IS THERE A FUTURE FOR LEARNING MANAGEMENT SYSTEMS?

THE ISSUE

There have been some major changes in the world of LMSs in the last year or so, and at the same time a whole new range of web 2.0 tools are now available that are being used more and more by instructors. There are some common questions floating around:

• How are LMSs changing?

• Should institutions be getting out of LMSs?

• If institutions continue to use LMSs, how do these new web tools relate to LMSs? Can these new tools be incorporated within LMSs?

• What are the implications for teaching and learning of these developments?

• What are the institutional implications?

Note that the focus was not on which are the best LMSs and how do you choose, because many institutions now have established processes for doing this. The focus instead was on the bigger question: what will be the role, if any, for LMSs in the future?

THE STUDY

The study was based largely on a review of different methods of online teaching, a review of established and emerging LMSs, interviews with vendors, and an analysis of 25 case studies of innovation in teaching and learning from 25 Ontario institutions, supplemented by interviews with staff at the University of British Columbia in Vancouver. A full report (80 pages) and an executive briefing (30 pages) are available for free downloading.

THE FINDINGS

1. Learning management systems are here to stay

There are three reasons for this conclusion: instructional, administrative and technical.

Most instructors and students welcome an organizing framework for their teaching and learning, and also students and instructors want privacy within a teaching environment. For most instructors, LMSs provide sufficient flexibility to accommodate a range of teaching styles, and new developments in open source and cloud computing are providing even greater flexibility.

Perhaps the main reason though is that LMSs provide institutions with features that are becoming increasingly important at a time when greater accountability and transparency are being demanded of institutions. Institutions need to be sure that student information and teaching 'transactions' are secure. They need to be able to integrate the online teaching environment with the institution's administrative systems. Because LMSs provide a digital 'footprint', they provide evidence for quality assurance and for adjudicating student grade appeals. The recent introduction of learning analytic software provides opportunities for identifying factors associated with success and failure of students, enables earlyinterventions,

and enables students, faculty and administrators to evaluate the teaching and learning across an institution. However, this is dependent on institutions asking the 'right' questions and collecting data in such a way that it protects privacy and respects students' and instructors' rights.

The third reason is that LMSs do not preclude the use of other web 2.0 technologies that technically sit outside the LMS. We will discuss this in more detail below.

2. The use of web 2.0 technologies are increasing in teaching and learning, but they complement rather than replace LMSs

There is a minor explosion in the use of new web 2.0 technologies in Ontario and Canadian universities and colleges. Examples of innovative uses of instructor-designed web sites, blogs, wikis, WordPress, e-portfolios, web conferencing, mobile learning, simulations, virtual worlds, online communities of practice, downloadable 'open' multimedia resources, and massive open online courses (MOOCs) were all found in the relatively small number of institutions included in the study.

All these technologies actually sit outside an LMS. There were a few cases where the LMS had been abandoned altogether, but these were rare. Much more common was the linking of these web 2.0 tools to work within an LMS, through one-click access. In some cases, such as an e-portfolio function, these were physically integrated as part of an LMS 'suite' of tools, but in most cases, there is a lag between instructor's use of a new web 2.0 tool, and their incorporation by vendors. Even when some web 2.0 tools are 'inside' an LMS, some instructors prefer to use them independently of the LMS, so that there is, for example, more openness to the public in the web 2.0 application.

3. Focusing on the teaching when deciding on the technology is key

Although there is a good deal of flexibility in the use of an LMS, web 2.0 tools have important implications for teaching and learning. They are low cost, accessible and highly adaptable. In particular, they give the end-user (in the case of education, the student) the power to access, create, edit and manage digital materials, such as text, graphics, audio and video. This means that web 2.0 tools can be used for learner-generated components of the teaching and learning experience. In particular, they facilitate the development of the kinds of skills required in the 21st century, such as knowledge management, independent learning, creative thinking, and digital literacy.

However, this means rethinking the way we teach. The LMS is an instructor- and institutionally-con trolled tool. It tends to support best a traditional approach to teaching based on the control, management and transmission of information by the instructor to the student.

Web 2.0 tools on the other hand give more control to the learner. The extent to which the instructor needs to create and control the learning, and the extent to which students should create and manage information, is a pedagogical decision, so providing instructors with both the controlled environment of the LMS and the more open environment of web 2.0 tools provides more flexibility and choice for instructors.

4. Volatility in technology is the name of the game

At the same time that the range of web 2.0 tools for teaching and learning is increasing on a daily basis, the LMS market is also rapidly changing. In particular, two developments, open source computing and cloud computing, are resulting in a stream of new entrants to the market with different business models and value propositions. Examples are Canvas by Instucture, Pearson's OpenClass (formerly Learning Solutions), LoudCloud, Schoology, anditslearning.

