# How Learning Management Systems Can Hurt Learning Effectiveness and What You Can Do About It

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Learning Management Systems provide a tremendous wealth of features and benefits in administrating e-learning activities across the enterprise. It is now much easier to deploy learning initiatives, assign the course to specific employees, track which employees have completed them, collect fees, etc. While LMSs4 unarguably provide excellent tools for managing learning throughout an organization, they do surprisingly little to actually improve the quality of the learning experience that employees have while actually engaged in a course. In fact, unless learning managers are alert to a number of key issues, LMSs can actually lead to degradation in the quality and effectiveness of employee learning. In this issue of Perspectives we take a closer look at how LMSs can sometimes hurt learning quality and suggest some concrete steps you can take to avoid these pitfalls and realize the full value of a LMS in providing effective, high-quality e-learning throughout your organization.

## Elements of an LMS that can hurt learning effectiveness

There are a number of LMS features that, while they may seem beneficial on the surface, can actually hurt the effectiveness of the learning outcomes. Many LMSs include authoring tools that allow for the creation of courses to be published within the LMS. These tools help non-programmers design and create courses that link automatically into the tracking mechanisms provided by the LMS. Furthermore, because these tools are included in the purchase price of an LMS, no additional money need be spent on acquiring other authoring tools. As such, these authoring tools are often a very attractive feature to many organizations, and training departments – along with others throughout the organization – are encouraged to use the tools to create new courses.

These built-in authoring tools are fine if you want to quickly build an e-learning title that delivers a fairly simple, self-explanatory message. Unfortunately, these authoring tools tend to be very impoverished compared to other tools in the marketplace, particularly for creating e-learning titles that teach more complex skills and material. The authoring tools built into an LMS most easily facilitate the creation of “page-turner” type courses – that is, courses that consist of presenting a (typically linear) sequence of screens containing facts and information. The level of user interactivity consists of simply clicking a button or hyperlink to proceed to the next screen. Sometimes animations, audio, or video elements are added to the sequence of screens, but the underlying model of the course built using these tools is still “education as the transmission of information.”

A second element of LMSs that is touted as a key benefit but can ultimately lead to a degradation in the quality of the learning experience for employees is the LMS's emphasis on assessment and tracking. LMSs are terrific at collecting, organizing, and reporting data on learners' activities, and these capabilities are prominently featured in the sales and marketing pitches. For example, one LMS vendor advertises that their system can "track detailed course statistics, assessment results and employee activity at the learning object level, such as time spent on an activity, number of tries on an assessment question, and courses started and completed." The danger inherent in aggressive tracking of the details of the learner's activities within a course that an LMS enables is that it eliminates one of the key benefits that e-learning provides relative to a traditional classroom: the creation of a safe environment that is free from the social onus of failure. Learners who recognize that their every click within an LMS-delivered course is being tracked and recorded are much less likely to feel comfortable experimenting, taking chances, and pushing the limits of their knowledge. Instead of learning from their own mistakes, they will work to avoid making any mistakes at all.

The authoring tools built into many LMSs reinforce this emphasis on tracking and assessment. These tools make it simple to create a wide range of tests and quizzes. The set of features provided is very sophisticated: multiple-choice test questions can be randomly selected from a pool of questions, learners can be given different number of attempts to answer a question correctly, hints can be made to automatically pop up, a wide range of question templates can be intermixed, etc. With such a wide array of powerful authoring tools supporting the creation of online tests and quizzes, it is easy to anticipate that the amount of assessment in courses built with LMS authoring tools is likely to increase.

A secondary impact of the emphasis on testing and tracking in LMSs is the influence it has on the type of content included in courses. The sophisticated multiple-choice test creation tools embedded in LMS authoring tools, combined with an organization's desire to get the most use out of its newly installed LMS's ability to gather learner data, often leads course developers to include only that material which is easily tested with the available assessment mechanisms. This typically leads to the creation of fact-based courses, rather than those that develop more complex business skills.

## How these elements hurt learning effectiveness

Without an awareness of the potential impacts, the elements of an LMS outlined above can easily lead to the creation of courses that suffer from at least three significant problems that detract from effective learning. E-learning courses supplied by third-party vendors for delivery within an LMS can suffer from these problems as well.

### Passive learning

The single biggest problem with many e-learning titles is that they place learners in a passive role, one where they must read text or watch videos or animations. Despite

what many course producers claim, just because learners now control the button that advances to the next page of material does not in any meaningful sense qualify as "active learning." This is a problem because information presentation as a means of learning simply doesn't work. Learners don't retain what they don't use. Not only do learners have trouble remembering information learned in a passive format; they also have problems trying to apply that knowledge to the "real world." For this reason, researchers have coined the term "inert knowledge" to describe knowledge acquired in decontextualized settings such as lectures or Web-based page-turners.

