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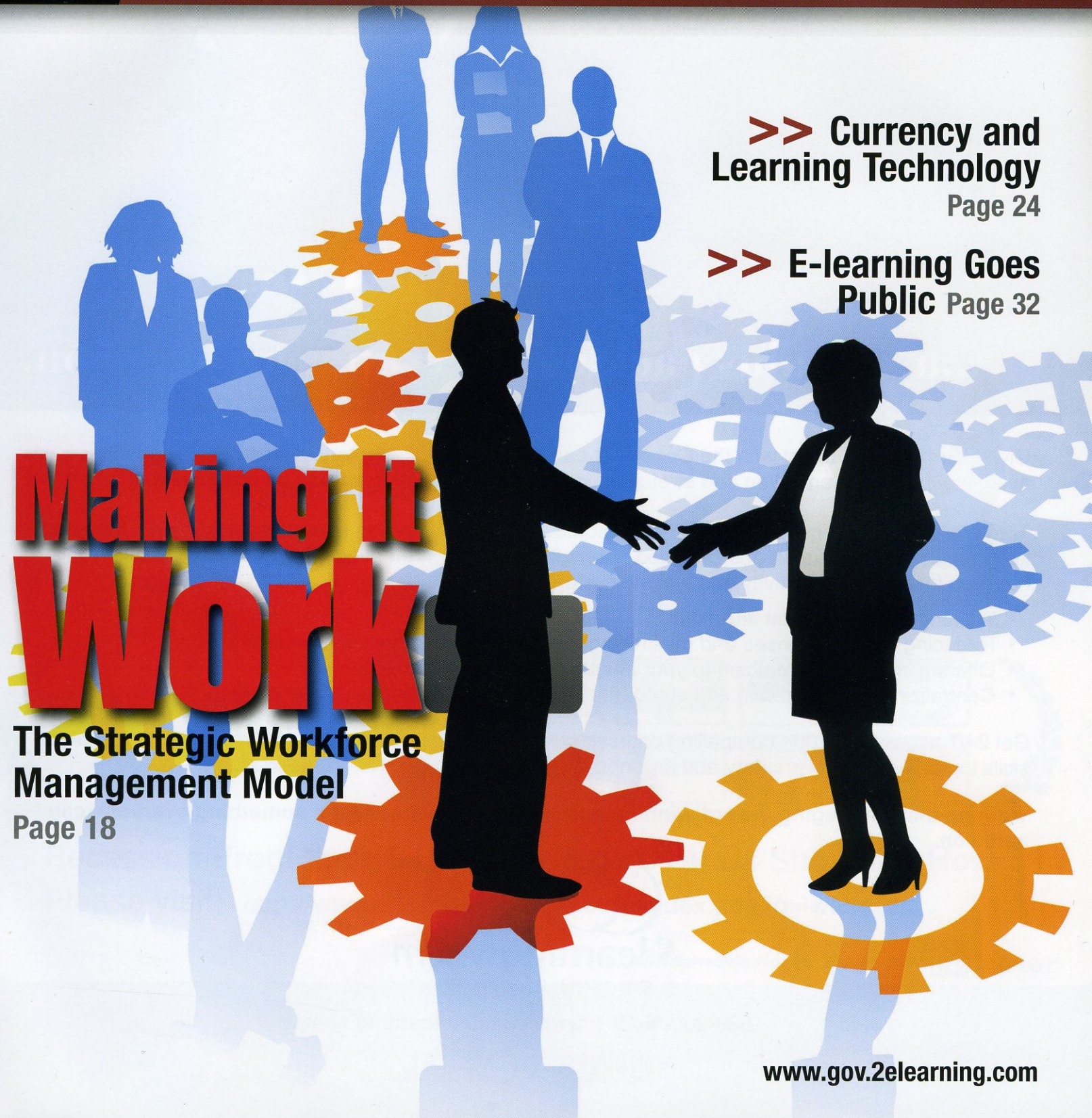

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PART I

Currency and Learning Technology: Keeping Up or Striking Out

THE IMPORTANCE OF CURRENCY IN MAINTAINING TECHNOLOGICAL AWARENESS FOR EFFECTIVE TEACHING AND LEARNING

BY RICHARD CULATTA AND JOHN WILKINSON

Creating training environments that reduce time away from the core business activities while increasing speed to competence should be the holy grail of any effective training department.

While the model of having everyone travel to a central location to sit in a classroom for a week may be "the way we've always done it," it doesn't satisfy either requirement. In addition, any training that is not highly optimized for effectiveness is indefensible in today's world of plummeting training budgets and tough economic times.

