

The evolution of learning management systems

Do systems have a future in Canadian organizations?

BY GARY WOODILL

The dream of transforming education through technology has a long history. Innovations such as movies, overhead and slide projectors, television, teaching machines and computers have all been seen as ways of improving education and making it more efficient.

However, as all good instructors know, learning is a highly personal act, requiring a teacher to understand the complexities of the learning process, individual differences of learners and the best ways to teach a variety of content.

Technology cannot replace the skills of a good teacher. But it can add to, and extend, the abilities of instructors to work with more learners, at a greater distance, and with better results. In order to do this, the technology must be adaptive and highly flexible, allowing for a wide range of individual differences, while being extremely easy to use. This is the vision behind a class of software applications known as learning management systems.

Learning management systems are sophisticated computer programs that track and report on all aspects of training within an organization, including the results of classroom-based training, online training or “blended learning” — a mix of both approaches. They are also the way online courses are usually accessed and launched.

The systems are often tied into HR systems or talent management systems, sharing the same contact information.

The four generations of systems

Learning management systems have been on the Canadian market for about 10 years. In that time there have been several “generations” of systems.

The first-generation systems were really just tracking systems that managed trainee contact information and training results. They were stand-alone applications running on a single computer.

Second-generation systems were web-based and used client-server architecture. That is, a server held all the information in a database and each person wanting the information used a browser to access it.

Third-generation systems divided the information on the server into several separate components or tiers. The user interface was separated from the training data, which was separated from programs that used the data. This allowed many different kinds of devices and applications to use the same information.

The fourth, and current, generation of learning management systems extend this model and have information distributed among many servers, all connected in a network.

In addition to becoming more technically sophisticated, learning management systems

have added many features. These include:

- assessment engines;
- messaging capabilities;
- course catalogues;
- registration facilities;
- competency management;
- communications tools;
- polling and questionnaires;
- e-commerce;
- individual learning plans;
- personalization according to user profiles;
- libraries;
- multiple languages; and
- reporting engines.

Are learning systems obsolete?

There is considerable debate as to whether learning systems have a future. The trend is towards learners tracking their own learning results, using either personal learning environments or e-portfolios. These technologies are under the control of the learner, rather than an organization. This makes them more portable if an employee moves from one company to another.

Others worry the current model of systems have already become entrenched to the point of inhibiting innovation. But there are a number of significant innovations in learning managements systems on the horizon, including:

- adaptability/personalization — new algorithms deliver personalized teaching to each user based on previous results and the learner’s profile;
- automatic generation of motivational messages — affective

computing can sense when a user’s interest is flagging and produce messages of encouragement;

- moving from managing presentations and testing to facilitating learner control, conversation and collaboration;
- use of 2-D and 3-D virtual environments — there are already a number of systems based on virtual reality; and
- service-oriented architecture — integration with other enterprise systems, especially HR/talent management systems and “mashups” with many sources of information.

Learning management systems are available from several Canadian companies. As well, there are “open source” systems, such as Moodle, that allow free use of the code, but where technical setup and maintenance is supported by the company using the software rather than by a commercial entity.

In looking for a learning management system it is best to compare features and reputations of the vendors, as there are many choices to be made. While constantly changing and evolving, learning management systems are likely to be a human resources tool for years to come.

Gary Woodill is the Port Hope, Ont.-based director of research and analysis with Brandon Hall Research, a Sunnyvale, Calif.-based e-learning research firm. He can be reached at (905) 885-7942 or gary@brandon-hall.com.