

Cisco Illustrates How Gaming Could Work for Corporate Learning (Mar 07)

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Research indicates the average 21-year-old has played about 10,000 hours of video games. Other studies show adults learn and retain more in courses that incorporate game elements such as competitive scoring, increasingly difficult player levels and fantasy role-playing. With this in mind, Cisco Systems, a worldwide leader in Internet networking, in 2005 introduced its online Learning Game Trilogy: Rockin' Retailer, Network Defenders and SAN Rover.

Learning experts say, if companies make employee-education programs more fun and more like computer games, they will be more engaging and more effective. Cisco agrees — it's online CCNA Prep Center, part of the Cisco certifications group, has helped hundreds of thousands of IT professionals become certified in different technology.

"We have sites to support them, and on those sites, there are practice quizzes, simulations, etc.," said Jerry Bush, Cisco Systems program manager. "We decided to try learning games as an innovative way to help our audience. The CCNA Prep Center tends to have a younger much wider audience, and they respond really well to technology and games and things."

For learning games to gain advocates within the enterprise learning space, developers must work closely with CLOs and instructors to make sure the games are properly integrated into curriculum in a way that encourages greater interaction with the subject matter and keeps students engaged.

"There are three pieces that are really important," Bush explained. "The first one is the educator — somebody who has expertise in learning such as a CLO. Then, we find a subject-matter expert (SME) who really knows the subject we're trying to teach really well, and the third component is a game developer.

"Once you put those three together, you can come up with a successful game."

Bush said it's critical to integrate the game into learning. If CLOs were to develop a game on their own without gaming experience, the game that would result might be educational but that much fun. A game developed by the developer, who likely doesn't have an education background, might be really fun to play, but it also might be missing critical learning elements.

Also, a game should look like a game, Bush said, and there are hundreds of different kinds and themes.

"For example, Rockin' Retailer is a music store," Bush said. "The Binary Game is like an arcade game that looks like 'Tetris.' It's our most successful game — it's been played by over 35,000 people in over 100 countries. We sent out surveys, and the response was the highest rating of all the games we have.

"If you're OK at math, it will teach you binary numbers. You don't have to know binary numbers walking into it. All of these games are in the casual games category, which means they usually just take a few minutes to play."

Online or video games are generally categorized in different types such as casual (games you can play in five to 15 minutes), advergaming (a combination of selling and learning), role-playing and serious (games that are developed for a purpose beyond entertainment).

Many learning games in use or on the market only review what learners know. An ideal learning game, however, should teach new information.

In the development stage of the Binary Game, which he built, Bush observed people playing the game and even took it into a classroom to test its efficacy. First, he gave a pre-test to gauge where learners' knowledge stood. Then, the learners (high school students at one of the Cisco networking academies) played the game a few times and took another test. Scores went way up.

"There was no traditional instruction about how to do binary numbers," Bush explained. "They simply played the game and learned as they played. In about five minutes, you'll work maybe 40 or 50 problems. If I were to hand you a piece of paper with 50 binary problems and say, 'Here's your homework,' you might spend a half an hour or an hour on it — it may not seem like that much fun to you.

"Within five minutes, this game will expose you to the same number of problems, and because they come before you so quickly, you start to recognize patterns and develop strategies because you're trying to beat the game. Those patterns and strategies are actually giving you the ability to think in binary. It's a more efficient way to learn."

Tangible learning measures in the form of increased test score results came at the end of a fun lesson that required no teaching. Further, Bush said students retained the information well.

"All you have to do is develop a game that teaches what you want," Bush said. "I've watched adults play the Binary Game, teenagers, even kids, and they all have similar reactions: They have fun, they find it addictive and a few minutes later, they start to understand binary.

"I approach learning games like any other learning product — whether I'm developing e-learning or a course, you bring the developer into the design. Look for a game developer who's been doing it for a long time. Get the three parties with the expertise together the educator, the SME and the game developer. Decide what your learning or performance goal is. Take time to give the gamer education so they understand the topic better. Identify who your audience is. Consider all of those things and look at the content."

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