What distinguishes these new entrants from the more established systems is that they are free or very low cost, lightweight, and easily customized. In essence they are often an assembly of already existing open source tools. Thus each instructor would pick just those elements that they feel they need, such as an assessment tool or mobile application. In essence, these newer LMSs enable instructors to by-pass the institutional infrastructure and manage the LMS environment themselves.

The challenge for institutions then is how to manage a technology environment that is under rapid change, with less and less control from the centre.

5. Think virtual or personalized learning environments rather than LMSs

We need to move away from thinking of an LMS as a complete 'course in a box', but rather as one tool in a more complex digital or virtual learning environment, where LMSs exist alongside and are integrated with a wider range of technologies. These learning environments will be customized or personalized according to the needs of both instructors and students.

Thus we need to think of technology as a range of tools which will be used in different combinations for different tasks. Both instructors and students will have a certain amount of freedom to work within such a virtual learning environment. Students will be able to customize their screens to meet their personal learning needs; different instructors will have a different look and feel to their virtual learning environments.Nevertheless, some instructors will still prefer the comfort of a heavily structured learning environment and will be more than happy to exist 'within the box' of an LMS.

Lastly, we believe that eventually, all institutions will move increasingly towards a hybrid learning model, consisting of both campus-based and online instruction. In such an environment, it will be helpful, both for instructors and students, to have a virtual learning environment that will help them manage their teaching and learning, whether on-campus or online. However, these learning environments will vary depending on the individual needs of instructors and students.

6. We need to be able and open to adapt to change

One dean we talked to complained bitterly at the continual cost of LMS upgrades, the push for the use of new technologies such as social media, and the pressure on faculty to constantly keep up with technological change. His comment was: 'We don't need more innovation; we need stability in our teaching.' Professor Ben Levin of OISE has pointed out that it is important to get the balance right between sustainability and innovation; innovation should bring gradual, well-tested improvements. Change for the sake of change is disruptive and ineffective.

Nevertheless, given the inexorable development of new technologies and their growing importance within our lives, it is not really possible to isolate the institution from the changes going on all around it. Technology and teaching will continue to bounce off one another over time. Technology feeds and amplifies this trend toward change. We are not arguing that these changes are necessarily good (or bad) but institutions, instructors and students do need strategies to prepare themselves for a continuously and rapidly changing environment for teaching and learning.

7. Plan for innovation

An LMS requires heavy support from an institutional IT department in terms of its installation, development, maintenance and security. This means putting in place institutional policies and procedures (and earmarked funding for the IT department). Many institutions have eventually standardized on one LMS that will be fully supported by the institution.

However, this is not usually the case for the use of web 2.0 technologies. It is very easy for an instructor to set up their own blog and use it for teaching purposes. No special funding or even permission is required. The server holding the content usually sits outside the institution, somewhere in the cloud. There is no single web 2.0 technology, but many different kinds. Furthermore, as we have seen, they lead to different kinds of teaching to that found within an LMS.

Nevertheless, the use of web 2.0 tools over time does have implications for the central IT department. Instructors run into technical difficulties and start to seek help from the IT department. This though is not built into their workload or project management, so is seen as unauthorized work.

Underlying these tensions is the need for a strategic approach to teaching and learning with technology within the institution. If the institution is looking for stability and the maintenance of the status quo in teaching, then the standardization on a single LMS and the discouragement of the use of other technologies makes sense. If, on the other hand, the institution as a whole wishes to be seen as innovative or leading edge in its use of technology for teaching, it will encourage and support the use of technologies outside the LMS.

If innovation in teaching though is the aim, then the institution needs to ensure that its current policies and procedures to protect privacy and security of student information are sufficient in this new environment. It should also have some set strategies to evaluate successful innovations and to encourage a wider use of such successful innovations beyond the initial application. And it will need to ensure the IT support staff has the skills (such as competency in open source software), the mandate, and the resources to support innovation.

8. Previously closed learning environments are becoming more open

In the past, post-secondary institutions have traditionally been closed organizations. Access to learning was strictly controlled through the requirement to meet standards of entry set by the institution (not to mention the payment of tuition fees). Both faculty and students appreciated the privacy of a closed learning environment. Academics felt free to express views or opinions that might otherwise bring external criticism or even prosecution; students needed the privacy to make mistakes, say things they may later regret, and to be criticized without it becoming public. Access was protected by passwords, and the online transactions between student and teacher were protected through secure servers and institutional privacy and security policies.

However, in the last few years, there has been a growing movement, even within the most select of universities, to begin making public more of the teaching and learning, partly for ideological reasons (to share knowledge, especially if it is digitally created with public money), and partly for pedagogical reasons, such as to widen the input to learning and to bring in a wider range of learning resources.

