Technology-Based Training: A Solution?

Objectives

- Describe the affect of technology on training today:
  - Factors in its choice
  - How learners benefit from its use in training
  - Affect on the role of instructors

Technology-Based Training: A Solution?

- Must be considered based on:
  - costs
  - benefits
  - effectiveness
  - suitability
Factors in the Choice

- **Reducing Cost**
  - Large numbers of learners involved
  - Several training locations
  - Trainees travel to central location

- **Flexibility**
  - Unwillingness to release workers from workplace
  - TBT offers individual starting times
  - Learners starting at different levels
  - Local training support already available

Factors in the Choice

- **Content**
  - Congruent with the use of technology
  - Stable enough to justify long-time use
  - Highly evolutive, needed continual updating
  - Consistency of delivery to a large group

- **Technology**
  - Learners already use computers
  - TBT offers unique features

Good TB Training provides benefits to design and delivery of training

- Increased **design quality** through team approach
- **Systematic formative evaluation** throughout the design phase
- Training-related **standards**
- Consistent, **high-quality learning experiences**
Good TB Training . . . benefits

- Learning scenarios not otherwise available
- Safe simulation of high-risk environments
- Use of experts -- widely available
- Trainers freed to become facilitators
- Assessments embedded in modules of training
- Portfolio building -- track competence

How Learners Can Benefit

- Flexible independent study
- Learner controlled progress
- Adaptive, learner controlled organization of learning activities
- Direct student involvement in learning activities
- Systematic practice through simulations
- Immediate feedback of learning
- Privacy -- learning individually
- Enhanced enjoyment and motivation

Computer as a manager of the learning process

- Registering courses and students
- Testing and record keeping
- Directing the student through the course
- Restart facilities
- Course maintenance
- Reporting

Think not only of the macro-management but the micro-management of computer-managed learning.
TBT: Practice and Promise

- Promises empowerment
- Reality -- fails to live up to its promise
  - inappropriate learning model
  - Inappropriate use of technology
- Look at use of multimedia and interactivity
  - Engaging learning . . .

Multimedia

- Has tremendous power to enrich learning
- It can combine media: text, graphics, sound, still and motion pictures
- But does it make for good training -- all the time? Must we have the Bells and Whistles?
- Multimedia must support the learning -- by creating a whole new range of activities.

Interactivity Versus Activity

- A computer cannot be “interactive” -- computers react
- Computers appear to be reactive, via programming.
- Actually, computers are good at “activity”.
- The focus on training should be on good, appropriate activities that help learners learn.
Roles for Trainers/Teachers

- Much speculation...
- Emerging forces on training/teaching:
  - shift of responsibility from instructor to learner
  - indispensable role of information technology in learning and training

Instructor's roles...

- More as facilitators than instructors
  - help learners manage their own learning
  - become activity builders
  - creators of new learning environments
- Mastering technology for learning
  - figuring out how BEST to use technology for learning

Reading Questions

From Week 1
The author states, “If nothing else, start thinking not about creating content but about designing learner environments and architecting experiences. What do you think he mean by that statement?

- Do you believe that learning can be “wildly exciting?”
- Can you think of a time when you were “wildly excited” about learning something?
- Why was it exciting.

What does cognitive research and pragmatic evidence say about engaging learning?
Definitions?

- Engagement
  - The situation of having attention fully focused on a particular task

- Objective
  - A learning objective is a well defined behavior that learners need to be able to perform (after training)

If our training goal today is not to help people learn, then what is it?

“Why should we do this? (design more engaging learning)

- What are your ideas?
Objectives

• Identify the different classifications of simulations.

What is the difference between a game and a simulation?
Games and Simulations

- **Games**
  - Any contest *(play)*
  - among adversaries *(players)*
  - operating under constraints *(rules)*
  - for an objective *(to win)*.

Simulations

- Problem-based units of learning set into motion by a task, issue, policy, crisis, or problem
- Subject-matter, settings, or issues are not textbook problems or questions -- answers are not cut-and-dried and determined quickly.
- Participants carry out functions associated with roles and settings in which they find themselves.

Simulations -- Cont.

- Outcomes are not determined by chance or luck. Consequences exist of their actions.
- Participants experience reality of function. They fulfil their roles conscientiously executing all rights, privileges, and responsibilities associated with the role.
First Major Type of Simulation

- Tactical-Decision Simulations
  - Interactions are with a complex problem
  - Participants execute their roles
  - Use their skills in interpreting data
  - Organizing their findings and managing a solution strategy to the problem.

Second Major Type of Simulation

- Social-Process Simulations
  - Participants attempt to function as members of a group
  - Experience the same frustrations and emotional reactions often experienced by others in similar groups
  - As they attempt to achieve social and political goals

The two types of simulations differ

- Basic task for participants
- The focus of participant attention
- The role of problems in the simulation
- Activities essential for participant success
- Primary form of reactions to participant reactions
Three Types of Tactical-Decision Simulations

- Diagnostic Simulations
- Crisis-Management Simulations
- Data-Management Simulations

Diagnostic Simulations

- Participants face a sketchy description of a complex problem
- In executing their roles, participants seek additional data to determine the nature of the problem and implement strategies to resolve the situation

Crisis-Management Simulations

- A scenario is presented that sketches a crisis or disaster
- May run in real time over several days
- Focus in on interpreting data and allocation of resources
- Reality of function is in the threat and in the accelerated time pressures
- With the absence of decisions the situation will get out of hand
Data-Management Simulations

• Allocate economic resources to achieve a particular goal

• An individual or team must balance resources available to accomplish long range goals and objectives.

  Popular in business schools.

Types of Social-Process Simulations

• Social-System Simulations
• Language Skills/Communications Simulations
• Empathy/Insight Simulations

Social-System Simulations

• Engage in the dynamic social and/or political processes that form the fabric of organized social groups

• Multi-agenda
  – Participants in different roles attempt to fulfill different political or social goals

• Single-agenda
  – Members of a group experience a particular process or mechanism in the social system
Language Skills/ Communications Simulation

- Placed in challenging situation that is language-intensive
- Participants stretch their communication and language skills to meet the challenge
- Opportunities provided to practice different skills: interviewing, reporting, note taking, drafting, editing, presenting a case, listening, negotiating . . .

Empathy/ Insight Simulations

- Participants undergo a frustrating or traumatic event and struggle to function in the negative condition
- Constructing post-simulation activities to process the feelings and emotions
- Idea is to work through the negative emotions generated by the exercise and in developing empathy.

Assignment

- Reading Questions:
- A relational model of games and simulations
  - http://www.lions.odu.edu/~dnethert/Courses/oted750/Readings/model1.pdf
- Read Instructional Systems Development (ISD): An Overview on the web site.
  - http://www.lions.odu.edu/~dnethert/Courses/oted400/lisd.pdf
Assignment

- Answer questions listed on web site for Reading Questions:
- A relational model of games and simulations
- Email them to dnethert@odu.edu before the next class.