VIRTUAL ENVIRONMENTS AND VIRTUAL WORLDS SAVE TIME, SAVE MONEY, AND GIVE LEARNERS A ‘HANDS-ON’ EXPERIENCE FROM THEIR COMPUTERS.

BY JERRY ROCHE

According to a survey of 550 marketers nationwide by Unisfair, use of virtual environments is growing. No less than 60 percent of respondents plan to increase spending on virtual events and environments this year. Most (42 percent) will be for training purposes.

“Virtual learning has drastically evolved to become less expensive, faster, and as effective as traditional classroom training,” says Jeff Freyermuth, senior research analyst with Gartner, Inc. “Between cutting-edge virtual event platforms and the changing landscape of global training demands, this shift will undeniably continue and make a tremendous difference in the industry.”

Elearning! asked five other experts their opinions on the present and future of learning in the virtual world. The panel consisted of Steve Strickland, CEO of Expos2; Eric Vidal of Unisfair; Randah McKinnie, Adobe Connect’s principal product manager; Caroline Avey, director of innovative learning solutions at ACS, A Xerox Company; and Mark Szelenyi, senior director of Webcasting product management at ON24.

Here are their answers to our virtual learning questions:

1 HOW QUICKLY/THOROUGHLY ARE VIRTUAL LEARNING ENVIRONMENTS BECOMING ACCEPTED IN THE PROFESSIONAL LEARNING COMMUNITY? AND WHY DO YOU FEEL THEIR ACCEPTANCE IS SO SLOW/FAST?

STRICKLAND: In the professional learning environment, they have expanded across perhaps a thousand different enterprise customers, associations and government agencies. There are two contradictory forces at play in our industry’s growth. Propelling the growth is the interest in a comprehensive offering that includes learning aspects but also includes marketing and communication. Impeding the growth is that we now compete with traditional software learning companies that have established sales channels in the field.

VIDAL: We have been noticing a trend over the last two to three years in organizations using virtual environments for employee training, on-boarding and even partner and customer education. The top reasons organizations are turning to virtual learning environments are because they:

- drastically reduce cost per trainee;
- provide easy access to content, subject-matter experts and peers;
- blend formal and informal learning;
- increase productivity by reducing time away from desk; and
- energize audiences through online engagement.

McKINNIE: Acceptance of virtual environments … is being fueled by the increasing requirements of organizations that are tasked with quickly educating audiences that are often dispersed around the globe, and information and content that continuously evolves. Also key to the mix are increased budgetary constraints and the expense of travel incurred by trainers; virtual learning environments can be very cost-effective.

SZELENYI: The acceptance of virtual learning environments has already occurred. ON24 conducted a survey earlier this year. The findings indicate that professional trainers feel that they offer significant benefits, including reduced costs and greater convenience, and are just as effective as traditional training methods:

- 88 percent of respondents said they appreciate virtual training because it
85 percent felt that corporate training is more efficient when conducted virtually;
77 percent agreed that the travel required to attend physical training sessions is cumbersome and a waste of time.

AVEY: Professional learning communities have been slow to adopt virtual learning environments for two main reasons. The first is the willingness to adopt a new technology without really understanding its capabilities and an awareness that it cannot be or do everything right away (an example may be rating and ranking). The second is the fact that too many technologies are rolled out in existing processes and architectures that they cannot (or in some cases will not) support.

Five years ago, organizations became intrigued with the prospect of engaging learners in virtual worlds as a solution to distance learning. While some organizations had some successes, for the most part, they felt that the I.T. issues and poor user experiences made 3-D virtual worlds a poor learning environment. Additionally, cost models were either prohibitive for an enterprise-wide solution or required extensive knowledge to build and maintain environments. Although there have been significant strides in the evolution of these platforms, many organizations have been reluctant to try using these new environments.

**2 WHAT ARE SOME DIFFERENCES IN THE VIRTUAL LEARNING PLATFORMS AVAILABLE?**

VIDAL: Virtual learning environments are starting to shift more toward a ‘self-service’ model through which the customer has more control in managing environments. The platforms are also making it easier to create a real virtual campus in which the customer can have several virtual environments inside their virtual campus to support various initiatives based on job functions and or business units. Some of these platforms also can track and manage learners’ activities across multiple environments. The trend now and in the next couple of years is to make these virtual environment platforms support multiple integrations with other learning and collaboration technologies. Some of these technologies include virtual classrooms, social media, audio, Skype, and LMS’s to name just a few.

