Objectives

• Explain how simulations are considered in the systems design process of developing instruction.
• Explain the purpose of social system simulations.
• Identify the design considerations of a social system simulation.

The Simulation Design Process

From
Steve Semler
http://www.learningsim.com/content/snews/simdesign.html
Simulations? Three Questions

- Would they be an effective way to enhance traditional classroom-based instruction?
- How could they feasibly portray the complexity of the learning objectives in ways that are engaging and effective for the learners?
- How could they be developed and integrated into the instructional program in such a way as to meet the practical needs of training designers, facilitators, learners, and program sponsors?

A Simulation Design Process

1. Determine the Simulation Goals
2. Set the Scope and Identify Constraints
3. Develop an Overall Scenario
4. Build in the Skill Focus
5. Set the Learning Mix
6. Construct the Simulation in Detail
7. Pilot Test
8. Modify/Improve
9. Implement

Determine the Simulation Goals

What the sim will accomplish for learners

- Generate insight about individual behaviors, habits, preferences, or skills.
- Generate insight about group or team dynamics, strengths, limitations, habits, and relationships to the business or organization’s purpose.
- Increase motivation to learn by presenting organization’s problems in a clear, compelling, and engaging way.
- Develop individual, group, or team skills through practice and engagement with the simulation.
Set the Scope and Identify Constraints

- Helps to control how much data needed and how true to reality the conditions of the simulation will have to be. In general, the more complex the task, the higher the “fidelity,” or match to reality, will have to be.

Set the Scope
Ask yourself these questions:

- What part of reality do you need to model?
- What parts of “real life” will you simplify and leave out as unimportant?
- Will you address very specific skills or broad skill clusters?
- What elements of the work environment do you want to include as conditions of the simulation?
- Will you run the simulation with breaks between “scenes” or as a continuously running event?

Identify the Constraints

- Usually, these include a budget of time, money, expertise, and existing resources.
- They also may include a specific training setting or method (classroom vs. online learning).
- You should also consider learner characteristics as possible constraints — what experience and comfort do learners have with the simulation method.
Develop an Overall Scenario

- Create a basic scenario or story to form the "setting" within which the learners will interact with the material.
- Create a story that explains why the learners have to do what the simulation requires in a way that makes sense to them.
  - Describe a situation that is similar to the learners' own work situation, but different enough that distracting details of reality can be dropped out.

The Scenario

- As with any good story, there must be some element of challenge.
- You can use the concepts of external competition, internal competition, internal conflict, striving for a standard of excellence, or some other issue that must be overcome or achieved in order to "successfully" resolve the basic premise of the scenario.

Build in the Skill Focus

- After you get an idea about the scenario and its challenges, you can begin to build in specific learning tasks and activities that learners have to do to complete the simulation.
- These become the events of the simulated environment and the learning methods.
Set the Learning Mix

- If you are using a long or complex simulation, you may need to add in segments or modules using different learning methods.
  - In preparation for a practical skill simulation, you would probably want to give an overview of the skill to the group, demonstrate the skill, address any safety concerns or procedures, and put the learners into the simulation. Afterward, you may want to do a computer-scored skill or knowledge evaluation.

Set the Learning Mix (Cont.)

- Make up lists of debriefing questions or learning points that you want the simulation trainers or facilitators to address.
- Prepare sufficient support guides for them to be able to guide the learning as it progresses so that they can make sure that the simulation experience meets the original learning goals.

Construct the Simulation in Detail

- Building the simulation is the detailed portion of development.
- Make a list of all the information, resources, tools, support materials, and learning aids that the learners will need within the simulation.
Construct the Simulation in Detail (Cont.)

• Put yourself in the position of the learner.
  – What would you want to know? How would you want to receive information and instructions?
  – What kind of resources and conditions would enhance the realism of the learning, and what would just be distracting?
  – Strive to make the list as complete as possible, then create the materials.

Pilot Test

• Run a pilot test and train the facilitators.

• Complex simulations usually have many pieces, a lot of supporting materials, and many interactions with the learners.
  – Help the facilitators to know the simulation, its boundaries, and how to run it.
  – Give them explicit instructions for any special actions or roles they might play and how to debrief the activity, as necessary.

Modify/Improve

• A pilot test of the simulation is always helpful.
  – See if it works like you envisioned
  – Does it support the learning objective(s)
  – Does it have sufficient details to properly depict the situation but not so many as to detract from the training.
  – Determine what changes need to be made
Implement

• Start the simulation to real learners.

