Wired to Learn: How New Technologies Are Changing L&D Delivery

By: Donna L. Rhode
Program Director
UNC Executive Development

Introduction

Mark Dollins, a partner at the research firm Future Workplace, forecasts that the 2020 workplace will be multigenerational, increasingly global and highly interconnected with social media (Davis, 2012). These trends will profoundly affect learning and development (L&D) professionals, who will be expected to anticipate their organizations' future talent needs, and design and deliver L&D opportunities in ways that will satisfy workers' desire for flexibility and employers' demand for quality and cost effectiveness.

These trends will change how L&D is delivered. Traditional face-to-face delivery of L&D will not disappear, but new technologies like computer-supported collaborative learning, mobile learning and informal learning through social media will be incorporated into organizations' L&D platforms and strategies. L&D professionals should plan now to blend these approaches into their L&D programs. By doing so, they will give their employers a strategic competitive advantage.

Promise

This white paper:

- Explores the growth of electronically-delivered L&D.

- Reviews the motivators that are fueling that growth.

- Reviews and defines some of the terminology emerging in the field, including computer-based collaborative learning, mobile learning, global learning, and the use of social media in learning.

- Introduces technical trends in the e-learning environment that HR and talent managers should monitor for use in their organizations.

- Offers steps L&D professionals can take to introduce these emerging technologies into their organizations.

- Provides several examples of how HR and talent management teams have applied these technologies in their organizations.

The Growth of Electronically-Delivered L&D

L&D budgets are making a comeback after several years of budget slashing. Management research firm Bersin & Associates found that L&D budgets increased 9.5 percent in 2011, and a 2012 International Data Corporation (IDC) survey of chief learning officers found that 48 percent reported higher budgets in 2012 than in 2011. The IDC survey also found that organizations planned to continue investing in learning management systems, but were interested in trying new delivery modalities such as mobile learning and social media tools (Anderson, 2012).

E-learning sales reflect this interest. Research firm Ambient Insight found that revenues for e-learning technology in North America reached $21.9 billion in 2011, with projected revenues to reach $27.2 billion by 2012 (Ellis, 2012). Ambient Insight's CEO, Tyson Greer, however, noted a significant shift in where employers are spending their L&D technology money. "There has been a fundamental change in investment activity over the last three years with funding shifting away from legacy learning technology products to new products such as social media learning and mobile learning," he observed (Ellis, 2012).

Employers are interested in adopting new electronic delivery methods for L&D, but they are doing so cautiously. A recent *State of the Industry* report by the American Society for Training & Development (ASTD) estimated that one-third of all training content is now being delivered electronically. But the interest and the spending are there, indicating the inevitable; L&D delivery is changing and will continue to change to include electronic delivery modalities.

What Is Fueling the Growth of Electronically-Delivered L&D?

There is good reason for the growth of electronically-delivered training and learning. HR and talent management professionals realize that these delivery methods are more dynamic than ever because of the constant evolution in the technology. They are also cost effective, have multi-generational appeal and a global reach.

There are substantial long-term cost savings that organizations can realize when investing in e-learning technology. When Automatic Data Processing (ADP), for example, moved its sales training program online, it saved nearly $1.2 million in travel and accommodation expenses in the first year of the program (Brack, 2010). Cisco also experienced significant cost savings when it redesigned its sales associates training program to be delivered virtually (see call-out). The new program reduced relocation costs, cut overall training costs and reduced the number of staff required to run the program.

Saving money is always desirable in business but not at the expense of quality and effectiveness. Both ADP and Cisco believe "going virtual" for their sales training programs has had excellent results. ADP credits the virtual sales training program for a 12 percent increase in first-year annual sales and a 60-day increase in productivity for new sales trainings. They also credit the program for improving participants' training performance and increasing employee retention (Brack, 2010). Cisco has also increased the speed in which their new sales associates become productive.