Fortunately, delivering effective and efficient learning experiences is not a far-fetched goal. An abundance of innovative learning tools and technologies now offer solutions to many of our current learning challenges. Unfortunately, while the technologies exist to deliver enhanced learning experiences, it is often years before we see them integrated into the learning experience. This delay is commonly tied to a concept known as "conceptual adoption."

Conceptual adoption is a fundamental barrier that trumps all other barriers to adopting new technologies, including funding, IT support, and development time. The idea of conceptual adoption is simple: learning leaders, instructional designers and teachers must understand the potential benefits of a new learning technology *before* they will effectively integrate it into the learning experience. When trainers and instructional designers have a clear understanding of the latest technological advances, organizations can improve the efficiency of the training and increase speed to competence.

The importance, therefore, of staying abreast of the latest advancements in learning technologies is directly connected to the relevance of the training department to the organization as a whole. [J. Hartman, C. Dziuban, J. Brophy-Ellison, "Faculty 2.0," *Educause Review* (2007), Vol. 42, No. 5, pages 62–77]

DELAYED CONCEPTUAL ADOPTION

Long lag time in conceptual adoption of learning technologies for training has traditional and historic roots. Training staff will say; "We barely have time to develop and deliver our training let alone think up new ways to incorporate technology." Top management will say; "We don't want to be early adopters and make lots of expensive mistakes."

Training teams and senior management are not always aware of how new technologies could positively impact the cost and outcomes of the training function.

We should clarify at this point that effective conceptual adoption does not mean implementing every newly-available learning technology that comes along. However, rapidly identifying the *potential benefit* of a new technology certainly is a determining factor of successful learning.

The case for early evaluation of technology becomes clear when we see it as the means to early improvement of performance and early reduction of overall training costs. Those who have experienced these benefits know that to achieve them, the actual cost of training may have to rise *temporarily* as technologies are implemented. The training function should be held accountable for measuring and reporting the outcomes in the same manner as an investment in the core operations would be held accountable (recognizing that these outcomes should be presented in more than just changes to the organization's "bottom line").

A CASE STUDY

What are the consequences to being unaware of new technologies or being slow to evaluate them for use? Note an example below from the hypothetical General Services Organization. Ponder this illustration of the potential consequences of lagging behind technological innovations and the real costs involved that may be seen in an organization challenged by long lag times in conceptual adoption of learning technologies.

General Services Organization has built its reputation on providing the highest level of industry competence when it sends its consultants to solve client problems. Traditionally, training the organization's consulting team was accomplished by delivering periodic two-day seminars at headquarters on the latest services accompanied by a book of case studies for the consultants to read.

In a period of economic turmoil precipitating some serious belt tightening, a member of the training department recommended employing mobile audio devices (such as iPods) that had been on the market for about six years and were already used by most General Services employees for entertainment. The training department used the devices to deliver the service updates to the consultants that were previously delivered in the two-day seminar. General Services management approved the conversion of the seminar into a series on "lessons learned" delivered via RSS feed to the consultant's iPods. By switching to the new program, the benefits to the company were immediate and measurable:

>> *Increased consulting time.* Training could now occur at times that were previously unproductive (like driving to meet with a client and working out at the gym) instead of taking time away from their normal consultation assignments.

>> *Reduced cost.* While there was some initial cost in developing the podcasts, this was more than offset by the fact that no travel/lodging expenses needed to be paid for the consultants to attend the course.

>> *Increased completion rate.* Employees who had not typically taken the time to read the assigned case studies found that listening to the iPods was more convenient and therefore the completion rate of the course went up.

>> *Freed resources for other classes.* Advanced training programs could be delivered because the training staff and classrooms once dedicated to the two-day update seminar were now available.

General Services implemented a simple learning technology (mobile audio devices) that became commonly available about six years ago. Thus, in the gap between when the technology became available and when the member of the training department became conscious of its potential for learning, the organization paid for 2000 consultants to travel to attend the training, lost 8,000 days of consultation time while they were away, and provided sub-standard consulting services as the content in the two-day seminar could not be easily updated once the consultants had returned to their jobs.