In addition to this simulation design process . . .

• You would include general program design features for the broader learning solution.
  
  Consider:
  – Evaluation
  – Implementation preparation
  – program marketing and communications
  – on-the-job applications and transfer activities
  – other elements of good instructional design.

Let’s Look at Social Sims
Social Simulations

February 16, 2008 OTED 750, Lecture 6, Design Considerations & Social System Sims

Social-Process Simulations

- Exercises that focus on interactions among people and the ways that one’s beliefs, assumptions, goals and actions may be hindered or assisted in interactions with others.
- Included in this group are
  - social-system language skills/communication
  - empathy/insight simulations.

- The foundation of social-system simulations is the complex supporting fabric of relations found in organized groups.
- Human beings have developed multifaceted systems of social life. Depending on the particular community and its culture, one’s actions may lead to any of a variety of consequences, based on the shared [often unstated] understandings that guide daily affairs.
Social-system simulations provide participants the opportunity to discover some of the beliefs and practices that support social life in their own or another culture.

Major characteristics

- Participants in social system simulations face a decision-making event that requires interactions among the participants.
- It is these interactions that propel the simulation.

The primary purpose of social-system simulations is for participants to experience some of the dynamic social and/or political processes that are part of the fabric of organized social groups.

- Participants attempt to fulfill any of a range of social and/or political goals that depend on interaction with others.
• Examples range from organizing others against increased use of nuclear power, reduce whaling, to attempting to become assimilated into a strange culture.

• Strategies that may emerge during a simulation include cooperation, negotiation, persuasion, confrontation and others.

The components of a social-system simulation

• A precipitating event
• Complicating factors
• Participant roles
• Context
• All of these components interact with each other to set in motion the interactions among participants that are the core of the simulation.

• Events and outcomes depend for the most part on the interpersonal dynamics that evolve as the simulation progresses.

• Participants typically experience emotional reactions, from confusion and frustration, sense of pride, disappointment or perhaps even anger.

• Therefore, the post-simulation session must address these emotions and explore the contributing factors, particularly the social interactions that may have caused them.
Major Design Issues

- Two approaches to designing the simulation framework have been used by developers.
  - First, model the social system and then attempt to fit a simulation to the model.
  - The second approach — develop the primary experiences and processes that participants are to undergo during the simulation.

Modeling the Social System

- Implementing this approach requires setting objectives for the simulation and then developing a conceptual model of the system that is to be simulated.
  - A conceptual model of a poor Third World village, for example, might include:
    * a list of villagers illustrating goals, activities and resources
    * a schematic illustrating the ways that farmers allocate their time and capital
    * a schematic of factors that contribute to losses in the farmers' productive time.

A conceptual model of a social system is based on the assumption that the goal is to simulate the system.

- Because they are based on the designer's unexamined common sense preconceptions of the setting events in the simulation will be distorted events of some real-world system.
- Second, recreating all the elements in a social system is an overwhelming task.
- Third, it is likely to result in a complicated exercise for both participants and directors.
Fourth, the result is that the surface characteristics of a system may be replicated, but the essence of the experience of being a member of the system may be lost.

Fifth, modeling the social system sets up some participants to be winners and others to be losers.
  - That is, the losers are such not by lower ability or less effort, but because we deliberately give them unequal resources to win because their real-world counterparts have unequal resources ... we create conditions of failure in some groups and generated feelings of failure in attaining group goals.

Identifying Key Processes

• In simulations one cannot specify in advance the particular thoughts, emotions and attitudes that individuals will experience as a result of participating in the exercise.

• However, designers can identify key processes that participants are to experience. A social-system simulation may involve participants in one or two general situations.

Specifically, the participants may
  - encounter events precipitated by different perspectives on an issue, task or policy
  - undergo a particular social process or mechanism that challenges their particular assumptions or expectations about society.
**Remember**

- A Social-System Simulation is an exercise that focuses on:
  - interactions among people
  - the ways that one’s beliefs, assumptions, goals and actions may be hindered or assisted in interactions with others.

**Assignment**

- **Reading -- Social System Simulations**
  http://www.lions.odu.edu/~dnethert/Courses/oted750/Readings/social.pdf

- Answer the questions posted for the reading above. Email them to me before class next week.

- You should be working on Learning Activity 2

**That is it for today!**