Offering employees flexibility through technology in where and when they can participate in L&D programs has a multi-generational appeal. Tech-savvy Millennial employees (who have most likely taken at least one course online during their college careers) expect their employers to offer some L&D experiences electronically. This generation also wants flexibility in their work schedules to better balance work and personal interests. Virtual-learning experiences meet these expectations.

The Millennial generation is not the only age group that craves flexibility and on-demand accessibility in training and development. Other generations struggle to balance work and life interests—and electronic delivery of L&D opportunities meets their needs as well.

Another reason why employers are engaging more in electronically-delivered L&D is because organizations are increasingly global or multinational in reach. A 2012 survey by AMA Enterprise, the Institute for Corporate Productivity and *Training* magazine found that 31 percent of organizations operate globally and 20 percent are multinational (Hastings, 2012). Electronically-delivered L&D can help these organizations address language and cultural barriers, and help establish a common organizational culture.

Making Sense of the Terminology

Electronic L&D delivery methods are developing so rapidly that even the most plugged-in HR and talent management professionals can quickly fall behind the times. L&D professionals know these delivery methods as e-learning, blended learning, computer-based learning, online learning and computer-supported collaborative learning. Emerging technologies like social media learning, mobile learning and personal learning environments are being added to the mix, making it difficult to understand what each of these delivery methods mean, their nuances and applications.

The terms **e-learning, online learning** and **computer-based learning** reflect early versions of electronically-delivered L&D technology. These learning methods allow participants to access content but lack the interactive component found in traditional face-to-face learning and as such, have some limitations. As technology evolved, more interactive technologies were added such as video streaming, (e.g. telepresence) and web conferencing with live chat, polling, discussion boards, whiteboard,

Company Spotlight: Cisco

Kate Day, global director of the Sales Associates Program and the Partner Sales Academy at Cisco, prefers to use the term "high-definition learning" when referring to computer-based collaborative learning initiatives. The term "high-definition learning," Day notes, reflects not only today's rich technological environment but also captures the intensity of the learning experience.

Cisco realized its traditional classroom training for its new sales associates—which required employees to relocate for 12 months on Cisco's tab to one of Cisco's three training hubs—needed to be revamped to create a more contemporary, virtual-training model that would be less labor and resource intensive. The new program, which was launched in just four months and delivered globally, requires 40 percent less staff than the previous model, has slashed relocation costs in half and cut overall training costs by 24 percent. The program has also reduced the time it takes for new sales associates to become productive. And, as Day notes, "our new associates rave about the experience, calling the program rigorous, comprehensive and a 'great roadmap for transitioning successfully from school to a fulfilling career.' They love it."

blogs, wikis, and in-person projects and activities. These additions have created highly interactive learning environments that can closely mimic traditional classroom learning, thereby intensifying a participant's experience. These more interactive learning environments also appeal to all types of learning styles.

Evolving technology inevitably leads to evolving terminology. Many in the L&D field now refer to this richer, more interactive technology as **computer-supported collaborative learning (CSCL)**. CSCL is any environment in which people can learn together with the help of computers (Stahl, Koschmann & Suthers, 2006). Ambient Insights elaborates on Stahl et al.'s definition. Collaboration-based learning is "live, personalized human-to-human collaboration and mentoring. As a knowledge-transfer method, by definition, collaboration requires the real-time interaction between one or more people. Consequently, the use of synchronous collaboration platforms is the defining…characteristic of collaboration-based learning." (Adkins, 2011 April).

Adkins notes that CSCL is growing because it closely approximates traditional classroom learning. CSCL is also showing to have a higher return on investment and is a "primary attraction for commercial training and educational suppliers struggling with physical 'brick-and-mortar' classroom costs" (Adkins, 2011 April). It is also effective. One study of medical students found that CSCL enabled peers to provide "formative" feedback in the form of asynchronous discussions that positively influenced their learning (Koops et al, 2011).

