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LMS 2.0: How to Select an Advanced Learning System

Web-based teaching tools promote communication and collaboration for enhanced e-learning

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Institutes of higher education rely upon Learning Management Systems (LMSs) to support quality education delivery in face-to-face, online and hybrid classroom environments. The core components of this essential academic computing software enable faculty to design and manage course content, as well as assess and track student progress.

The growth in Web-enabled collaboration and communication technologies has produced the next generation of LMSs – LMS 2.0 – to replace old-school commercial applications and become the new standard for e-learning. When seamlessly integrated with campus portals, LMS 2.0 provides one-stop course management and communication for the entire campus community. This innovative approach to learning management promotes the achievement of educational goals through enhanced student-faculty engagement, interaction, communication and collaboration.

INTRODUCTION

Migrating to a new learning management system (LMS) has been likened to breaking into faculty classrooms, throwing their course materials into a moving van, and dumping them in a heap at the new location – leaving the faculty to sort and reorganize their course content long after IT support has driven off.[1] This painful process can be averted by assessing faculty needs and expectations, and selecting a solution that supports seamless content migration and intuitive course management. That may be easier said than done.

The $350 million market for LMSs is populated by more than 140 vendors whose mission is to support best practices in the preferred pedagogical approach of colleges and universities.[2] The proliferation of academic computing solutions has cluttered the market with applications that are bloated with extraneous features. Too often, institutions are lured into the trap of deploying an LMS that is the current favorite, only to realize that these applications are too unwieldy and burdensome to use.

In fact, nearly 24 percent of schools with LMS deployments experience buyers' remorse and would change systems if they could, according to a 2007 study by Bershin and Associates.[3] Common purchasing mistakes include failing to define system requirements, focusing on price rather than value, overlooking interoperability and scalability, and selecting customization instead of configuration.[4] In addition, vendor lock-in so constrains many institutions that they believe they can't switch to a new vendor without substantial real or perceived costs.[5]

At a price tag upwards of $35 per user to purchase and nearly twice that to implement and maintain,[6] an LMS is too big an investment to make without careful consideration of *how* it will help faculty achieve the institution's educational goals and objectives. This paper presents a brief overview of the evolving LMS market and introduces criteria for selecting an advanced LMS that will be readily adopted by faculty and students alike.

RAPID EVOLUTION

A Learning Management System (LMS, a.k.a., course management system or CMS) is a Web-based software system that assists in planning, implementing and assessing the learning process, which can take place independent of place and time.[7] Evolving in direct response to the

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demand for online education delivery that arose in the early 1990s, LMSs were first deployed at the department level to enable individual instructors to distribute course content online. They later gained campus-wide acceptance as online education became mission critical to colleges and universities. By the late 1990s, when administrators realized they could reach a global market for online education, LMSs had evolved to support the design of face-to-face, online and hybrid courses.[8]

At the same time, the pedagogy of online education evolved from the early mindset that took face-to-face courses and replicated them online, to an approach that recognizes e-learners require course materials in myriad formats (text, audio, video), depending on their learning styles. The LMS had to allow students to choose the formats that met their needs and expectations. As Drexel University Director of Academic Technology Innovation John Morris noted in a review of LMSs, "With these capabilities built into the LMS, there is no reason to leave any online student behind. Students can use the technologies of choice to link themselves to learning."[9]

University-wide LMS deployment called for IT implementation and support. System standardization and integration was complicated by the proliferation of features, third-party add-ons, and standalone applications that filled the gaps in functionality. New tools such as instant messaging, point-to-point file sharing, and multimedia players built student expectations for a more interactive and engaging e-learning experience. Forward-looking faculty recognized that these tools could enhance online education.

