

The Domain of Development

The domain of development is the “process of translating the design specifications into the physical form” (Seels & Richey, 1994, p. 35). Its purpose is to create the actual instructional material and any supporting documents, such as job aides, instructors manual or study guides, in order to deliver the intended message from the sender (instructor) to the receiver (learner) (Seels & Glasgow, 1998, p. 110). In the domain of development, the plans developed during the design phase are transformed into the actual materials. Many models have been developed to help designers make media selection choices, including a flowchart developed by Gagne and Reiser (1983). The flowchart incorporates decision paths to select media based on the needs and skills of the learner, the type of instruction needed and the environment in which the instruction will take place. All too often, media selection is limited to readily available choices. However, many factors may affect an instructional designer’s choice in selecting appropriate media (the instructional delivery system). The selection process should begin with the learner analysis completed during the initial phase. The media should enhance the learning process, engage the learner in the lesson and all activities involved. Other factors to be considered in appropriate media selection may include the program objectives, availability, the learning situation, resources and constraints.

Once the initial draft of the materials has been created, the formative evaluation process begins, in order to identify errors or problems in the instructional material, identify factors affecting the learning outcomes, diagnose students’ learning problems, and to revise and improve the quality of the learning materials.

The development domain consists of four areas of study: (1) print technologies, (2) audiovisual technologies, (3) computer-based technologies and (4) integrated technologies (Seels & Richey, 1994). These four areas are reviewed below and listed in the order of their development. Each area includes production, storage and delivery formats (Seels & Glasgow, 1998, p. 110).

1. Print Technologies

Print technologies involve ways to “produce or deliver materials, such as books and static visual materials, primarily through mechanical or photographic printing processes” (Seels & Richey, 1994, p. 37). Two forms of this technology are verbal text, visual materials or any combination of the two, such as a textbook with printed text and pictures. Components can often be represented in more than one area within the domain of development. For example, text in a book or printed instructional material falls within the area of print technologies, whereas text within an on-line learning medium, such as Blackboard, is categorized within the computer-based area. The act of printing the handout contained in the Blackboard learning environment now translates the delivered media back into the print technologies area.

Some of the advantages of print technologies are the following (Seels & Glasgow, 1998, p. 111):

1. Ease of printing makes reproducing in large quantities relatively easy and inexpensive.
2. Computer applications improve the ease of creating high quality presentations.
3. Printed information can be quickly exchanged using a fax machine.
4. Print materials are portable and do not require the use of machines by the user.

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2. Audiovisual Technologies

Audiovisual technologies are “ways to produce or deliver materials by using mechanical or electronic machines to present auditory or visual messages (Seels & Richey, 1994, p. 38). Audiovisual technologies do not depend exclusively on words to deliver the intended message; they incorporate sight and hearing to deliver the message. Types of audiovisual technologies include films, slides, audiotapes and videotapes. These technologies tend to have limited learner interactivity (Seels & Glasgow, 1998, p. 111).

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3. Computer-Based Technologies

Computer-based technologies are “ways to produce or deliver materials using microprocessor-based resources” (Seels & Richey, 1994, p. 39). Items in this category, which include computer-based instruction (CBI), computer-assisted instruction (CAI), or computer-managed instruction (CMI), move the instructional material to digital form rather than print form. Computer-based technology has a high degree of learner interactivity and is able to deliver tutorials, drill and practice, and games and simulations (Seels & Glasgow, 1998, p. 112).

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4. Integrated Technologies

Integrated technologies are “ways to produce and deliver materials which encompass several forms of media under the control of a computer” (Seels & Richey, 1994, p. 40). Learning management systems such as those used for distance education courses, allow students from a large geographical area to participate in discussion groups, lectures and presentations, all from the comfort of their home computer. Webinars and teleconferencing allow businesses from around the globe to communicate without the time and expense of travel. Integrated technologies employ a high degree of learner interactivity and the materials “integrate words and imagery from many sources either synchronously or asynchronously” (Seels & Glasgow, 1998, p. 112).