

IBM: Learning Through Simulations

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With 3,288 patents in 2002 alone—a total greater than the 12 largest IT companies combined—it's no surprise that IBM Corp. delivers innovative learning solutions backed up by scientific research. Nancy Lewis, director of IBM Management Development and Center for Advanced Learning, leads the management development for IBM's 30,000 managers worldwide. According to Lewis, research shows that adults learn best by solving problems, which is why IBM chose to include simulations as part of its four-tier training model.

"The learning model is a holistic view based on what we have been able to glean from scientific research on how adults learn," said Lewis. "The model breaks up learning into a hierarchy, a set of tiers that are iterative and build on one another."

In the four-tier learning model, the first tier represents information transfer, sharing best concepts, best practices and theories on a particular subject. The second tier tests for understanding and allows for the practice or application of skills and knowledge learned in tier one. The third tier is built upon collaborative learning, including an apprenticeship and mentorship model. And the fourth tier covers higher-level learning proficiencies. Through its four tiers of learning, IBM takes a blended approach and offers a rich and robust learning program for its employees.

Simulations are only part of that program, and IBM's simulations come in at the second tier, which is highly interactive and immersive, according to Lewis. "The way we approach simulation is to meet the objectives of tier two, to give people the ability to test their understanding and competency and to allow them to practice," she said.

According to Lewis, IBM has been designing and using simulations for more than five years. There are two types of simulations used at the company, one called QuickCase and another that is more sophisticated. QuickCase presents learners with a scenario and then lets them know whether their responses were the best or not. "It's succinct and to the point," said Lewis.

IBM's other simulations are more complex. Lewis explained how the coaching simulation might work: "You can imagine that with coaching there's not one right way to do it. It's very iterative based upon the response that you get," she explained. "So with this simulation you are immersed in a very intense situation through the simulation in eight 20-minute coaching scenarios that can branch into different areas based on how the coaching is being done."

IBM's four-tier model applies across all disciplines in the company, from functional training to technical training, but Lewis said that the proven success for IBM has been its management development training. Following a virtual classroom experience that introduces them to the program, new managers go through a number of QuickViews and simulations on various topics. Then, when they meet face-to-face, they have already completed the fundamentals, allowing them to use valuable classroom time to work on

higher-level proficiencies. “When you get them together face-to-face, they know the concepts, they know the best practices—they’ve even practiced it themselves with simulation,” said Lewis.

IBM measures the value of its simulations and Web-based learning in a number of ways. For example, Harvard did a study for IBM, asking learners whether they would prefer using the Web and simulators for their management training or going to the classroom. Prior to taking part in the training, Lewis said, all of the respondents answered that they preferred the classroom. But following the new manager program, students responded differently. “They said after being through this blended four-tier approach, they would never suffer through a traditional face-to-face experience again,” said Lewis.

Ultimately though, learning initiatives and technologies need to be justified. While many organizations use e-learning, Web-based training and simulations to save delivery and travel costs, Lewis said that it is the effectiveness of the learning approach that drives IBM’s use of simulations. “It’s not that IBM doesn’t want to save delivery costs,” she said, “but the only reason why we did this was about learning effectiveness. It was to create a more effective learning approach.”

As evidence of the effectiveness of the approach, Lewis cites the fact that after completing the new manager program, many of the managers go back to the simulations for performance support. “People go to these things to help them in their day-to-day jobs,” she explained. “So they don’t only use the simulator as part of a learning program, but they use the simulator as an object unto itself.”

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