A Post-LMS World

Department Editor’s Note: As the editor of the New Horizons department for 2012, I will be inviting authors to explore and discern emerging trends from a standpoint that straddles the visionary and the practical, enhancing our understanding so that we can shape our present-day decisions to build more effectively for the future. As the year progresses, we will explore trends in teaching and learning, assessment, and the enterprise. There is no better place to start than by looking at the future of the LMS, which has been dramatically successful in becoming our core learning technology even as it simultaneously shows symptoms of impending obsolescence. At EDUCAUSE 2011 in Philadelphia, Gardner Campbell suggested that we change our moniker for—and thus our conception of—this technology from learning management system to understanding augmentation network. Similar sentiments are being expressed by others. What forces are at work? What opportunities should we seize? —Ethan Benatan

The learning management system (LMS), which facilitates the rapidly expanding e-learning/blended-learning industry, has been one of the fastest-growing technology-adoption phenomena in the 400-year history of higher education. As with industry, education is still in the process of developing a true understanding of how best to maximize the capabilities of the LMS to teach and train efficiently. But a solid fifteen years of experience with institutionalized learning management platforms have provided us a fair degree of insight into the real challenges and potential of effectively executed online instruction. And what we see is a unique opportunity for the kind of true innovation that can transform higher education.

The exponential growth of open source, a new age of interoperable systems, and the increasing demand for e-learning solutions have converged to make the time right for a new kind of LMS. According to Babson Survey Research Group, 65 percent of all reporting higher education institutions said that online learning was a critical part of their long-term strategy, and over 6.1 million students took at least one online course during the fall 2010 term—an increase of 560,000 students over the previous year. With such significant organic growth, it is no surprise that administration, faculty, and students are calling for deep changes, including more flexibility and personalization in the next iteration of the LMS. In fact, this intersection of need and demand suggests the viability of a post-LMS world.

A post-LMS world does not suggest that the LMS is obsolete but, rather, that the practice of evaluating learning outcomes through a traditional LMS as the sole means for knowledge acquisition is obsolete. The original design of the LMS was transactional and largely administrative in nature, hence the “M” in “LMS.” The function of the traditional LMS is to simplify how learning is scheduled, deployed, and tracked as a means to organize curricula and manage learning materials.

LMS 3.0: From Supply to Demand Design

In an LMS 3.0 world, driving more effective, pervasive, and consistent academic achievement will be accomplished by transforming LMS platforms into learning solutions ecosystems. In this new LMS environment, a faculty member is a learning architect (the future) as opposed to a learning manager (the present). The LMS 3.0 world will adapt to the art of teaching as opposed to faculty having to adapt to a particular technology. Content used for enrichment as well as remediation can be subscribed and syndicated to student learning profiles in ways we cannot accomplish today. In the new LMS world, institutions will be able to shape the component architecture to the individual needs of the program, course, or learner. The new LMS world will flip the traditional equation, transforming the LMS from a vendor supply-side orientation to a user demand-side focus.

Essential Components of a Demand-Side LMS

LMS 3.0 design contemplates a single, vertically integrated technology stack that is modular, interoperable, and open. Institutions, programs, faculty, and students can create configurations for a particular course of study. New web service, database, and content-provisioning technologies are used to facilitate course creation, content management and access, and social environments in a process that stitches together learning communities. LMS 3.0 design focuses on four essential applications: learning grids; e-learning intelligence; content clouds; and open architecture.

Learning Grids. At its core, education is essentially a process of communication. In LMS 1.0 design, e-learning environments...
relegated toolsets such as e-mail, listservs, and discussion boards to a sequestered background of on-premise learning. By contrast, LMS 3.0 social applications allow for the creation of effective “learning grids”: organized communities in specific subject and learning objective groups that encourage creation, sharing, and interdependencies. As networked collections of connected learners, learning grids imitate how learning networks happen in the physical world and are supported by the capabilities of Web 2.0 and web service applications. Effective LMS 3.0 learning grids create and inspire greater user independence and self-governance to facilitate effective content-creation capacities and new crowd-sourced intellectual property through the personalization of a vast array of information sources. LMS 3.0, properly designed, creates reliable content that facilitates learning through organized interaction and communications processes that include the widest-possible spectrum of points of view. Learning grid design allows participants to engage in learning outside of the classroom, combining personal knowledge with public knowledge. LMS 3.0 social networking design allows learning grids to become social tools as persistent, collective, longitudinal resources, not just as an incidental exchange of ideas or one-off events in time. Social interactions within learning grids are activities when they happen and valuable resources thereafter.

**E-Learning Intelligence.** Once used as a convenient means to collect and post relevant course content, the LMS has become perhaps the most significant multivariate data repository, capturing not only course and student assessment data but also aggregate student gestures within the online learning ecosystem. Software, by design, is a superior platform for “listening” to participant behavior. LMS 3.0 design transforms static data reporting into a learning transaction system, transitioning from a management system to a source for real-time data about academic activity, student behavior, and engagement. LMS 3.0 information architecture plays an increasingly important role as the gravitational pull for core strategies in assessment, engagement, retention, and outcomes. Data represents grains of sand that provide the building material for students to excel. Tracking learning events is crucial, but ultimately faculty are interested in the kind of learning that yields positive behavioral changes reflected in outcomes and a mastery level leading to a seamless transition to the workforce.

**Content Clouds.** Historically, LMS 1.0 designs have limited content management, creation, and sharing capabilities, and third-party content management tools have not proven to be effective in engaging learners. LMS 3.0 design expands functionality to include open, flexible digital repositories with components that add context through outcomes measurement, social curation, reporting, analytics, and extensive sharing capabilities. Outside the traditional LMS course-creation function, these advanced digital repositories allow broad-based content authoring, reuse, distribution, and integration, dramatically changing the nature of building curriculum for instructors. Content clouds allow educators to search, create, modify, and share standards-based “playlists” designed to target specific skill achievement in a wide variety of contexts and disciplines. In the LMS 3.0 world, cloud-based centralized learning repositories become the organizing principle for third-party and crowd-sourced created content. The creation and deployment of content clouds will result in a more targeted and effective use of curricular resources, rich and timely feedback on students’ progress for both students and faculty, and a platform for continuous improvement of content and student learning experiences.

**Open Architecture.** Proprietary systems maintaining a closed approach do not offer an effective means to connect with people, content, sharing, and social interaction. Higher education is increasingly embracing a more open future, and next-generation LMS design needs to commit to an open ideology. LMS 3.0 is built on a foundation of openness. In a world where “open” is a term that of late has been used with wide creative license, LMS open architecture is built with and broadly supports widely usable interoperability protocols and standards, open-source applications, open identification, and open digital rights. “Open” here means what the word itself implies: open interaction, sharing, and connection. Open, as in open source, means there is a body of open intellectual property, be it a technology platform, source code, or global access to open content, which can be leveraged within an established community of contributors. Moving from LMS 1.0 environments that do not offer long-standing, established community contributor models—from the perspective of both source code and open content—to a truly open environment will be a critical success benchmark for the post-LMS era.

**LMS Guidepost for the Future**

The future of LMS design in public education will in part be defined by how we trade off the administration and knowledge-creation capabilities of e-learning. LMS 3.0 design cannot sacrifice one ideal for the other. Effective e-learning design, as a lowest common denominator, will embrace nimble, interoperable, modular infrastructure in ways that make learning contemporary, relevant, and engaging. In this time of rapid change, how next-generation e-learning technologies will evolve remains to be seen. However, recent innovations in distributed learning point to emerging technologies supporting deeper engagement in the open world as a significant guidepost for the future.

**Note**


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