E-learning, then, remains a stand-alone delivery method for learning but has also morphed into CSCL as technological advances allowed for more synchronous and asynchronous interaction among participants. All can be effective ways to deliver L&D programs depending on content and learning objectives, but there is sometimes no substitute for "face time." And so **blended learning** evolved. Blended learning is an amalgamation of e-learning, CSCL and traditional classroom learning. An organization using a blended-learning approach may present basic entry-level skills in an e-learning format and then have participants meet in a classroom setting to learn more higher-order knowledge on the same or related topic. CSCL may then be used for project work, additional discussions, etc.

For a few organizations today (and a growing segment in the near future) blended learning may also include mobile learning and the use of social media for informal learning to enhance global learning. These emerging technologies will be discussed further in the next section.

Trends in the E-Learning Environment

In a January 2012 webcast for *TrainingIndustry.com*, Connie Malamed, a learning and visual design consultant and author of *Visual Language for Designers*, noted that there is more than just the desire for cost-effective, flexible L&D delivery methods that is fueling the rapid development of new learning technologies. She attributes the sheer volume of digital information being produced on a daily basis, the manner in which that information is being formatted and housed, the rise of social networks and social media, and the proliferation of mobile web users as some of the catalysts for the rapid technological developments in the e-learning field.

The Internet has become the go-to place to get instant answers to just about any question a person can think of, and there is no shortage of bloggers adding their input on a daily basis. This can be great when searching for a new way to cook chicken, for example—a quick Google search yields nearly 90 million results—but it can also lead to information overload and misinformation about chickens. And in many cases, the information may be formatted in a way that is incompatible with the user's technology.

These are the same challenges being faced in e-learning and CSCL. L&D professionals are realizing that it is a strategic imperative to make sense and order of the vast amount of information learners can access and to make it available in formats that are retrievable and appropriate. Thus, we see the emergence of mobile learning, social media learning, personal learning environments and global learning technologies (Malamed, 2012).

Mobile Learning

Mobile learning is the delivery of training by means of mobile devices (i.e., cell phones, PDAs, digital audio players, digital cameras, tablets, etc.). The focus of this delivery method is agility—to have information available literally at one's fingertips (Keskin & Metcalf, 2011).

Company Spotlight: Microsoft

Microsoft transferred their existing web courses to a mobile web template and developed an interactive voice response system to allow their sales associates to navigate Microsoft's product information library by voice command. Sales associates can read the materials on their mobile devices or select audio to listen to the information, giving them hands-free access to information while driving.

Source: Keskin & Metcalf, 2011

There were six billion mobile subscriptions worldwide in 2011—the equivalent of 87 percent of the world's population—making mobile learning the next logical progression of electronically-delivered L&D (ASTD, 2012). Mobile learning has its advantages. It is not dependent on having broadband access, making it accessible in remote and underdeveloped areas. Information can be accessed in "just-in-time" bites, a handy feature when accessing reference materials. And, today's mobile devices can now easily handle multimedia applications, which can make for a more interactive mobile learning experience. For example, installation instructions with video demonstrations can be migrated to a mobile application for installation specialists to quickly access while on the road.

Going Mobile? ASTD Recommendations

ASTD offers the following recommendations for organizations considering using mobile learning:

- Re-assess the organization's strategy and identify organizational objectives. Mobile learning is just one L&D delivery option available. It should be considered against the organization's goals and objectives (and technological abilities) to determine effectiveness.

- Partner with internal business units. Once a compelling strategy and supporting arguments for mobile learning have been identified, address potential barriers like budget and security. Partner with the appropriate internal units to speed the process and increase the likelihood of success.

Source: ASTD, 2012.

Mobile learning's potential is just emerging and while most applications to date have focused on information delivery, L&D professionals should keep their minds open as to how it can be applied to executive development. For example, coaching and mentoring programs have always been developed and delivered locally because they emphasize face-to-face communication and interaction. With today's mobile technology and live-streaming capabilities, watch for the emergence of virtual mentoring and coaching to help develop high-potential employees.

HR and talent management professionals may have some reservations about this emerging technology. In a 2012 ASTD survey, *Mobile Learning: Delivering Learning in a Connected World*, survey respondents expressed concern over security of the devices, the cost of developing and supporting mobile learning, and integration into existing learning management systems.

