Learning, Animated

Developing training using simulations, games, or virtual worlds may seem overwhelming, but it is a very real part of the learning process.

By Cheryl Johnson

As we move closer to a time when virtual worlds, 3D gaming, and other simulations will inundate the training environment, we need to examine exactly why games are beneficial and why they work as training tools to boost performance and develop critical skills.

Because motivation is critical to any successful learning experience, one of the key questions any good instructional designer should ask before developing a course is, "what's in it for the learner?" If the learner does not have a desire to learn the information, most approaches will fail.

One of the more prevalent ways to motivate a learner is to make learning fun by creating an environment where students become enthralled with the content and engaged in the learning process.

Social learning

In addition to the fun factor, people like to socialize and learn from one another. Games and simulations can provide that opportunity.

To accomplish both motivation and socialization as part of the same training experience, workplace learning and performance professionals should

- give the player an identity she can relate to by allowing her to customize the look and feel of the event and truly make it her own experience
- design challenges and obstacles that engage the learner and offer the tools for success by providing resources to enhance the learner's knowledge and opportunities to

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develop his own path to success, where possible
- let the game "grow" with the learner by systematically challenging her to acquire new skills and information
- create an online world that provides experiences and challenges that are then brought to the table outside the game for discussion and resolution.

If you are on a tight budget or time restrictions, there are some simple design tools that are available in the latest version of Adobe Flash:

- Script your learning from a first-person point of view graphically. The developer does not need to animate the scene, but simply act as though the learner will be in the scene and their eyes are the camera view, so they can scan the environment and feel as if they are walking around.
- Give characters life through lip synching and simple gestures. There is inexpensive software with libraries of characters that speak. You simply type in the text, and the avatar adapts its gestures and lips to match the text. If you can afford to spend a bit more, you can use your own designed characters and simply buy the code to create your own unique look and feel. There are limitations to using this software, but overall it adds a nice touch.
- Avoid using the "next" button. Script your learning in terms of scenes rather than screens. Use transitions such as "fade in" or "fade out" to move from one scene to the next.
- Graphically design your experience so the learner feels as if she is in a real environment where she will be moving from the training back to her job.

Although you may have adapted the game for learning, it still should be fun. You want your students to play the game over and over again to solidify and reinforce new skills.

The design team

Who should your games and simulations development team include, and what competencies are needed to create engaging learning experiences?

A successful development team should be staffed with subject matter experts and with experienced instructional designers who have high-level technical and design skills. A project manager should oversee the entire design and development process. This person must have a thorough knowledge and background in the game development process, not just content authoring tools.

A game designer defines and documents how the game actually functions. This designer conducts background research to make sure the game's assets and elements are consistent with the time period and must know how to develop games that will intrigue and engage the target audience. This position is similar to that of a storyboard developer but requires much more skill in creating complex scenario mapping, and requires research to make sure the elements are consistent with the message being delivered.

This development team should also include a level designer who incorporates the components defined by the game designer into the different levels. An interface designer defines the layout of the environment and the screens in various game-play modes.

Writers must be able to develop a compelling storyline and capture the player's interest for long periods. Graphic artists are important in the process because they create all the assets and design the physical environment. They need 3D graphic development experience because visual appeal is important in maintaining a player's interest.

If dialog and narration are key components, sound technicians are critical to "game" creation because even ambient sounds can add a significant element to make the game more immersive.

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Virtual worlds have been attracting users around the world since the early 1990s. Below are a few platforms that offer the ability to deliver training, collaborate, and meet from wherever you work best. Check out these sites and see what the buzz is all about.

Forterra
Site: www.forterrainc.com
What *they* say: "OLIVE enables learners to access their SCORM or digital training content in a 3D environment, practice their exercises in realistic scenes, and watch role models in action."

Active Worlds
Site: www.activeworlds.com
What *they* say: "Create massive amounts of buzz, sell products, support customers (CRM), perform interactive product demos, and conduct online corporate training and other e-learning initiatives."

Second Life
Site: www.secondlife.com
What *they* say: "Second Life is a 3D virtual world created by its residents... Because residents retain intellectual property rights in their digital creations, they can buy, sell and trade with other residents."

How much does it cost?
See this month's "What Things Cost" on page 88 for a quick guide to pricing virtual world creation.

Online worlds vs. games vs. simulations

Although we tend to use the terms simulations, games, and online worlds interchangeably, there are stark differences between the three. Understanding the differences will help you better communicate with your developer and the design team.

Simulations are primarily driven by one person who interacts with characters (avatars) in different scenarios. Simulations can occur within an online world, but are not an online world. An online world is typically a 3D representation of the real world and a place to host events or learning experiences.

Games can be incorporated into an online world or are usually built from scenarios or simulations. The game itself may not be a simulation or an online world. For example, it may be a modified version of a television game show.

Although Second Life is what most people think of when talking about online worlds, there are many different types of virtual worlds and platforms. There are three types of games that fall under the massively multiplayer (MMOG) umbrella. Massively multiplayer online first-person shooters are first person shooter games such as Halo and are not typically used in education.

Massively multiplayer online role-playing games are online role-play games that allow participants to play the role of a defined character in a virtual world. Everquest and The Planes of Power were two of the first games in the United States to be developed in this environment. Disney's Toontown Online is another example. Massively multiplayer online real-time strategy games allow more than players to interact with each other online.

Second Life is just one example of a metaverse. In these environments, players use an avatar to interact with each other socially in a virtual world that mimics a real place. This environment feeds the need for socialization and learning through interaction with others.

The massively multilearner online learning environment can be any online virtual world environment where learning is the primary objective. Learning can occur in classrooms, webinars, simulations, or role-play exercises. Players, cloaked as avatars, can interact via chat or voice over IP.

Process

Once you have assembled a team, the process becomes just as important as the team. There are four steps you need to follow to develop an engaging game.

In the design process, a prototype will typically be developed to give the reviewers a quick glance at the look and feel of the game as well as any functionality issues that require testing. It is at this stage that you define the game's goals, objectives, and victory and termination conditions, as well as outline scenarios at a high level and determine the rules required to play the game. It is also helpful to identify if the game is going to be action based, role based, a puzzle, or a simulation.

Most corporate games will be developed for use on a computer, but if you are considering any other platform such as the Xbox or Playstation, it is critical to specify that at this point.

Your game environment (or look and feel) will be identified at this stage along with any graphical or auditory elements you want to incorporate.

During the development phase, games are built in levels. It is helpful to build each level separately and test each one thoroughly before connecting them. This is the stage where much of the content is fleshed out and your graphic elements and assets are fully developed. You also refine your scenarios with prototyping and testing. At this level, the complete story will be developed and character types incorporated into the story.

In the testing phase, you should ensure that the needs of your SMEs and target audience are being met. Sometimes fresh eyes and a differing perspective will help make sure you are meeting the outcomes.

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At the evaluation and refinement stage, feedback from testers is either fixed or revised to meet the technical requirements as well as the learning objectives. Although usability should be a key concern from the beginning, and early testing will flesh out some issues, the evaluation and refinement phase is where the real in-depth usability testing is conducted with your target audience.

Developing training using simulations, games, or virtual worlds may seem complex and overwhelming, but it is a very real part of the learning process. The multigenerational workforce is forcing us to find new ways to provide learners a fun and engaging experience. So remember, the first 10 minutes are the most important. First impressions are lasting.

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