While this example is purposely oversimplified, it illustrates the point that there are real costs (both in dollars and employee competence) incurred by not staying caught-up with current technologies that enable learning. Although this is a concept that has been accepted by IT professionals, it is still not widely recognized by the learning field. [David Garrett, "Keeping Up With Technology: How You Can Manage It Without Drowning," *Processor*, June 18, 2004, Vol. 26, Issue 25, page 20]

Fig. 1 - Conceptual Adoption Litmus Test

Learning Technology Tools	When Tech. Became Available	When Team Understood How to Use	Currency Gap Equals (Col. 3 minus Col. 2)
Yammer (microblogging)	2008		
iPhone (portable Internet device)	2007		
Facebook (social networking tool)	2006		
Ning (social networking platform)	2005		
Google Docs (colllaborative writing)	2005		
Second Life (3-D immersive environment)	2004		
Bloglines (RSS aggregator)	2003		
Skype (video collaboration)	2003		
Delicious (social bookmaking)	2003		
MediaWiki (Wiki software)	2002		
iPod (portable media player)	2001		
Moodle (course management system)	1998		

EVALUATE TECHNOLOGY CURRENCY

To get a sense of how your organization fares in terms of conceptual adoption of learning technologies, use the exercise in Fig. 1 to identify when the members of your training department were first able to effectively explain how the tools listed could be used *for learning* (Column 3).

Note that your team doesn't have to have actually implemented the technologies, just be able to explain the pedagogical advantages to each. Then subtract that number from the year that the technology became available (Column 2) and enter the result in Column 4. This will give you a number representative of the average length of your organization's conceptual adoption lag for learning technologies. While the calculation is more anecdote than statistic, it will provide a relative measure of the distance the organization must travel to become

current. An average of three or more in Column 4 would be construed seriously out of touch with the very tools that will produce improved outcomes for training.

BARRIERS TO CURRENCY

Before looking at some simple strategies for staying current with learning technologies (in the next issue), we must first address the obstacles that stand in the way of reducing the lag time in conceptual adoption. While every case is different, the following obstacles tend to be impeding factors in most organizations.

1 Technology Illiteracy Keeping current with the uses of technology is challenging when members of a learning organization have not incorporated a basic technology vocabulary. The basic vocabulary is critical to understanding the latest news and information about learning technologies. Simply providing definitions is not an effective way to improve literacy. Terminology must be incorporated into meaningful, appropriate contexts and discussions to enhance its retention. [Isabel L. Beck, Margaret G. McKeown, Linda Kucan, "Bringing Words to Life: Robust Vocabulary Instruction," Guilford Press, 2004]

The following online resources can be helpful for building technology literacy among members of the organization:

- >> www.InnovativeLearning.com/instructional_technology – explanations of technologies used for learning
- >> www.wikipedia.org – a good source for more technical explanations
- >> Learning 2.0 Tip of the Week – a good overview of teaching tools from the Otter Group; available free through iTunes store

3 Limited Time Keeping up with learning technologies can be perceived as a time-consuming activity. Clearly, there are a limited number of hours that a given instructor or instructional designer has available. However, it need not take more than 30 to 60 minutes per week to stay current with learning technologies. Thus, the need to keep abreast of technological advancements becomes an issue of setting priorities. Each learning organization must decide whether keeping caught-up is a high enough priority to warrant investment of a small percentage of instructor or designer time per week.

Determining which technologies are most important to follow, which forums and blogs are most useful and which trade shows and conferences are most relevant can help make the 30 to 60 minutes per week the most beneficial.

4 Premature Judgment Predicting the future of learning technologies is inherently difficult. As Roy Amara, former president of the Institute for the Future is widely cited for stating: "We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run."

This statement, which has become known as Amara's Law, reminds us to be careful when judging the potential of a learning technology. When instructors first look at virtual immersive learning environments (such as SecondLife), they may notice that the user interface is confusing or that it feels a lot like a game.

There are real costs (both in dollars and employee competence) incurred by not staying current with learning technologies.

Since both of these observations are accurate, it could be easy to dismiss the potential of virtual immersive environments for learning. However, if virtual environments continue to improve, it is very possible that they could become our primary interface for accessing online content (think 3D web browser) in the not-too-distant future. Thus, it is even important to continue to keep on top of technologies that may appear irrelevant at the moment as they could hold great potential down the road.

The danger of premature judgment also applies to technologies that appear overly simple. RSS (Really Simple Syndication), for example, is about as simple as technologies come. If an instructor dismissed the importance of this technology because of how simple it appears, they could miss the powerful impact that it can have by transferring static learning content into a customized and continually updated learning experience.

Recognizing the barriers to keeping our thinking caught up is an essential step to reducing the conceptual adoption lag. Training organizations that are able to effectively address these barriers are able to deliver more effective learning solutions and therefore increase their relevance as part of the organization they serve.

NEXT ISSUE: Three practical strategies that can be implemented to help reduce the lag between the availability of learning technologies and an understanding of their value in a learning context.

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