Organizations that have addressed these challenges and incorporated mobile learning delivery into their L&D strategies are optimistic about its potential benefits, however; more than half of the respondents to a 2012 ASTD survey on mobile learning agreed or highly agreed that mobile technology would improve learning in their organizations. ASTD concluded that any perceived barriers and concerns L&D professionals may have regarding mobile learning can—and have—been addressed and that mobile learning has matured to the point where organizations should evolve their thinking from "should we" to "when we."

Social Media and Learning

Informal learning—learning through coaching, collaboration, communities of practice, etc.—can constitute up to 70 percent of workplace learning (Malamed, 2012). The use of social media like LinkedIn, Facebook and Twitter has aided the acquisition of informal learning by expanding its scope beyond the organization; it has taken informal learning to a global level. In the not-too-distant past, a high-potential employee assigned to lead a team project may have turned to her mentor or coach in the organization for guidance and support and may have talked to a peer in another department for help with technical questions. Today, that high-potential employee can reach out to LinkedIn contacts and Facebook friends to seek their expertise and advice. In return, she may also get links posted by "friends of friends" to blogs and wikis on the subject. Thanks to social media, the ability to acquire informal learning is fast, easy and global.

L&D professionals may be unsure how social media can be used to promote formal and informal learning. Social media is already entrenched in many employees' lives, however; most have been on Facebook for years, and the potential it has to aid informal learning in organizations should outweigh concerns. Social media tools make it easy for employees to tap into knowledge from all different levels and areas in an organization and improve information flow, communication and collaboration (Athey, 2012).

Some organizations are embracing social media by incorporating social media tools into their intranets. Sabre, a global technical company that runs much of the world's airline reservations systems, built a social media intranet for their 10,000 employees from the ground up. Known as Sabre Town, the system allows employees to publish their own personal profiles and add photos. Employees can blog, comment and access feeds. Users can also post a question to the entire organization, and the site will send the question to the 15 most relevant employees (based on what they entered

in their profile, blog postings and other Q&As that have been previously posted), making this intranet an excellent informal learning resource.

The adoption rate by employees has been enthusiastic. Sabre reports that 60 percent of questions are answered within an hour; each question receives an average of nine responses; and that the company has already realized more than $150,000 in direct savings through use of the system. More than 90 percent of Sabre employees are active Sabre Town users (Ward, n.d.).

Company Spotlight: Johnson & Johnson

Johnson & Johnson created a virtual-world onboarding system (PRD 3D University) that allows new employees to access new employee training and orientation information from any of the company's locations worldwide and on any kind of mobile device. Employees can launch corporate learning materials and exercises, get help from HR and collaborate with colleagues from around the world.

Source: Keskin & Metcalf, 2011.

Personal Learning Environments

Personal learning environments (PLEs) are the culmination of e-learning, CSCL, mobile learning and informal learning through social media. PLEs allow users to identify and set their own learning goals, manage their learning, and collaborate and communicate with others through the use of a virtual learning space or portal. Unlike standard training portals where all employees see the same thing, PLEs are highly personalized to each learner's needs and interests. As one writer put it, PLEs "are defining a new relationship between training professionals and today's learners." PLEs allow training to be delivered in a variety of ways taking into consideration the modalities (e.g. laptops, mobile devices, video, etc.) preferred by the individual (Harward, 2011).

PLEs are just emerging in the field and are the next logical step in the delivery of L&D opportunities. HR and talent management professionals should keep track of the development of PLEs and their possible application in their organizations.

Global Learning

More than half of all organizations today are either global in reach or multinational, and this trend is expected to continue (Hastings, 2012). For HR and talent management professionals, this means that learning must go global. In fact, a recent ASTD survey on global learning found that half the L&D professionals surveyed said they were already involved in the global learning function or planned on being so in the next three years (ASTD, 2012).

