Laughing, screaming, frustration and the sense of immersion are behaviors and feelings that occur when you play a video game. In contrast, e-learning modules are often accompanied by feelings of boredom, a vague sense of dread and even a frown or two. But it doesn’t have to be that way. It is possible to design an e-learning experience that is engaging, interesting and that immerses the learner. More importantly, adding elements of engagement will increase retention and recall, and make the learning more effective. This increase in engagement can be accomplished through the addition of game elements to the design of e-learning modules. It might sound a bit far-fetched but it turns out that many of the design techniques and methods employed by game designers to engage and motivate players can be used to successfully engage and motivate learners.

5 Gaming Elements for Effective e-Learning

By Karl M. Kapp

Adding Elements of Engagement Will Increase Retention and Recall, and Make the Learning More Effective

Game Elements for Learning Success

While it is not always feasible or desirable to create a full-fledged game for every e-learning experience, it is possible to add game elements to traditional e-learning modules. Here are five elements traditionally found in the design of video games like Halo, The Sims and Angry Birds that can be applied to e-learning to add engagement and motivation.

Contextualization

Many video games occur in a definable space and time. They are tied to a specific place like a space station, the Wild West or a neighborhood or jungle. They also are typi-
cally linked to a time period such as future or the past. While games can and do jump through time and from location to location, the player always knows where and in what time he or she is functioning. The environment provides the context for the players’ actions, the type of clothes, the type of vehicles available and even the type of weapons that can be found. This allows the player to understand how to react and interact when a new element is introduced into the environment. Often the gameplay is completely intermingled with the environment. If a character is running through a jungle, she encounters obstacles related to the jungle and hears jungle sounds.

In many e-learning modules, the context is divorced from the content. A learner sits in front of the screen and reads a policy or procedure and doesn’t understand where or when he or she is supposed to perform the task. Too often e-learning modules provide no narrative or context to explain to the learner when and where this information is to be used. There is usually no or little reference to the actual work environment.

The remedy is to design the instruction around a specific time and place. Make the learning concrete in the mind of the learner and not simply an abstract presentation of content. When would the learner need to perform this task, how often, under what circumstances? Provide a story or narrative that provides a clear context for applying the learning to a job situation.

For example, drop the learner into the middle of an audit and explain that within 24 hours he or she is required to produce the requested documents. Force the learner to complete the correct document request forms, retrieve filed information and take it to the auditor’s office all within the space of the e-learning module. The goal is to give the learner contextual clues like visual and audio indicators as to when and where the content being learned needs to be applied.

Curiosity

Inevitably, when playing a video game, players become curious. They explore the gamespace to see what happens. “What if I don’t slay the dragon and just run away?” “What if I tax my populous at 50 percent?” “What if I run in a straight line to that building?”

People are naturally driven by curiosity and game developers take advantage of that by creating different levels and places to explore within games. Game developers allow players to do tasks or take actions more than once so they can explore different alternatives. Curiosity is used to motivate players to stay in the game and to engage them with the game environment.

Most e-learning does not use curiosity to drive the learner through the instruction, instead e-learning tends to be based on telling the learner what he or she needs to know in bulleted lists or paragraphs on the screen. Telling a learner what he or she needs to do throughout an entire e-learning module doesn’t motivate action or create a desire to continue through the learning.

Leverage a learner’s natural sense of curiosity by providing a novel or exciting environment. Highlight areas of inconsistency, incompleteness or even inelegance in the learners’ knowledge base. Give the learner an activity in which they want to find the answer, want to learn the correct process and want to solve the problem. Setting up these types of learning experiences tap into the curiosity of the learner and will propel them through the instruction in the same way video game players are propelled through a game. For example, give the learner various choices and then let them replay those choices to see what would happen if they chose an alternative or give them a space to explore and to discover new information and content.