Today, openness or closure in learning is not either/or. There is a continuum of openness. Thus blogs and wikis can be public (perhaps a better term is openly published), but they cannot be altered without authorization or access to a password. Universities in particular wish to ensure quality control over the content published under their name. However, despite password protection, blogs and wikis are in general less secure and more open to hacking than an LMS on a secure server controlled by the institution's IT department (and in the latter case the responsibility for security is also clearer).

What we are seeing then is the use of web 2.0 tools to open up the teaching and learning process a little, but still within a relatively controlled and secure environment. This means that one factor driving the use of web 2.0 tools is the desire to open up learning but still retaining some degree of control and risk management.

9. Increase and improve faculty development, training and support

Choice is good, but criteria for making good decisions are also important. It is clear that choice of technology is better made when instructors have strong frameworks based on how they want to teach and the learning outcomes they wish to achieve. We heard several times from technology support staff that instructors were inadequately trained to use LMSs and were often unaware of features that they were seeking that were actually within the LMS. The wider the choice grows, the more important faculty development and training will become. This training should combine both pedagogy and technology awareness and skill levels.

However, training is expensive, and mandatory training does not sit easily with academic freedom. Also, faculty cannot be expert in all new emerging technologies or be aware of all new approaches to teaching and learning. Thus, providing ongoing support through learning technology support units will continue to be important. In particular, these units should have some technical staff with knowledge of open source coding, to facilitate adaptation and accommodation of new technologies as they emerge.

10. Governance: make sure decisions on learning technologies are being made by the right people at the right time

Governance of learning technologies is a big issue (see Bates and Sangra, 2011, for a more in-depth discussion), but developments in LMSs and new web 2.0 technologies bring governance issues to the fore. Too often this is framed in terms of centralization and decentralization. Decisions need to be made at various places and levels within the institution.

Institutions will need to think about whether the model of making a decision about an LMS over a two year period then signing a license deal for at least five years is the right way to go, given the rapid changes in technology. This will still be a valid policy if an institution is happy with its current teaching model and sees no reason to change.

Institutions though that see a need to change the overall teaching model to make it more interactive, more learner-focused and more flexible in accommodating changes in both teaching methods and new technologies will need to rethink how decisions are made. For instance:

- Does it matter if instructors make their own choices about technologies if there are no financial implications for the institution?

- Or would it be better to support one main LMS, but allow nstructors to use other technologies if they wish, but these would not be supported at an institutional level?

- One approach to governance is to allow instructors individual freedom of choice, but within institution-wide policies that cover accessibility issues, privacy, security and demands on technical support.

- Who should make these decisions, and how?

Different institutions will come to different conclusions, but every institution should think through how best to make these decisions, and who should be involved. This is probably the most important responsibility of the institutional leaders with regard to the management of learning technologies.

11. Use the strategic planning process to provide a framework for decisions about technology use.

The answer to some of the questions we are posing will be, or should be, influenced by the overall strategic direction of the institution. For instance:

• Where do learning technologies fit within the strategic plan?

• Is innovation in teaching and learning a key strategy?

• What are the institution's goals in terms of the balance of campus-based and online teaching? For instance, if the goal is to use technology mainly to supplement or enhance classroom teaching, then there is probably little need to change the current approach to selecting and using an LMS (unless innovation in teaching is another goal).

• To what extent should the institution make its teaching open? How?

• In some cases, the strategic plan itself will need to be designed or changed to accommodate 'bottom-up' pressure from faculty to use new technologies and new teaching methods.

Because technology change, and to some extent educational change, are likely to be constant in the foreseeable future, it makes sense to put in place mechanisms for constantly reviewing and updating strategies and policies around the selection and use of learning technologies.

SUMMARY

New developments in web 2.0 technologies have major implications for teaching and learning and, in particular, offer opportunities to develop the skills and knowledge needed in the 21st century. These developments are leading to major changes in the LMS industry with a move towards more open learning environments that integrate new web 2.0 technologies as they become available. The end result is likely to be the creation of online managed learning environments that will support a wide range of teaching and learning, including the face-to-face component of teaching.

To manage the constant change and development that we are likely to see over the next few years, not just in the application of new technologies to learning, but in the overall approach to teaching, institutions will need to have in place clear strategic directions. If innovation is to be a key strategy, then institutions will need to have in place strong governance mechanisms for decision-making around the choice and use of technology, to ensure consistency and quality, while allowing as much freedom as possible for instructors to choose the technologies and learning environments that best fit the needs of their students.

In brief, current changes in learning technologies are ushering in an exciting era of development in teaching in post-secondary education, and this report aims to help institutions, instructors and students take full advantage of this opportunity.