Chapter 2: The Domains of the Field

The 1994 definition of Instructional Technology emphasized the theory and practice of five specific domains or “areas of concern” (Seels & Richey, 1994, p. 23). These domains were classified as: Design, Development, Utilization, Management, and Evaluation. In acknowledging Instructional Technology as a field in itself, the need to establish relationships between theory and practice in the field was necessary. This classification based on the relationships between each domain gave Instructional Technology a taxonomic structure. With this taxonomic structure, the field fit a “conceptual framework,” (p. 24) where generalizations were established and maintained within the field.

Each of the domains was recognized as a taxonomic area in applying theory and practice. Within each domain there are four major subcategories that focus directly and apply to each individual domain. An additional subcategory, “Trends and Issues” further explained each domain, with emphasis on its present and future direction.

The domains in the field of Instructional Technology are not considered linear but rather interrelated and complementary, or “synergistic” (p. 25) in that the domains work together and the outcome is greater through this collaboration than it would be if done individually.

Design

The domain of design was defined as “the process of specifying conditions for learning” (Seels & Richey, 1994, p. 30). Design is limited to “the planning function” (p. 29) of instructional technology both at a micro and a macro level. The micro level of instructional design includes the creation of “strategies and products . . . such as lessons and modules”, whereas the macro level encompasses the creation of “strategies and products . . . such as programs and curricula” (p. 30).

Within the domain of design, there are four major subcategories: Instructional Systems Design (ISD), Message Design, Instructional Strategies, and Learner Characteristics. Each of the subcategories concentrates on different aspects of design. ISD “includes the steps of analyzing, designing, developing, implementing and evaluating instruction” (p. 31). Message design includes “planning for the manipulation of the physical form of the message” (p. 31). Instructional Strategies are known as “specifications for selecting and sequencing events and activities within a lesson” (p. 31). Learner Characteristics concentrate on the “learner’s experiential background” and its impact on the learning process’ effectiveness (p. 32).

Because design is related directly to planning instructional systems, strategies, messages, and analyzing the characteristics of the learner, the next domain, development converts the design into a particular tangible structure.

Development

The domain of development deals with the production of specific materials for instruction. The definition given by Seels & Richey (1994) for development is “the process of translating the design specifications into physical form” (p. 35). The development stage of instruction, as explained by Seels & Richey (1994) is “driven by theory and design and must respond to the formative demands of evaluation and utilization practices and management needs” (p. 36). As with all the domains, the development domain relies on an interrelationship with the other four domains.
The development domain is subcategorized into four major areas: “print technologies . . . audiovisual technologies, computer-based technologies, and integrated technologies” (p. 34). Each of these technologies utilizes specialized resources for instruction. Integrated technologies are classified as more sophisticated instruction in that they integrate various media within the computer. Integrated technologies tend to be more flexible, adapt to the learner, relate to learner’s experiences, and apply the “principles of cognitive science and constructivism” (p. 40).

**Utilization**

“Utilization is the act of using processes and resources for learning” (Seels & Richey, 1994, p. 46). Utilization concentrates on the learner and “the interface between the learner and instructional materials and systems” (p. 46). Utilization is subcategorized into Media Utilization, Diffusion of Innovations, Implementation and Institutionalization, and Polices and Regulations.

Media Utilization is contingent upon the “type of learning desired” and the specific needs and characteristics of the learner (p. 46). Diffusion of Innovations is defined as “the spread, adoption and maintenance of an innovation” (p. 44). If a particular technology is functional to the learners, it is communicated (diffused) to “gatekeepers and opinion leaders” and adopted as an effective means of instruction.

Once a media is employed within a real setting, it is implemented and institutionalized. Implementation of a media “ensure[s] the proper use by individuals in the organization”, and institutionalization “integrate[s] the innovation into the structure and life of the organization” (p. 47).

Policies and Regulations are created by society in order to set rules and standards for diffusing and using Instructional Technology. Ethical and economic concerns play an important role in the implementation of policies and regulations, which “have more effect on practice than on theory” (p. 47).

**Management**

The management domain requires the administration of Instructional Technology. “Management involves controlling Instructional Technology through planning, organizing, coordinating and supervising” (p. 49). Management is subcategorized into four separate areas: Project Management, Resource Management, Delivery System Management, and Information Management.