Resources

Check out these books about game design and game-based learning to inform your e-learning development and design:

- The Gamification of Learning and Instruction by Karl M. Kapp
- Rules of Play: Game Design Fundamentals by Katie Salen and Eric Zimmerman
- Chris Crawford on Game Design by Chris Crawford
- Learning by Doing by Clark Aldrich
- What Video Games Have to Teach Us About Learning and Literacy by James Paul Gee

Explore these game-based learning experiences to get an idea of how game design and instruction intermingle:

- Third World Farmer
- The Blood Typing Game
- Atlantis Remixed and Quest Atlantis
- Crash Scene Investigation
Control

In video games, the player controls a great deal. He or she can decide what direction to explore, how many inventory items to gather, where to angle the bird to hit the pig’s house and other decisions. Most of the time, the player can even decide the level of difficulty he or she wants to encounter in the game by choosing a specific game level like Novice or Expert.

In contrast, most e-learning is a linear, one-size-fits-all approach. Every learner goes through the instruction in the same manner and doing the same activities. Often there is one difficulty level and everyone progresses through that level.

To increase engagement and the effectiveness of e-learning, provide learners with a great amount of control over the learning activity. Let them have input into when to initiate or terminate and activity, what direction they want to pursue in the training and even the level of difficulty of the instruction. These subtle but important control issues allow the learner to feel a sense of autonomy, self-direction and motivation.

For example, create three different levels of entry into the instruction. One would be a “Show Me” mode where the learner is shown what he or she needs to do. Another could be a “Guide Me” mode where the e-learning allows the learner to interact with the content but corrects the learner if she or he gets something wrong. The last level could be a “Test Me” mode where the learner is not given any guidance or tips. He or she simply enters into the instruction and is scored at the end with no instruction along the way. These three modes can appeal to different levels of learners.

Cooperation/Socialization

In many games, cooperation and working with others is required for success. Many online games such as the role-play game World of Warcraft require players to work together to accomplish a goal. This is the social aspect of games that many players enjoy and seek out in game play. In online games, the more individuals work together, the more they are able to achieve. This is especially true of online social games like FarmVille.

E-Learning tends to be a solitary endeavor. Rarely are individuals learning together in an online setting. This lack of cooperation or socialization is a huge reason why learners feel isolated and unmotivated. Learning with others can be highly motivational, learning in solitary not nearly as motivational.

Create tasks or learning outcomes that require group work and cooperation. Give different learners different content and have them work together to combine the content to solve a problem. Design opportunities where learners can share their insights and ideas with each other within the context of learning. For example, ask a question during an e-learning module and link it to a discussion board so that learners can converse about the answer or embed a text-chat feature for real-time discussions and reactions to the content.

Engagement/Interactivity

Games are interesting and engaging because they require interactivity from the very beginning of the game playing experience. When a player first enters a game, he or she takes action, moves in a certain direction or makes a choice. Some type of action is required.

A list of instructional objectives is typically the first item encountered in an e-learning module. This is usually followed by an overview of topics and then instruction followed eventually by a multiple choice question. Typically there is no interactivity or engagement with the content until near the end of a module or after content has been introduced. In most e-learning the learner is not making a choice or selecting an option until well into the instruction.

When the learner first enters the e-learning module, have them make a decision — force them to interact. For example, start the training with an action. Tell the learner that one of their co-workers has embezzled money and ask them what they should do first. Give them choices and let them make decisions early in the training.

Karl M. Kapp, Ed.D. is a professor of instructional technology at Bloomsburg University in Bloomsburg, PA and a consultant to many learning organizations. Email Karl.

Takeaways

Use these following game-based elements to enhance your e-learning:

- Provide the context for the application of the learning you are presenting. Give audio and visual cues as to the time and place when the content should be applied.
- Appeal to the learner’s natural sense of curiosity.
- Give the learner control over the learning process.
- Design the instruction so learners can cooperate and interact with each other. Socialize the learning.
- Force the learner to be interactive with the content almost immediately. Have them make a choice as soon as they being the e-learning.