By the early 2000s, nearly 90 percent of U.S. colleges and universities were using an LMS/CMS, according to a national survey of academic department chairpersons.[10] The study found that faculty adopted the technology because it "provides a means to address pedagogical challenges. Whether the challenge stated is the need to teach students at a distance to tap into emerging markets or the need to do a more efficient job providing for the needs of students in large classroom settings, the CMS is viewed as a means to solve the problem."[11]

Emerging Challenges

Forced to update and deploy new LMSs to keep pace with these evolving technologies, system administrators are struggling with how to synch and secure student data. Integrating student information systems with registration, learning management, communication and other systems requires expensive software or custom programming. Campuses that do not have the resources to integrate their systems have to load and maintain data manually – a time consuming, error-prone and impractical solution.

During the transition from old to new systems, faculty are often required to use multiple applications to design and manage their courses and communicate with students. While one LMS is intended for online-only classes, another may be used for face-to-face and hybrid classes. E-mail communication tools are accessible through the campus portal, while group collaboration tools are only available through third-party software. Instead of spending time teaching, faculty are trying to learn multiple applications, each with its own login username and password.

"Faculty are spending much more time than they should learning new tools, platforms and methods, instead of spending that time actually interacting with students," says Systems Analyst Lisa G. Battista, Ocean County College.[12]

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Donald H. Taylor, chairman, Learning Technologies Conference 2008

After expending the effort to develop and deliver online learning content, instructors eventually abandon nearly one third of the courses previously available in the LMS – citing system instability as the primary reason.[13] According to one department chairperson, "The [CMS] is cumbersome and takes entirely too much faculty time to maintain. The [CMS] frequently goes down, which angers students, frustrates faculty, and generally puts a pall on the whole thing."[14]

Meanwhile, a small but vocal minority of faculty on the leading edge of technology are clamoring for the latest tools, such as social networking, blogging and Web 2.0 widgets.[15] While others struggle to learn the current LMS, this faction agitates for new features to be supported. "As the systems evolve, they get more complex, and they need more IT support and database resources," says Drexel University's John Morris. "Then they get even more complex user interfaces and features."[16]

Although faculty ask for more "bells and whistles," the systems ultimately become too unwieldy to use and maintain. The authors of one study examining the long-term impact of LMSs on faculty concluded: "[C]olleges and universities [are] being taken to the 'cleaners' by adopting the CMS 'du jour' at increasing expense ... all the while driving up the cost of instruction and, ultimately, the cost of education."[17]

SOLUTIONS PROLIFERATE

As older versions of LMS software sunset, academic institutions are now evaluating the alternatives for updating their systems without repeating the costly cycle of system upgrade, deployment, frustration and abandonment. Despite recent market consolidation, the options have continued to proliferate. The academic computing market is forecast to hit $419 million by 2010, according to Eduventures, growing about 5 percent per year in large part due to the growth in collaboration and communication technologies for Web-enabled education delivery.[18]

The current crop of learning management and content creation tools includes hosted solutions delivered as software as a service (SaaS), commercial software applications installed on site, collaborative open-source solutions, and social networking platforms with LMS components.

Hosted applications such as CourseCruiser offer the advantages of requiring minimal on-site support, as well as delivering new add-ons and modules on demand, in direct response to user requests. In addition, SaaS comes at a predictable monthly cost.[19]

Installed applications such as Angel Learning Management Suite, Blackboard/WebCT and Desire2Learn come with complex licensing and maintenance agreements, and require extensive on-site IT support. Direct costs can be significant, including support contracts and the hardware necessary to operate the system in-house.[20]

Perhaps enticed by the open source movement's promise of "free" software, a small number of colleges and universities have established applications such as Moodle and Sakai as the campus standard.[21] However, open source vendors rely on third-party developers to create the features and functionality users demand. Enhancements rollout only after a protracted acceptance and certification process by the development community. The system software must be installed, configured and supported on campus – at considerable cost.[22]

Free social networking tools such as blogs and wikis are also being used by some faculty to administer courses online, but in the process they are sacrificing the security of the closed campus-computing environment. In addition, by hosting course content on a third-party site free

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of charge, they are giving up ownership of their content and risking its loss in the event of system failure.[23]

Each option has its pros and cons, but an advanced LMS must meet these basic functional requirements:[24]

SKILL ASSESSMENT: Assessing student competencies, and developing and executing learning plans to fill the gaps.

