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## **Technical Evaluation Report**

### **44. Breaking Down the LMS Walls**

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#### **Abstract**

The traditional packaging of electronic learning — the learning management system (LMS) — is progressively being regarded as a hindrance to effective online learning. Its design, functionality, complexity, price, and value are being questioned. A new generation of Web-based tools and approaches is evolving that are better suited to meet the need for dynamic online learning content, interaction, collaboration, and networking. Whereas traditional LMS approaches traditionally tend to relegate students to the role of passive recipients of information, these new tools and collaborative approaches allow learners to take proactive control of their own learning. This paper will discuss how the LMS has affected the design and delivery of e-learning, and the emerging technologies that are better suited to current learning and performance needs.

*"All in all it was just a brick in the wall. All in all it was all just bricks in the wall."*

(Pink Floyd, November 30, 1979)

The Internet is independent of device (hardware or platform), distance, and time, and is well-suited for open, flexible, and distributed learning. Yet traditional online, distributed learning methods are anything but flexible, open, or dynamic. What went wrong? Parkin (2004a, b) believes that we failed to appreciate that the Internet is a vehicle for connecting people with each other. We implemented LMS methods that imposed bureaucratic control, diminished learner empowerment, and delivered static information. "In a world hurtling toward distributed internetworking, e-learning was still based on a library-like central-repository concept." Parkin suggests it is time to explore the true promise of e-learning, and to rework our ideas about how learning should be designed, delivered, and received. It is time to stop letting the LMS vendors tell us how to design learning. It is time to stop the tail from wagging the dog.

#### **How the Tail Came to Wag the Dog**

The notion that the LMS tail has started to "wag the dog" has recently been advanced by Parkin (2004a, b). The LMS has proved attractive in the management sector or educational and training institutions because it allowed for the packaging of courses that could be sold and resold, and for the efficient transfer of information and the tracking and assessment of that transfer. Relay of information does not necessarily lead to the formation of knowledge, however. The LMS gave us a predefined learning environment based upon the classroom paradigm. Instead of exploring how to expand the effective usage of Web-based technology, we accepted the pre-packaged, boxed environment. It was comfortable and easy to adopt. As teachers, we used the LMS to collect and

re-broadcast information, when we should have been reveling in the freedom offered by the Internet, and facilitating the sharing of experience and the creation of learning. We liked the way in which the LMS allowed us to retain control over the learning process. We touted the opportunity of the Web to personalize instruction, yet we neglected to tailor the learning experience to the needs, abilities, and goals of individual learners (e.g., too expensive, too time consuming, unprofitable). We allowed commercial software developers to tell us how learning should occur. We allowed content and technology to dictate the process of learning. We failed to leverage technology in order to fulfill the needs of our students. We went with the flow.

Similar effects were observed in the automation of the industrial workplace, as recommended by Taylor (1911). His workplace efficiency principles were strongly criticised by those who felt that they destroyed flexibility in the workplace, increased management control over the workers, and prevented individual workers from developing their own efficient approaches. In the design of proprietary e-learning systems, development and delivery has been shaped by the one-size-fits-all solutions of standardized LMS packages. But LMS approaches do not merely shape learning; they can actually impede it: if instructors design learning to accommodate the functionality of the LMS rather than the needs of the student, they may be replicating features of face-to-face instruction that function less effectively in the online environment.

In many situations, the proprietary nature of the LMS combined with a lack of interoperability, has worked directly against advances in learning design. New tools and functionality could not easily be integrated into the learning experience. Faced with the open vista of the Internet, LMS users have chosen to remain within the vendor's predefined, limited environment. LMS providers are now modifying their systems, adding functionality, and simplifying integration with third party software; but this is simply making the box larger, more complex, and less user-friendly. As the previous report (Report #43) in this series has indicated, online students repeatedly state their preference for simpler, 'stand-alone' online tools, and regard the more complex, integrated software packages as "bloatware" that provides more features than they actually need (Baggaley, 2005; Hotrum, Ludwig and Baggaley, 2005).

Added functionality and integration also means added cost to the customer. *WebCT*, one of the leading LMS products, is currently being redefined as an "enterprise-wide" learning management solution: the *WebCT VistaAcademic Enterprise* edition. At one US university, this new identity involves annual licensing and running charges calculated as rising, in the first year of *Vista* operation, from \$40,000 to over half a million USD, depending on the volume of the system's usage (NMSU, 2003). As Report #41 in the series has shown, other costs include conversion of existing courses, additional proprietary third party software, licensing agreements, and increased hardware requirements (Morningstar, Schubert and Thibeault, 2004). Not surprisingly, many educational institutions are currently looking at open-source (OS) LMS systems – cost-free, functional, and supported by a worldwide community of users. Even the best OS LMS packages still present navigational challenges and limited functionality, however (Hotrum et al., 2005).

