Definition of Utilization

Utilization may be the oldest of the domains of instructional technology, because audio-visual materials were used before instructional design and development was thought of as a systematic process (Seels & Richey, 1994). An instructional designer working in this domain plans for, and supervises the implementation or delivery of instruction. This includes introducing the material to the learner or the project to the stakeholders (diffusion of innovations), executing a project in an organization (implementation and institutionalization), determining appropriate guidelines (policies and regulations), ensuring the necessary materials are available in the learning environment to facilitate instruction (media utilization) and may include selecting the appropriate media (media utilization). Media utilization, diffusion of innovations, implementations and institutionalizations are all sub-domains of utilization and are explained in further detail below.

Media Utilization

Media utilization is the "systematic use of resources for learning" (Seels & Richey, 1994, p. 46). The instructional designer ensures that all instructional materials and media are working properly and meet the stated objectives in the design document. It is their job to double-check any compatibility issues that may affect the learner successfully completing the instruction.

This sub-domain can also include media selection. When media selection is done as part of a systematic design process it is considered a design task but when the media is determined based upon subject content or media characteristics it is considered a utilization task (Seels & Richey, 1994).

There are a number of models that instructional designers use in the media utilization sub-domain. When selecting media it is imperative to understand the limitations of the learning environment and the media budget for the project. Based on Gagne's Nine Events of Instruction, the ASSURE model (Analyze learners, State objectives, Select methods, media, and material, Utilize media and materials, Require learner participation, Evaluate and Revise) is often used to guide media selection and the incorporation of different media (Heinrich et al, 1996). Although it is over twenty years old Reiser and Gagne's Media Selection Flowchart still is used as a solid reference for media selection (Reiser & Gagne, 1983).

Another commonly used model is Lee and Owen's Media Analysis model (2007). This model is especially popular in business/industry where cost analysis/return on investment is always a key component. When using this model the instructional technologist first conducts an organizational assessment to determine if the performance deficit is a result of a systemic, performance, or training gap. Once the gap is identified, the resulting information is structured into objectives. These objectives are then matched with appropriate media characteristics. The next step, media selection, reviews the instructional, student, and cost/benefits of each media format. Finally a cost analysis is

conducted to determine if the eventual Return on Investment (ROI) justifies the cost of designing, developing and implementing the solution.

Media Analysis Model, (Lee and Owens, retrieved 2007)

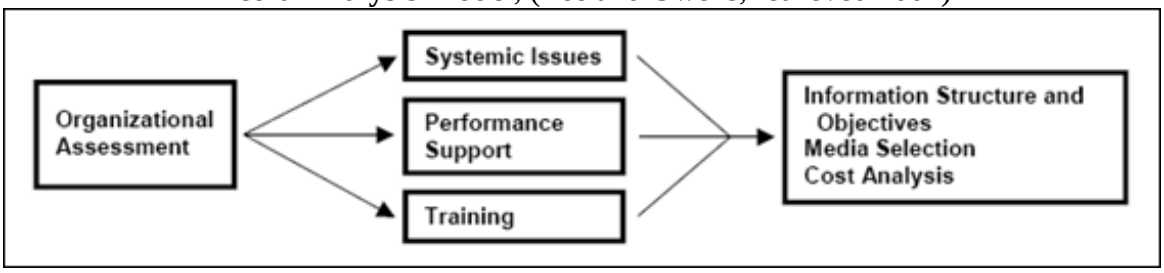

Figure 4: Media Analysis Model
Image adopted from: http://www.astd.org

Diffusion of Innovations

An innovation is an idea, or product that is new to a population. Since well designed instructional material often requires pedagogical and technological changes, it is considered an innovation. Diffusion of innovations can be defined as: "the process of communicating through planned strategies for the purpose of gaining adoption of an innovation" (Seels & Glasgow, 1998, p. 329). This sub-domain is essentially about change and adoption. Since all instructional technology projects are trying to change something, whether it is a learning outcome or a behavior, diffusion of innovations can easily affect the success or failure of a project.

This sub-domain is greatly influenced by the 1962 book by Everett M. Rogers entitled: "Diffusion of Innovations." Rogers analyzed 405 studies selected from various fields to create a model which explained the stages, and processes of an innovation (Rogers, 2005). His research indicated that there are five categories of adopters for any innovation with their percentage of adoption based on a bell curve: innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%), and laggards (16%). Rogers' model states that there are five characteristics that determine an innovation's rate of adoption:

1. Knowledge (learning about the existence and function of the innovation)
2. Persuasion (becoming convinced of the value of the innovation)
3. Decision (committing to the adoption of the innovation)
4. Implementation (putting it to use)
5. Confirmation (the ultimate acceptance of the innovation)

In addition, using the above mentioned diffusion effects, Rogers identifies five attributes which most successful innovations contain: trialability, observability, complexity, compatibility, and relative advantage (Rogers, 2005). Innovations that offer trialability means that perspective adopters have the opportunity to "try out" the innovation before committing to it. Observability refers to the visibility of the innovative product. Complexity is how difficult an innovation is to understand and apply. An

innovation's compatibility is how well the product fits with the adopter's past and present needs. Finally, relative advantage determines how much better the innovations is at improving the adopter's life or job than the product they are currently using.

In sum, it is imperative for an instructional designer to understand Rogers' categories and characteristics of adopters as well as attributes which make an innovation successful because they must act as a change agent.

Implementation and Institutionalization

Implementation is "using instructional materials or strategies in real (not simulated) settings" (Seels & Richey, 1994, p. 47). Institutionalization is "the continuing, routine use of the instructional innovation in the structure and culture of an organization" (p. 47). These two rely heavily on each other. Implementation ensures the proper use by an individual in the organization while, institutionalization ensures that the innovation successfully matches organizational policies and procedures. It is the instructional designer's responsibility to ensure compatibility and propose new policies and procedures if necessary. Failure to properly plan for both individual and organizational change can spell disaster for any instructional technology project.

Policies and Regulations

Policies and regulations are the rules and procedures which govern an organization. It is important for an instructional designer to understand an organization's existing policies and regulations before any new innovation can be successfully introduced. After evaluating the current policies and regulations an instructional designer must decide if new policies or regulations are necessary to facilitate a smooth transition for their innovation. For example, if an instructional designer was introducing a web-based instructional solution to an organization it would be imperative for them to first review the organization's Acceptable Use Policy (AUP). This would ensure there would be no conflicts between the AUP and the instructional module. If discovered early and with proper justification, policies can be adjusted to fit an innovation.

In conclusion, the domain of utilization plans for the implementation or delivery of instruction. Four interrelated sub-domains (media utilization, diffusion of innovations, implementation and institutionalization, and policies and procedures) guide the instructional designer through this process.