key Principles

1. Over the years, a variety of different labels have been used as the name for the field that in this book we refer to as *instructional design and technology*. In recent years, other frequently used names for the field have included *instructional technology* and *educational technology*.
2. Definitions of the field have also changed over the years. Changes in definitions are appropriate because as new ideas and innovations affect the practices of individuals in the field, definitions of the field should be revised so as to make mention of those new practices.
3. Whereas early definitions of the field focused on the instructional media that were being produced by professionals in the field, starting in the 1960s and 1970s a number of leaders in the field, working both as individuals and as members of professional committees, developed definitions that indicated that instructional (or educational) technology was a process. In particular, a process for systematically designing instruction.
4. The goals specified in the various definition statements have also shifted over the years. Whereas the earlier definitions indicated that the goal of the field was to bring about more effective instruction, later definitions indicated that the primary goal was to improve learning. The most recent definition statements expanded this aim, indicating that the goal of the field is to improve (or facilitate) learning *and* performance.
5. The definition of the field that we use in this book focuses on the systematic design of instruction and the use of media for instructional purposes, the two sets of practices that have formed, and still do form, the foundation of our field. The definition also focuses on the efforts by many professionals in our field to use a variety of instructional *and* non-instructional means to improve human performance in the workplace.

Application Questions

1. **Define the field:** Reexamine the various definitions of the field that have been mentioned in this chapter as well as several other definitions that you find online and/or in other sources. Then prepare your own definition of the field. This definition may either be one you create, one that was taken verbatim from this chapter or elsewhere, or one that is a modified version of an existing definition. In any case, be sure to reference the sources you used in preparing your definition. After you prepare your definition, describe why you feel it is a good one.
2. **Name the field:** As mentioned in this chapter, there are many labels for the field you are now studying.

se labels include *educational technology*, *uctional technology*, *instructional design and nology*, *instructional design*, *performance rovement*, and many others. Examine some outside resources in which several of these labels are defined and discussed. Then identify which label you feel is the best one for the field, and describe why you feel that way.

or Information

A. ***Reiser*** is a Distinguished Teaching Professor, ert M. Morgan Professor of Instructional Systems and the Associate Dean for Research in the College of Education at Florida State University.

rences

Definition and Terminology Committee. 08). Definition. In A. Januszewski & Molenda (Eds.), *Educational technology: efinition with commentary*. New York: rence Erlbaum.

ion for Educational Communications and hnology. (1977). *Educational technology: nition and glossary of terms*. Washington, DC: ociation for Educational Communications and hnology.

ion for Educational Communications and hnology. (2007). *AECT: Code of professional cs*. Retrieved November 21, 2010 from ://www.aect.org/About/Ethics.asp

sion on Instructional Technology. (1970). *To rove learning: An evaluation of instructional nology*. Washington, DC: U.S. Government ting Office.

A. V. (1928). *Visual instruction in the public ools*. Boston: Ginn.

?. (Ed.). (1963). The changing role of the audiovisual cess in education: A definition and a glossary of ted terms. *AV Communication Review, 11*(1).

J., & Klein, J. D. (2003). What should ructional designers and technologists know about nan performance technology? *Performance rovement Quarterly, 16*(3), 87–98.

D. (1960). Technology and the instructional cess. *AV Communication Review, 8*(1) 5–26.

R. M. (1965). The analysis of instructional ectives for the design of instruction. In R. Glaser l.), *Teaching machines and programmed learning, Data and directions*. Washington, DC: National ucation Association.

th, J. K. (1967). *The new industrial state*. Boston: ughton Mifflin.

Hoban, C. F., Jr. (1977). A systems approach to audio-visual communications: The Okoboji 1956 keynote address. In Cochran, L. W. (Ed.), *Okoboji: A 20 year review of leadership 1955–1974*. Dubuque, IA: Kendall/Hunt.

Lumsdaine, A. A. (1964). Educational technology, programmed learning, and instructional science. In E. R. Hilgard (Ed.), *Theories of learning and instruction: The sixty-third yearbook of the National Society for the Study of Education, Part I*. Chicago: University of Chicago Press.

Reiser, R. A., & Ely, D. P. (1997). The field of educational technology as reflected in its definitions. *Educational Technology Research and Development, 45*(3), 63–72.

Richey, R. C., & Seels, B. (1994). Defining a field: A case study of the development of the 1994 definition of instructional technology. In D. P. Ely (Ed.), *Educational media and technology yearbook: 1994*. Englewood, CO: Libraries Unlimited.

Saettler, P. (1990). *The evolution of American educational technology*. Englewood, CO: Libraries Unlimited.

Scriven, M. (1967). The methodology of evaluation. In *Perspectives of curriculum evaluation* (American Educational Research Association Monograph Series on Curriculum Evaluation, No. 1). Chicago: Rand McNally.

Seels, B. B., & Richey, R. C. (1994). *Instructional technology: The definition and domains of the field*. Washington, DC: Association for Educational Communications and Technology.

Van Tiem, D. M. (2004). Interventions (solutions) usage and expertise in performance technology practice: An empirical investigation. *Performance Improvement Quarterly, 17*(3), 23–44.