CONTENT ACCESS: Delivering course content using multiple media and methods (instructor-led, self-paced or hybrid).

ENROLLMENT AND TRACKING: Tracking and reporting on student classroom attendance, as well as interaction with course materials.

LEARNING EVALUATION: Developing assessment tools (surveys and tests) to evaluate the effectiveness of the learning plan.

COMMUNICATIONS: Communicating class information between and among course participants.

CONTENT DEVELOPMENT: Authoring, maintaining, storing and distributing course content and "learning objects."

Many LMS applications offer multiple ways to perform each function, providing a confusing array of options. In the end, faculty do not want all the "bells and whistles" that come with bloated software applications. "Most instructors want one good way of doing something, not many ways. It's too confusing, and it's confusing for support personnel," says Drexel's Morris. "Unfortunately, many tools and features have become check-off items for those evaluating LMS without regard to whether those tools are really useful."[25]

EVALUATION CRITERIA

Evaluating an LMS means understanding how faculty teach and how students learn, and selecting the right toolset for each. According to Donald H. Taylor, chairman of the Learning Technologies Conference 2008, "It's easy to be distracted by the bells and whistles of learning technology. The 'how' is about putting those technologies to work effectively. This means more than just deploying them well. It also means understanding how people learn: what motivates them, and how their minds work."[26]

For an LMS to gain wide acceptance and rapid adoption among faculty, it must be easy to use and intuitive to navigate. Faculty need a single control center where they can manage all their courses at once. This control center should have built-in help features that provide pedagogical coaching based on teaching/learning standards. In addition, the vendor must provide institutional support through online training, tutorials and in-person product training.

Successful implementation hinges on these core capabilities:

→ Migrate existing course content from old to new LMS

→ Import/export multi-media course content, including publisher packs

→ Develop content once and deliver it in multiple courses simultaneously

→ Track student activity online and in classrooms to see who's doing what when

→ Assess individual and group progress against course goals and objectives

→ Collaborate online one-to-one, as a group or in a sub-group

To engage the millennial generation, faculty need access to Web 2.0 tools that promote

interaction, content sharing, social networking, individual and group publishing (wikis and blogs), and portfolio management. Next-generation learners expect the synchronous and asynchronous education made possible by Web 2.0. "Learning will be a mash-up whose core is established by the instructor and whose additional components are established by the learner," Morris says.[27]

According to EduGeek Journal, an online community promoting educational technology, the LMS should incorporate Web 2.0 capabilities rather than requiring students to use these tools on various external albeit free Websites.[28] A Web 2.0-enabled LMS enhances online instruction by protecting student privacy while enabling students to think critically and blog their experiences, work collaboratively with other students, socialize with students outside of class and continue learning after the last class.[29]

Administrators require an outcome assessment toolset that enables faculty to report on how their students are doing relative to other students in other sections. In addition, aggregate reporting should allow the college to track the services students receive and the outcomes they achieve – data that is essential for maintaining accreditation. The LMS must enable administrators to correlate course content, student engagement and academic success, empowering the institution to benchmark progress toward educational goals and objectives.

From the IT department's perspective, security, interoperability and scalability are critical. According to the Campus Computing Project, IT security is the "single most important IT issue" confronting academic institutions over the three-year period from 2007-2010.[30] When the enterprise student information system and LMS are integrated and data is in synch, personally identifying data is automatically authenticated, secured and backed up. The privacy of confidential information such as student profiles, attendance records and grades is secure.

