Making Decisions About Learning Management Systems: Building a Framework for the Future

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Making a decision about which LMS, if any, an institution should adopt is difficult. Before embarking on such a decision journey, it is helpful to have a deep understanding of context. In this module we provide a starting point for understanding these contextual issues, opportunities and challenges.

The first issue is the wide variety of contexts in which decisions have to be made. There are institutional/administrative, educational/instructor, and learner/student contexts to consider. Decisions in a large, urban research university will be different from those made in a small regional college. Different instructors in different subject areas have different ways of teaching and some technologies will fit better than others, depending on the context. Students come from an increasingly wide range of contexts with varying degrees of media literacy and access to technology. At the same time, the technology is constantly changing, offering new and different possibilities for teaching and learning. No single set of recommendations is going to meet the needs of everyone.

One consequence of the rapid changes in technology, and to a lesser but still important extent, changes in ideas about best practices in teaching, is that the number of options or choices available to administrators, instructors and students in terms of teaching and learning has increased immensely. Each of us has their own view of what constitutes effective teaching and learning online, but rarely are we in a position to argue for instance that didactic teaching is better or worse than collaborative learning – it depends on context. However, an instructor's decision about this will influence their choice of technology or medium of delivery. Particularly in a university system that supports academic freedom, the freedom of the instructor to make such decisions is critical. Thus the core issue is one of choice. Technology developments have widened our range of choices and, it seems, the more options there are, the harder it is to make a decision.

The real change over the last few years, resulting from the development not only of newer types of more 'open' LMS designs, but more importantly, in technology developments outside the LMS, is that we have more choice, but without a framework or criteria for decision-making, those choices are becoming increasingly difficult.

All this is to explain why, in this module, we are not going to make specific recommendations but will instead seek to provide some central points around which decisions will need to be made, acknowledging that there is no single best solution for all contexts.

Change or Sustainability?

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 Ontario Institute for Studies in Education (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 and there is little evidence that it has an impact on student engagement or learning outcomes.

Nevertheless, given the inexorable development of new technologies and their growing importance within our lives, it is not really possible – or desirable - to isolate the sector 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.

Learning Management Systems are Here to Stay

There are three main reasons for this conclusion. The most important is that most students and instructors are seeking, and appear to need,a structure or framework in which to organize teaching and learning, and a learning management system (by definition) provides this for online learning.

Furthermore it is clear from a variety of studies that online learning will continue to grow, both in terms of fully online courses and programs, but more significantly, through hybrid (also known as blended) learning. Indeed, hybrid learning will, most analysts suggest, be the main model of teaching in post-secondary education in the future. Indeed, we see an online learning software system as providing a framework around which all teaching will eventually be organized.

The second reason for confidence in the future of LMS systems is that an LMS provides many valuable administrative functions needed to support teaching, particularly with the ability to integrate LMSs with administrative systems, and in the future to provide analytics and data analysis of the teaching and learning process, which are likely to become much more important. LMS systems which do not integrate with financial, registry and related systems are likely to be very problematic, especially if we see more integration at a systems level of so-called "back office" functions.

Thirdly, an LMS does not restrict the use of other technologies. Web 2.0 and open source tools can easily be accommodated and integrated within an LMS and LMS developers are ensuring that, over time, this becomes an easier process. Indeed an LMS can provide a useful framework for teachers and learners to integrate a wide range of these new technologies.

Think Managed Virtual Learning Environments Rather than LMS

The old LMS model of a course in a box – derived from the early days of distance education - is rapidly changing. Some of the new LMS developments are moving more towards a 'pick-and-match' learning environment that allows an instructor - and increasingly students - to choose whatever collection of tools they need to do the job. These tools are likely to be free or very low cost and can be easily integrated and organized within an 'open' LMS framework. Indeed, new machine learning tools, such as Knewton, automate the selection of appropriate materials based on assessments of the student's progress and their learning preferences.

This more open learning environment fits much better with the idea of academic freedom and choice (and with greater control by students over their own learning) than the pre-designed and rigid structure of the original designs and uses of LMSsystems.

We should therefore be thinking of learning environments that include both a structure for managing teaching and learning and a wide range of tools that can be incorporated as needed. This range of tools will be constantly changing as new technologies become available.

Teaching Matters

The traditional 'course in a box' design and use of an LMS really suits conventional, didactic teaching. An LMS enables content to be organized and structured in a more or less standardized way, provides opportunities for testing and student feedback, allows for student discussion, and for interaction with an instructor. In other words, it takes a classroom model and moves it online, and if done following best practices results in just as good results. For institutions where instructors have no background in the nature of pedagogy, learning processes or constructivist curriculum design (which covers almost all two year colleges and 90% of university faculty) this provides a quality control framework within which to do online teaching.

However, this 'course in a box' model does not serve so well the move towards skills development, developing problem solving and critical thinking skills, self-management of learning, peer-to-peer learning, or learner-generated content – critical to the 21st century learning agenda, at least according to some. These can be handled to some extent within an LMS, or more accurately a virtual learning environment, but a different approach to the design of the learning environment from that of a 'course in a box' is needed. Some of the newer LMS systems can easily handle this, but even if operating one of the older systems, this can also be managed but with greater use of tools that sit outside the 'box'.

The main restriction to moving teaching in this direction though is not technology - web 2.0 technologies actually encourage it - but the ability and desire of instructors to move in this direction. This then becomes a training issue: if an institution wishes to move in this direction, investments in faculty development, instructional design and the re-engineering of learning become critical. However, there are many examples of instructors actually wanting to move in this direction, and so far they seem to have done this mainly by using tools outside the LMS, but linked to, or organized within, the LMS. Indeed, some instructors are now using an increasingly sophisticated mix of media and tools, combining video, blogs and wikis, and open educational resources, linked to, if not integrated with, an LMS.

Increase and Improve Faculty Development, Training and Support

Choice is good, but criteria for making good decisions are also important. Universities and colleges generally do not have a systematic method for ensuring all faculty and instructors have the necessary skills for teaching, and 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. It is not uncommon to hear from technology support staff that instructors were inadequately trained to use LMSs and were often unaware of features that they were seeking that were there within the LMS – the same is also true of students. 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 seen to be expensive, and mandatory training does not sit easily with the current construction of "academic freedom."It is also the case that 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 and instructional design support 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.

Governance: The Right People Making Decisions at the Right Time

Governance of learning technologies is a major 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. It might be a slightly more expensive strategy than necessary, but we have shown that license fee costs are a relatively small component of online teaching.

Institutions that see a need to change the overall teaching model to make it more interactive, more learner-focused and more flexible in accommodating to 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 choice of technologies if there are no financial implications for the institution?
- Or would it be better to support one main LMS, but allow instructors 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 decisions, 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 senior management with regard to the management of learning technologies.

Use the Institution's Strategic Planning Process to Provide a Framework for Decisions about Technology Use.

The answer to some of the questions posed here 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).
- 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 technological 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.

Conclusion

Finding the strategic place of technology-enhanced learning within an institution is not an easy task. Seeking to ensure that investments in such technologies enhance learner engagement, learning outcomes and program and course completion is a demanding enterprise. These contextual issues should provide the starting point for a debate within the institution as to how investments in technology can enable and enhance teaching and learning for all students.