Only 32 percent of respondents, though, thought their global learning initiatives had been successful to a high or very high extent. L&D professionals face challenges with language, language translation and cost when designing and executing global learning programs. They must also consider cultural divides, legal requirements and work practices specific to countries or regions, making a single, "one-size-fits-all" global learning approach difficult to execute. L&D professionals developing global learning initiatives must be sensitive and understanding of these differences when designing and delivering L&D on a global scale and when trying to transfer an understanding of the organization's culture (ASTD, 2012).

Going Global? ASTD Recommendations

ASTD offers the following recommendations for organizations entering the global learning arena:

- Hire local people to help develop L&D programs so they can build relationships within the organization.

- Start training as soon as the organization enters a new region.

- Create a global budget to monitor and control costs.

- Align global learning goals and priorities to the organization's mission.

Source: ASTD, 2012.

ASTD reports that 79 percent of survey respondents use learning-on-demand via the Internet. CSCL, informal learning through social media, mobile learning and PLEs are all gaining traction in the global learning field because they can allow learning program content to be modified depending on region or country, promote cross-cultural communication, and transfer an organization's strategic goals and culture.

How L&D Professionals Can Introduce Learning Technologies in Their Organizations

Malamed offers the following steps to help L&D professionals introduce these emerging technologies into their organizations:

1. Use new technology to solve a real organizational problem.

2. Create a long-term plan to launch an "Enterprise 2.0" learning strategy. Create corresponding policies.

3. Team up with a small group of early adopters and then grow the project slowly.

4. Be a change agent. Create a culture of learning, not just a culture of training.

5. Support learning communities and networks, and help them provide real value.

6. Find ways to organize and give meaning to information.

7. Provide ways for people to quickly access relevant information when they need to.

Technology and its application to organizational learning can be extremely alluring, but HR and talent management professionals should have a long-term plan in hand before diving in. The plan should address an existing L&D challenge (such as moving into a global learning environment) and should be designed to augment existing L&D delivery methods. As with any new initiative, L&D professionals should engage the help of others in their organizations to address technical challenges and to gain support for the initiative.

The chances are high that there are employees in the organization who are regularly engaged in social media and mobile applications; tap into these tech-savvy employees to serve as a beta group first before launching the project organization-wide. L&D professionals should also assess what learning communities and networks are being used informally in their organizations, support them and try to find ways to facilitate their use. L&D professionals should also consider how different delivery methods

(e.g., social media, mobile learning, CSCL) can be used and organized to make sense of the myriad of information available to employees and how employees can quickly and effectively access that information.

Conclusion

Technology is transforming the L&D field, allowing for highly personal and interactive learning experiences to be delivered electronically. HR and talent management professionals should stay well-informed of these advances and consider how they can be used to enhance their organization's learning culture. HR and talent management professionals who can look ahead, anticipate their organization's future learning and development needs, and strategically plan how to deliver those needs using technology will be true business partners, helping to promote their organizations' most important competitive advantage—its people.

About UNC Executive Development

Our approach to program design and delivery draws upon the power of real-world, applicable experiences from our faculty and staff, integrated with the knowledge our client partners share about the challenges they face.

We call this approach The Power of Experience. We combine traditional with experiential and unique learning to ensure that all individuals gain relevant new skills that they can easily implement within their own organizations. Through action learning and business simulation activities, we challenge participants to think, reflect and make decisions differently.

Our Approach: The Partnership

Our team customizes each leadership program through a highly collaborative process that involves our clients, program directors, faculty and program managers. We are dedicated to following-up with our clients and individual participants to ensure that their learning experiences have been meaningful and impactful. This integrated approach consistently drives strong outcomes.

Our Approach: The Results

Our executive education programs are designed with results in mind, and we are focused on successfully meeting our clients' business and academic expectations. Below are a few examples of the results our client partners have achieved:

- Leadership refocused with new strategy and cohesive vision
- Strategic plans created for the global marketplace
- Supply chains streamlined

- Products redefined
- New markets targeted
- Cost-saving measures developed
- Silos leveled
- Teams aligned

Participants leave empowered to bring in new ideas, present different ways to grow business and tackle challenges. The result is stronger individuals leading stronger teams and organizations.