McKINNIE: Some platforms are mainly for creating on-demand content; others — such as LMS systems — focus on managing virtual learning program delivery and tracking. Several Web-conferencing solutions can deliver training through live sessions but lack effective tools for content creation or delivering interactive training on demand. A highly effective solution needs to address the entire training workflow, including:

- Content creation tools must enable both experts and novices alike to quickly create content that easily conveys complex ideas through the use of rich media, video and simulations that don’t require additional downloads or codecs.
- Live, on-demand formats and/or recorded live sessions leveraging components such as quizzes, simulations and links must remain interactive for on-demand learners.
- Learners need to be able to engage from both desktops and mobile devices anywhere, anytime.
- Reports and assessments should gauge learner progress.

AVEY: Virtual learning platforms are being offered in many different ways. Some are proprietary and some are ‘open-source’; some require downloading a ‘client app’; some require passing data back and forth; some are in the cloud; and some are inside the firewall (each creating its own set of security, standards and policies requirements). There are the integration challenges: the professional learning community has been very clear in its requirements for a ‘seamless’ experience for the learner. Integration is getting easier, but still requires I.T. involvement.

What the learning function should be looking for is an environment that is configurable, flexible and runs on any device providing the learner with an incredibly intuitive set of services used to solve business problems.

**SZELENYI:** The virtual event platforms provided by SaaS software companies feature an immersive attendee experience with social media integration for greater interaction and, as a result, engagement. Other opportunities for interaction are provided with capabilities such as live Q&A and online chat sessions.

Webcast events offered through the virtual learning environment often feature subject-matter experts. In fact, because of the convenience of virtual training participation, higher-caliber speakers can often be enlisted, enhancing the value of the attendee experience.

Content provided virtually can be easily and frequently updated, and on-demand access makes the content available at the individual’s convenience.

Most important to the professional learning community are the sophisticated registration and reporting capabilities of these cloud-based platforms. Trainers can enroll trainees and then track and analyze their participation and usage.

STRICKLAND: The half dozen or so primary platforms have a great number of similarities. The biggest differences appear in their approach to e-commerce and cost to delivery with base cost of software varying from under $8,000 to $35,000 between vendors. A final difference is how completely the platforms have moved to html5 for their development versus a flash/flex core.

**3 WHAT DO YOU EXPECT NEXT-GENERATION PLATFORMS TO LOOK LIKE AND RUN LIKE?**

McKINNIE: Mobile will simply be another screen choice. Learners will be able to attend virtual classrooms and take on-demand learning from any device, increasing completion rates by enabling knowledge exchange whenever attendees are able or motivated. Platforms will also start to blur the lines between content collabora-

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**‘VLEs are starting to shift more toward a self-service model.’**

—Unisfair’s Eric Vidal
Another Side of Virtual Learning: Haptics

Training developers are increasingly integrating haptics (the sense of touch) into computer-based simulators to create kinesthetic learning experiences — training that lets students go beyond what they see and hear on-screen to use their sense of touch to learn the correct “feeling” of the procedure. Such simulators are in use in medical and dental domains, and are also increasingly found in other industries. They present more compelling, memorable ways to learn, allow unlimited practice at the learner’s pace, reduce supervisory involvement, and offer unbiased, quantified evaluation and documentation of proficiency.

BioDigital Systems, LLC, uses the BioDigital Human Platform to create Web-based and desktop surgical simulators. It has partnered with U.C.S.F. School of Dentistry to create an injection simulator that teaches clinicians how to administer an inferior alveolar nerve (IAN) injection, a common but hard-to-learn injection procedure. This haptically-enabled application uses a Phantom haptic device from Sensable Technologies and uses Sensable’s OpenHaptics software development toolkit to deliver the “real feel” for actual injection. The simulator first teaches basic anatomy through the use of high-fidelity 3-D models of the mouth, teeth and relevant structures, and then provides the opportunity for students to perform touch-enabled exploration of the mouth using the haptic device. The simulator also provides competency testing.

Using the same dental training platform, along with Sensable’s Phantom device and programming toolkit, BioDigital also developed a haptically-enabled Dental Implant Surgical Simulator with Zimmer Dental. This simulator provides a set of virtual dental tools including drills, extensions, try-in pieces, and surgical guides sold by Zimmer and derived from actual CAD models. Trainees then can perform an osteotomy by progressively drilling into bone — feeling the variable densities, using try-in pieces to gauge the accuracy of the osteotomy, and placing an implant with either a ratchet or a hand piece.

Another recent approach to train nurses and help hospitals reduce the incidences of hospital-induced infections is the Tactile VR haptically-enabled training solution from mySmartHealthcare. It provides cognitive and physical training that allows nurses to develop the manual skills required to correctly perform these procedures. By incorporating haptics from Sensable into the simulation, users are able to feel the difference in angles when inserting a catheter, and receive visual feedback such as infiltration when improper angles are utilized — with zero risk or discomfort to patients.

These simulators and others for teaching jet engine maintenance, molecular modeling, factory-based painting of agricultural equipment, and more, show how technology represents a better way when actual practice is risky, costly or impractical.