If there are gaps in functional requirements, then customization and extension through add-ons become necessary – options that should only be considered by institutions willing to apply additional resources to meet these needs.[31] The final selection ultimately depends on which LMS provides the "best perceived competitive advantage" in education delivery within organizational budget constraints.[32]

CourseCruiser Advantage

Timecruiser Computing Corporation delivers the core LMS capabilities and more in CourseCruiser, a Web-based, faculty-focused Learning Management System. CourseCruiser integrates seamlessly with an existing campus portal, allowing single-sign-on access and full data integration with student information systems. Because CourseCruiser is an SaaS module that plugs in to the popular CampusCruiser portal, the interface is familiar to portal users and easy to use for classroom-level and campus-wide communications.

Faculty who have used other LMSs prefer CourseCruiser for performing these essential functions:[33]

→ Keeping real-time attendance records
→ racking student progress and interaction with course content
→ Setting up highly configurable course content, including SCORM-format courses
→ Designing courses from scratch using the content creation wizard
→ Supporting learning teams/groups within courses

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The Faculty Workstation is the CourseCruiser control center, providing a one-stop shop where instructors select just the tools they want to use. Repetitive tasks can be completed one time for multiple sections of the same course. Content created for one course can be distributed to other courses, as well as be shared with other faculty members. "This all leads to tremendous time savings for the faculty, leaving more time to teach students," says OCC's Battista. "Less time is spent on mechanics."

Each user's interface is a personalized learning content delivery system that channels information according to roles – student, faculty or administrator – and provides dashboard tools to achieve educational goals. "CourseCruiser is the epitome of a controlled mash-up," says Drexel's Morris. "Learning will be a mash-up whose core is established by the instructor and whose additional components are established by the learner." [34]

Administrators note superior administrative tools for authentication and access management, including the ability to assign roles and permissions by individual tool in the tool set. Moreover, because CourseCruiser is delivered as an on-demand SaaS, there is no software to download, no upgrades to install, and minimal on-site IT support required. Based on feedback from users, Timecruiser develops new functionality and delivers updates on-the-fly. "They have quickly and agilely taken requests from their institutions and integrated those features into CourseCruiser," Morris says. "They roll out the improvements to everyone at the same time."[35]

All clients ultimately benefit from Timecruiser's exceptional customer support. "In seven years working with them, their support has been excellent," says Marlene Stillitano, Instructor in Office Technology/Web Design at Westmoreland County Community College. "Any time I called with a problem, I got help within a half hour. They support their clients."[36]

Timecruiser's Web 2.0-based CourseCruiser is the first true LMS 2.0, providing interactive communication and collaboration tools to enhance e-learning at colleges and universities.

Tour CourseCruiser

For a personal tour of Timecruiser Computing Corporation's CourseCruiser, contact our Sales Department at sales@timecruiser.com, or call 973.244.7856 option 1.

About Timecruiser Computing Corporation

Timecruiser partners with higher education institutions, providing enterprise software services that improve campus-wide communication, nurture communities and increase e-learning efficiencies.

Since 1995, colleges have relied upon Timecruiser to deliver innovative solutions, backed by unrivaled customer service and technical support. Timecruiser's products are now used by more than 2.5 million faculty, students and administrators.

Timecruiser has received multiple patents for the innovative web-based technology that is integral to our award-winning CampusCruiser®, an on-demand solution for campus-wide communication, community development and learning management. Patents are also pending on the Faculty Workstation, the central access point for the CourseCruiser™ learning management toolset.

As an education technology partner, Timecruiser provides essential technologies that lead institutions into the new frontier of institutional branded online solutions.

LMS 2.0 Implementation and Support

Successful transition to a new learning management system – no matter how easy to use – requires reliable help-desk support for both faculty and students. Market-leading vendors provide these support services:

- Technical support for migrating content from old to new system

- Training and help-desk support for students and faculty, who learn new system while maintaining normal schedule and duties

- Data storage, security and backup across integrated systems

- Pedagogical support for converting courses from face-to-face to online

Of course, an intuitive user interface ensures that help is always one-click away.

Endnotes

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