Lecture 10: Gaming and the The Future of Gaming

Winners and Losers:
Setting Games apart from Simulations

An Engaging Simulation . . .
Not a Game
Academic Games and Entertainment

- The primary differences between academic games and games for entertainment only are
  - the application of curriculum-based knowledge and skills
  - the elimination of chance as a basis for winning;
  - and 3) the use of team rather than individual competition.

Games

- Have many of the structures, standards, and techniques built into a simulation today.

Simulations

- In contrast, sims establish hypothetical situations in which participants take a functional role and experience the responsibilities and consequences associated with complex problem-solving related to the role.
**Of Importance**

- In designing credible simulations many believe that gaming characteristics (points, winning and losing) should not inadvertently incorporated into these interactive exercises.
- In other words, playing to win at any cost is an appropriate game behavior, but is inappropriate in a simulation.

**What about those favorite games**

- Typically, large-scale commercial games are created by development teams within a company specializing in computer or console games.
- A typical modern video game can cost from $1,000,000 to over $20,000,000 to develop.
- Development is normally funded by a publisher.
- A contemporary game can take from one to three years to develop.

**However, some believe though . . .**

- That the interest generated by the competition of games is an important characteristic that they bring to the classroom.
- Children, particularly young adolescents, are highly motivated by playing a game to win.
- Studies have shown that embedded learning elements in a game work very well.
The development of a modern, commercially-viable video game involves a wide variety of skill-sets and support staff.

- A typical present-day development team includes:
  - One or more producers to oversee production
  - At least one game designer
  - Artists
  - Programmers
  - Level designers
  - Sound engineers (composers, and for sound effects and voice acting)
  - Testers

The argument against games in education and training...

- In a game, winning is the sole outcome; therefore, risking one's resources and the resources of others in order to win is both logical and legitimate.

- Simulations are activities that involve multifaceted tasks or problems. As a result, both the processes set in motion by the activity and the outcomes are diverse.
Key issues in simulation include
- Acquisition of valid source information about the referent selection of key characteristics and behaviors
- The use of simplifying approximations and assumptions within the simulation
- Fidelity and validity of the simulation outcomes.
- Games however, focus on being engaging.

In simulations . . .
- Participants typically execute a variety of strategies and skills and they experience a range of consequences that are both affective and cognitive.
- Thus, to direct one's efforts toward winning at any cost in a simulation is to seriously distort, disrupt or destroy processes that lead to other anticipated outcomes.
- Such a level of competition such as winning at any cost is unhealthy in a simulation.

Some curriculum areas maintain that learning is the goal
- But the situations in use are those in which winning is the sole outcome that receives recognition.
- Thus, exercises are developed that generate negative behaviors.
- These behaviors do not contribute to greater insight or learning by the participants.
- Examples are the so-called 'business games' in which companies compete to acquire the greatest profits, the sole outcome may be recognition.
Unlike the development of diagnostic simulations found in medical and dental schools, the development of early data-management simulations in business colleges did not come to grips with the essential parameters for ensuring learning.

The developmental effort in many business simulations focused on the mathematical model that establishes the relationships among the selected variables and the surface characteristics of the exercise.

In contrast, the emphasis in diagnostic simulations is on the processes by which correct diagnosis and management of the problem are accomplished. The goal for participants is to be both effective and efficient in their approach to the problem.

Thus, the development of diagnostic simulations for prospective doctors and dentists begins with the construction of a map that indicates the variety of routes through the complex problem.

Development is guided by a profile of the variety of process decisions that are both possible and credible, along with supportive outcomes.

One purpose of simulations is

To motivate the learner to become engaged and to take appropriate action.

However, to rely on competition in order to become a winner as a motivator is to ignore an important classroom characteristic.

Specifically, students want to be successful. They are also more likely to try their best when those efforts will lead to some benefit.

Therefore, any ‘competition’ in tactical decision simulations should be between the participants and a pre-identified optimum model or course of action.
The Payoff . . .

- An opportunity to try their skills in a non-threatening environment
- Receive confirmation of their strengths both during the exercise and in a post-simulation conference
- Obtain feedback and advice on ways to correct their weaknesses in a post-simulation consultation.

Today . . .

- Today, the differentiation between games and simulations is being blurred as education and training simulations are being developed with gaming elements because they are so engaging.
- The winning and losing element of games makes them very engaging to students and so developers have built them in.
- Some, like me, find that troubling because the game detracts from the learning of content.

Next week.

- Simulations are due . . .
- We will NOT have presentations next week. I will post schedules on the web site and give you time to send me your Ppt Slides.
- Check out Learning Activity 5.
  - Note that presentations are limited to 15-20 minutes.