Project Management concentrates on the phases of “planning, scheduling and controlling the functions of instructional design or other types of projects” (p. 51). Those who participate in this phase of management usually assume a more short-term role that pertains to a particular project.

Resource Management includes the “personnel, budget, supplies, time, facilities, and instructional resources” within the Instructional Technology program. The management and access of resources depend on their cost and learning effectiveness.

Delivery System Management is “a combination of medium and method of usage . . . employed to present instructional information to a learner” (p. 51). This management focuses on both the product (hardware and software) that is utilized to deliver the instruction and the process and guidelines utilized by the designers and instructors (p. 51).

Information Management deals with the means in which instructional material and information is stored, transferred and processed. This includes “planning, monitoring and
controlling the storage, transfer or processing of information in order to provide resources for learning” (p. 51).

**Evaluation**

Evaluation and assessment are crucial to determining the value of Instructional Technology. Evaluations are distinguished by the objects that are being evaluated. These objects are programs, projects or products which are classified, evaluated, and judged for their merit. Program evaluations are performed on a “continuing basis”, project evaluations cover a “defined period of time”, and materials evaluation relate to the evaluation of the actual “physical . . . tangible instructional products” (Seels & Richey, 1994, p. 55).

Evaluation is subcategorized into Problem Analysis, Criterion-Referenced Measurement, and Formative and Summative evaluation. Problem analysis begins with the creation of a particular problem, identifying and evaluating its needs, its constraints, the characteristics of the learners and the resources, and establishing “goals and priorities” (p. 56) to fit the problem’s purpose.

Criterion-Referenced Measurement determines whether the learner has actually met the major objectives of an instruction and follows particular standards of assessment such as competency tests in measuring and evaluating instruction.

Formative and Summative Evaluation is necessary for “further development” of information and its utilization. Formative evaluation stresses the “early stages of product development” (its alpha and beta testing), and summative evaluation involves “gathering information” on the product’s overall “adequacy” and communicating its effectiveness to the consumer for utilization (p. 57). Formative evaluation is an internal evaluation of a product during its development, whereas summative evaluation is external and is performed after its completion (p. 58). Quantitative (numbers) and qualitative (experiential and verbal) measures are required to provide a balanced evaluation of a product.

**The Need for Change**

Since 1994, Distance Education has developed and grown as a significant consumer of Instructional Technology. Instructional Technology’s definition needs to more closely incorporate Distance Education in its domains of design, development, utilization, management and evaluation. The success of a Distance Education program depends on the learner’s success in learning. The domains of IT must directly address DE in its definition.

The impact of DE on the theory of design requires the implementation of alternative design strategies in this domain. The characteristics of the learner must be considered when designing DE instruction. Because DE excludes face-to-face contact, the learner’s characteristics and background must be attended to and acknowledged when designing the instruction.

DE’s domain of development clearly utilizes a blend of integrated technologies for instruction. Therefore DE is closely connected to the subcategory of Integrated Technologies and must be more closely recognized in this subcategory. Because of its sophistication, the development domain of Distance Education relies heavily on its design, management and evaluation.

DE’s utilization should consider the learner’s needs and success in learning through its close evaluation. Since DE is so new, the utilization of technology has not been sufficiently evaluated, and its present form of diffusion needs further enhancement. Although DE is institutionalized and implemented, its processes, resources, policies and regulations must be
continuous, not static. Because technology continues to evolve, change must continue to occur in order for DE to improve.

Distance Education needs to be addressed more closely in the domain of management. Instructional technologists’ management of DE seems minimal; the professor manages the product with less IT expertise, thus limiting the quality of technology in this area.

Evaluation seeks improvement. DE requires improvement. The evaluation of DE is more formative than it is summative. Standards have not been set in evaluating a Distance Education program’s adequacy and its need for improvement. More emphasis must be given to evaluating the learner in order to advance the performance of Distance Education.

Revisions to the definitions and domains of Instructional Technology will occur because of Distance Education’s growing acceptance as a means of instruction. The role of Instructional Technologists will have increased importance in DE. Because of this, Instructional Technology’s definitions and domains related to Distance Education should be revised collaboratively by all those directly linked to instruction and the use of technology.

Reference