It is feasible that high drop-out rates currently being observed in online training situations are due, in part at least, to the nature of the LMS methods typically used. James Madison University, on behalf of the Masie Center, surveyed 375 users of online learning, and discovered the attrition rate for online courses was approximately 26 percent (O'Connor, Sceiford, Wang, Foucard-Szocki, and Griffin, 2003). This was much greater than the attrition rate for classroom learning (3 percent) reported by the same group of respondents. The figures can be disputed, as can be the actual reason(s) for dropping out. Of interest in the current context, however, are the top three factors reported as influencing drop-out rates:

- Lack of motivation (36 percent)
- Instructional design-related factors and learning style mismatch (36 percent)

- Ability to learn what one needs to know, and to complete the job by the end of the course (25 percent)

It can be argued that that all of these factors could be ameliorated if the institutions involved moved away from usage of the LMS as the central component of e-learning. Advances in new Internet technologies are too great for us to ignore, blinkered by the LMS domination, and the educational stakes are too high. Technology should be used to engage the learner actively in problem-solving and the construction of meaning, and should act as an intellectual partner with the learner (Salomon, Perkins, and Globerson, 1991). Allowing increased learner control, accessing social software, and building informal learning networks could retain people as active e-learning participants. Keeping people occupied on a continuous journey of learning, using multiple Web-based resources and tools, should be the goal.

## The Holistic Learning Environment

Ultimately the LMS is the wrong place to start e-learning. By using it as the critical component of an online educational experience, instructors and learners alike give control over the learning process to the LMS. The typical LMS is designed as a learning management tool, rather than as a learning environment creation tool. If students are to be engaged and motivated, both students and their teachers need to be free to explore new tools and learning opportunities to interact and network with multiple learning resources. The LMS can be used as one tool in a greater *holistic learning environment* that give the end-users the flexibility and the control required to move along various paths according to learning needs and styles (Siemens, 2004). A variety of tools is required. Individually selected for their functionality, these should be forever changing as precise needs evolve. To remain fixed on a specific tool would be to allow the technology and the vendor to take control of the process. The types of tools that should be used in greater measure include:

- Social tools to allow for self-expression (e.g., blogs, wikis, syndication protocols, etc.)
- Digital repositories of personal artifacts (e-portfolios)
- Tools for content interaction and collaboration (shared workspaces, collaborative tools)
- Tools for connecting with instructors/ mentors/other learners (discussion forums, peer-to-peer social tools, virtual communities)
- Tools for searching and ranking educational resources (search engines, semantic content filters)
- Tools that engage and facilitate higher-order learning (databases, spreadsheets, simulations, expert systems, and virtual worlds)

The instructor would truly be a "guide on the side," creating a context for learning, identifying suggested content, assisting in the development of personal learning intentions, and guiding students through a constructive engagement with the tools available. Learners would be free to explore, exchange and express themselves within this holistic learning environment or network, relying in part at least on peers to help them accomplish tasks and to learn. To many the idea of giving such liberty and responsibility to students would lead to chaos; but order can emerge from a network of disorganized and disparate sources (Downes, 2004). Networks are dynamic and growing. Common interest finds common interest, and a galaxy of knowledge bases is being created. As Siemens states (2004), "It is far easier to stay a life-long learner when plugged into a community or learning network, rather than having previous learning confined to a content-locked

LMS.”

## Conclusion

The use of all-purpose learning management systems in distance education has had adverse effects similar to those unintentionally created by Taylor’s workplace efficiency theory (1911). The industrial methods that Taylor recommended resulted in a diminution of worker autonomy and an increase in management control. The development and implementation of learning management systems in distance education has proved to be similar in intent and effect. Students have lost control of their learning process and activities, while the LMS vendors/ administrators (and by implication instructors) have increased their control over a fixed style of learning that fails to evolve. Distance educators now have an opportunity to usher in a second revolution in e-learning. This time, they need to rescue e-learning from the confines of the LMS. It is time to take control of the technology, and use it to its full educational potential.

The next report in the series will discuss LMS approaches in terms of the “productivity paradox.”

**N.B.** Owing to the speed with which Web addresses are changed, the online references cited in this report may be outdated. They are available, together with updates to the current report, at the Athabasca University software evaluation site: <http://cde.athabascau.ca/softeval/>. Italicized product names in this report can be assumed to be registered industrial or trademarks.

*JPB. Series Editor, Technical Evaluation Reports*

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