Definition of Instructional Technology Field

As a student in the Instructional Technology program, I struggled when I was asked to explain the field. My challenge stemmed from the confusion that exists regarding the definitions of the terms "education", "instruction" and "technology", as well as the multidisciplinary nature of the field.

At the first glance, the phrase Instructional/Educational Technology seems very straightforward. However, when one begins to define it, it becomes apparent that since each term used in the phrase has different meaning to different people it is difficult to explain the field before clarifying the definitions of these terms.

Let us start with the descriptors 'instruction' and 'education' in the field. According to Knirk and Gustafson (1986), 'instruction' relates primarily to teaching and learning problems, while 'education' is too broad, encompassing all aspects of education such as home education, work education, school education. In 1999, Smith and Ragan described education as all experiences in which people learn both formal and informal, and instruction refers to those formal educational experiences that require a complex delivery system to meet specific goals. Within the field, the descriptor 'education' was defined as "activities and resources that support learning", and in the mean time, the descriptor 'instruction' was viewed as "activities structured by someone other than the learner and oriented toward specific ends" (AECT, 2004, p.1). On the other hand, in practice Instruction has also been used interchangeably with the term "teaching" and "training". Teaching refers to those learning experiences that are facilitated by a live human being, and training is some sort of overlapped with teaching, referring to instructional experiences that are focused on acquisition of very specific skills with individuals (Smith and Ragan, 1999). Given the above definitions, one can conclude that teaching and training can be considered as a subset of instruction while instruction is a subset of education.

Technology, the root concept of educational or instructional technology, is almost as confused in the public mind as educational or instructional technology is in that of the profession. In the public mind technology is always viewed as tools, machines, instruments. However, within the field technology is more than just machines such as computer or hardware. John Kenneth Galbraith (1967) referred to technology not as tools but as "the systematic application of scientific or other organized knowledge to practical tasks" (as cited in Molenda, 2003. p. 1). Paul Saettler (1968) also agrees this point and refined technology as "any practical art using scientific knowledge'" (pp. 5-6). James Finn (1960) does not deny that technology includes machinery, however, he argues that technology should include processes, systems, and management and control mechanisms both human and non-human, even a way of looking at the problems. Finally, Everett Rogers (1983) confirms that technology is "a design for instructional action that reduces the uncertainty in the cause-effect relationships involved in achieving a desired outcome" (p. 12). Gentry (1991) sums up all of the above mentioned definitions by noting that technology is "the systemic and systematic application of behavior and physical sciences concepts and other knowledge to the solution of problems" (p. 7).

As the wide range of definitions for the terms "instruction", "education", and "technology" suggests, it is not surprising that one can find a number of definitions for the field of instructional technology or educational technology. In 1977 the Association of Educational Communication and Technology (AECT) made a distinction between instructional technology and educational technology based on the scope of each term (Seals &Richey, 1994). Educational technology was viewed as a subset of education which involves problems related to all aspects of human education, and while Instructional technology was described as "a subset of educational technology using the rationale that instruction is a subset of education, dealing only with problems related to learning that is purposive and controlled" (p.4). Gentry (1991) also distinguished between them based on review of the definitions of the field over the past thirty years. He made a point that instructional technology refers to "the systemic and systematic application of strategies and techniques derived from behavior and physical sciences concepts and other knowledge to the solution of instructional problems" (p. 7), and educational technology is considered as "the combination of instructional, learning, developmental, managerial, and other technologies as applied to the solution of

educational problems" (p.8). These days these two terms have been used interchangeably and professionally within the field. However, on the other hand, there are scholars who are seeking and clarifying the definition of the field. For example, Shrock (1991) labels the field as instructional development that involves "a self-correcting, systems approach that seeks to apply scientifically derived principles to the planning, design, creation, implementation, and evaluation of effective and efficient instruction" (p. 12). More recently, Reiser (2001) uses the term instructional design and technology to define the field as "an analysis of learning and performance problems and the design, development, implementation, evaluation, and management of instructional processes" (p.53). Examining the above definitions, one can argue that scholars all attempted to focus on the conceptual framework integrating the systems approach, audiovisual technology, and psychology of instruction. Within the practice of the field activities and concepts around instruction are emphasized, including both incidental instruction and intentional instruction.

Today, the definition that seems to be widely accepted by most professionals in the field is AECT's (1994) definition. AECT stated the field as "instructional technology" which was defined as "the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning" (Seels & Richey, 1994, p. 1). It is evident that the five knowledge domains are identified in the definition: design, development, utilization, management and evaluation. The relationship between the domains is not linear but synergistic, complementary with each other. Each domain has sufficient uniqueness and scope to have evolved as a separate area of study. See figure below. Figure below shows the complementary nature of the relationship between the domains and the key areas the theory and practice of each domain involves.
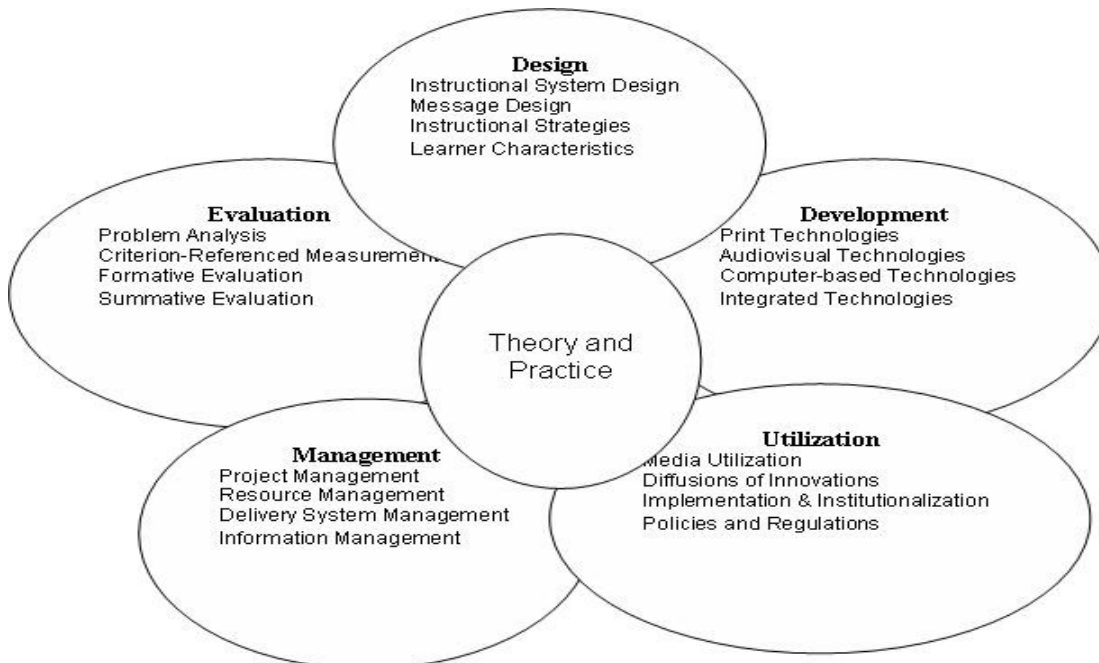
(Adapted from Seels, B. & Richey, R. (1994) Instructional Technology: The definition & domains of the field, p. 10)