

Games versus Simulations

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Learning games and simulations have some similarities and some important differences. Both can be useful learning tools. What's the difference?

Let's start with a couple of definitions.

- **Game.** *An activity providing entertainment or amusement; a pastime: party games; word games.*
- **Simulation.** *Representation of the operation or features of one process or system through the use of another: computer simulation of an in-flight emergency.*

For the purposes of learning, a game is meant to teach or instruct through fun or entertainment. A simulation is meant to teach or instruct by creating a simplified version of reality with which the learner can interact.

Is this to say that a simulation can't be fun, or that a game can't simulate reality? No! Of course not! However, the two are different instructional methods, and trainers should keep the differences in mind when designing learning solutions.

Games - Best Uses

Games are best used to teach through analogy and to engage the learner more deeply in the process of learning. Often, a game can make a concept easier to understand by embedding the concept into the rules and play of the game. As people play the game, they can grasp the idea of how the concept actually works. When simplified and expressed in a fun, entertaining way, the learner can develop his or her own understanding of the course material.

By focusing the attention of the learner on entertainment and fun, games also distract the learner from the process of learning. When the learning process disappears into the background, the learner's attention is on the immediate activity. This gets the learner emotionally involved in the game. As a result, learning that is embedded within the game makes a stronger impression, and is more likely to be retained and used.

Simulations - Best Uses

Effective simulations do a lot of the things that games do, but in a different way and for different reasons. The purpose of the simulation is to present a simplified version of reality so that learners can interact with it and try out skills in a safe environment. A good simulation will present a situation in a way that captures only enough detail to accurately reflect the relationships between the parts of the simulated system. Just as with a game, a simulation simplifies reality to just the essentials needed for the learning task. Unlike a game, however, the purpose is not to make the situation more fanciful or fun, but to make the situation as close to reality as possible. The reason for this emphasis on accuracy is that the more closely the learning environment resembles the environment in which the task will be performed, the greater the transfer of learning from training to the task environment will be.

Like a game, learners will often become emotionally involved in a simulation. They want to produce good results, especially when the learning process disappears into the background and their attention is

focused on the task. When engaged in a meaningful representation of their own job reality, people make the same affective learning connections they do with games.

Simulations that offer feedback (through facilitation or recording and playback capabilities) can help people gain important insights impossible through other learning methods. Objective feedback helps make the connection between action and result more clear and explicit for the learner. The learner can go back into the simulation to try again, armed with the insight provided by the feedback. By a process of experimentation, application of theoretical concepts to the simulated task environment, and feedback, the learner can make quick progress in skill development.

Limitations of Games and Simulations

Both games and simulations need to be matched carefully to the learning objectives of the course. A game that doesn't consistently stimulate the desired insights in learners is not worth including. Likewise, a simulation that has too much or too little detail, or doesn't capture all of the important elements of the task environment, is not very useful as a learning tool.

Also, it takes time and experienced facilitation to help learners draw the desired insights from a game or simulation. Each learner will draw his or her own conclusions from the experience. Often, learners rely on the facilitator or trainer for explanations and cues about how the activity relates to the topic of the course, or how to apply what they have learned on the job. Even a good game or simulation, well matched to the course content, can seem like a waste of time if not given proper facilitation and debriefing.

Finally, designing a new game or simulation for a specific situation can be expensive in time and money. Simulations, in particular, are expensive because of the research that the designer must invest in identifying what details to include and what to leave out. The more complex the simulation, and the better it represents reality, the more time will have to be devoted to its design.

Games can be much less expensive, because they rely upon a more abstract analogy to make the point. Computer-based games will cost more to produce, however. *(2009 update: Advancements in game design over the last few years have made it very realistic to have strong, instructionally sound computer-based games created in the starting range of \$5,000-\$10,000.)*

Games usually can't give learners actual practice with the skills, however. As a trainer or instructional designer, you have to make the tradeoffs and determine what would best fit the objectives and budget you have available.

Summary

Games and simulations can both be very useful learning tools. Consider how you might use both in your next program!

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