Contact Us

Website: www.execdev.unc.edu | **Phone:** 1.800.862.3932 | **Email:** unc_exec@unc.edu

Sources

Adkins, S. (2011 April). The US collaboration-based learning market: 2010-2015 forecast and analysis. *Ambient Insight*. Retrieved from http://www.ambientinsight.com/resources/documents/ambientinsight-2010-2015-us-collaboration-based-learning-market-executive-overview.pdf.

Adkins, S. (2012 February 8). Investment in learning technology reaches $784.2 million in 2011. *Ambient Insight*. Retrieved from http://www.ambientinsight.com/news/investment-in-learning-technology-reaches-784-million-in-2011.asp.

Adkins, S. (2011 June). The US corporate market for self-paced eLearning products and services: 2010-2015 forecast. *Ambient Insight*. Retrieved from http://www.ambientinsight.com/resources/documents/ambient-insight-2010-2015-us-corporate-elearning-market-executive-overview.pdf.

Anderson, C. (2012 August). CLO Survey: Learning and development budget and spending intentions, 2012-2013. *IDC.com*. Retrieved from http://www.idc.com/getdoc.jsp?containerID=236340.

ASTD (2012). *The Global Workplace*. Alexandria, VA: American Society for Training and Development.

ASTD (2012). *Mobile Learning: Delivering Learning in a Connected World*. Alexandria, VA: American Society for Training and Development.

Athey, J. (2012 March 22). 4 trends in online training and e-learning in 2012. *TrainingIndustry.com*. Retrieved from http://www.trainingindustry.com/learning-technologies/articles/4-trends-in-online-training-elearning-in-2012.aspx.

Davis, N. (2012 October 10). Thought leaders forecast 2020 workplace. *SHRM Online*. Retrieved from http://www.shrm.org/businessleadership/articles/pages/thought-leaders-forecast-2020.aspx.

Fiehl, S. (2012 January). Integrating social media, workplace learning and e-learning for development of soft skills. *Global Focus 06, Special Supplement*.

Greer, T. (n.d.). Ambient Insight reports resilient US eLearning market. Ambient Insight. Retrieved from http://www.ambientinsight.com/news/ambient-insight-2010-2015-us-elearning-market.aspx.

Koops, W., VanderVleuten, C., DeLeng, B., Oei, S., & Snoeckx, L. (2011). Computer-supported collaborative learning in the medical workplace: Student's experience on formative peer feedback of a critical appraisal of a topic paper. *Med Teach*, 33 (6), 318-323.

Harward, D. (2011 December 9). Key trends for 2012: New era of personal learning is transforming the training industry. *TrainingIndustry.com*. Retrieved from http://www.trainingindustry.com/articles/10-trends-for-2012.aspx.

Hastings, R. (2012 August 29). Multilingual skills, cultural understanding rise in importance. *SHRM Online*. Retrieved from http://www.shrm.org/hrdisciplines/diversity/articles/pages/multilingual-skills-cultural-understanding.aspx.

Keskin, N. & Metcalf, D. (2011 April). The current perspectives, theories and practices of mobile learning. *TOJET, 10, 2*.

Malamed, C. (2012 January 17). Learning technologies: Transforming your workforce (Webcast). *TrainingIndustry.com*. Retrieved from http://www.traininindustry.com/webinar/learning-technologies-transforming-your-workforce.aspx.

PRWeb (2012 September 8). The global workplace presents challenges for learning and development. *Yahoo! News*. Retrieved from http://www.yahoo.com/global-workplace-presents-challenges-learning-development-160043367.

Stahl, G., Koschmann, T. & Suthers, D. (2006). Computer-supported collaborative learning: An historical perspective. *Gerrystahl.net*. Retrieved from http://gerrystahl.net/cscl/cscl_English.pdf.

Ward, T. (n.d.) Employee social networking—Sabre Town case study. *Prescient Digital Media*. Retrieved from http://www.prescientdigital.com/articles/intranet-articles/employee-social-networking-case-study/.