**Artificial divide between practice and instruction**

A second problem common with the kinds of courses most readily produced by LMS-supplied authoring tools – in addition to some third-party e-learning titles – is the tendency to present learners with lists of concepts, principles, or theories and expect them to remember them and apply them appropriately. The reason this is a problem is that learners don't retain abstract concepts or facts that they can't relate to specific cases. Practicing the application of concepts across the range of cases in which they apply is time consuming, detail-oriented, and idiosyncratic. It is little wonder that simply presenting concepts is the preferred approach. The online courses these authoring tools are best at creating do not readily support the creation of opportunities for learners to practice skills or apply knowledge in authentic contexts. Thus these online courses still do not do enough to help learners relate new concepts to specific cases where those concepts apply.

**Irrelevant subject matter and inappropriate assessment**

A third problem that arises from an LMS's tracking and assessment features is that the content of courses is often driven by what can be easily tested and measured. In an era of increased demands for accountability in education, many organizations feel driven to intensively test their learners. Because of the limitations of the multiple-choice format, learners get their heads crammed full of decontextualized facts that are easy to test but difficult for them to retain and to apply to real-world situations. Teaching real skills or complex knowledge – both much harder to assess – often gets bumped aside in favor of more easily testable topics. Driven by an LMS's ability to automatically score multiple-choice tests and readily store this assessment data for a large number of learners, online courses are often awash in tests, quizzes, and other assessments. Designers of these courses know what kind of test questions they can administer, and this drives the type of content that learners are expected to master. Complex skills, especially those that involve professional judgment and decision-making where there are many potential solutions, are rarely included in online courses because of how hard it is to measure these skills in a multiple-choice format.

**Lack of individualization leading to poor efficiency**

A chief argument made in supporting the investment in a LMS is the cost savings due to increased efficiency with the use of e-learning. The use of linear, page-turning e-learning titles – either produced by LMS authoring tools or purchased from a third party – means that the promise of increased efficiency of e-learning relative to classroom training may go partially or fully unrealized. The real driver of increased efficiency in e-learning is individualization of the learning experience. A quality e-learning title should allow learners to quickly skip past material they are already comfortable with and focus their learning time and effort on only those skills and knowledge that they are lacking. Forcing learners to click through the same set of screens regardless of their knowledge level fails to capitalize on the true efficiencies that could be realized by e-learning that supports real individualization.

## Principles for the Design of Effective Online Courses

Creating truly effective online courses means seriously considering the underlying assumptions that those courses are based on and being vigilant about the detrimental impacts that authoring tools and a focus on testing and assessment can have. To get the most out of an investment in an LMS entails improving not only the management and accountability of learning within an organization, but improving the quality and effectiveness of the courses delivered within the LMS. Some principles you can use to guide you thinking about the online courses delivered in an LMS are as follows:

- **Think carefully about what the course should cover.** The content of many courses is often based on factors that have little to do with learning. Some courses are organized to follow the table of contents of a particular textbook even though the authors of that textbook never intended the book to be used in that way. Course content may end up being oriented around the presentation of facts, concepts, and theories due to the authoring tools with which it was built and the assessment mechanisms available to test learners.

- **Organize what you teach in a way that makes sense to learners.** Think about the content of your course from the learners' perspective. How will the issues you cover arise in the course of their jobs? Taking this functional viewpoint will help you create a course whose relevance and utility is clear to learners. Also, many courses are "a mile wide and an inch deep," sacrificing depth for breadth in the futile attempt to cover everything learners need to know about a topic. Avoid creating a "checklist" curriculum that covers a long laundry list of topics that have little relationship to each other.

- **Put the learner in control.** Courses should be created such that the learner is given control over their own learning experience. Make sure that it is clear to the learner at all times why he or she is being asked to do something. Demand true

individualized learning for maximal learning efficiency by insuring that the learner can skip unneeded material and focus on the skills and knowledge he or she really needs.

- **Only teach at the appropriate moment.** Courses should not force the learner to listen to or read anything until after trying something and failing. Provide adequate and well-organized mechanisms for the learner to ask questions and get answers as needed, on a just-in-time basis. This will insure that the information presented is relevant to the learner's needs.

- **Avoid blind choices.** Make sure that your courses provide ample opportunities for learners to make real decisions and that they have a rich set of resources available to help them make those decisions. These decisions must be meaningful and aligned with the task the learner is performing. Asking the learner to make blind choices – where they have no information available to allow them to make an informed judgment – does not foster real learning and detracts from the realism and effectiveness of the course.

- **Situate learning in authentic contexts.** Authentic task environments not only help learners relate what they learn in a course to their jobs, but also makes for a more motivating and engaging learning context. Seek out real-world experts and practitioners to help you design your courses and insist that their insights and stories be included in each course.

- **Provide a rich set of resources and support to your learners.** An effective course raises questions in your learners' minds, instead of just providing answers. But if the course is going to raise questions, it must also accept the responsibility of helping the learners find answers to those questions. A rich, well-organized, information resource containing the content being taught is a hallmark of a high-quality course. This information resource should include first-person stories told by experts if possible.

- **Use the most appropriate course structure and delivery mechanism.** Not all courses fit the same design mold. Matching the course structure to the content and skills to be taught is critical feature of an effective course. Some courses can be delivered effectively with students working individually; other courses rely more critically on collaboration and teamwork among learners. Some courses may not be suitable for online delivery. Factors to consider when choosing the most appropriate course structure include: the number of learners to be taught, how distributed they are geographically, the number of times a course will need to be offered, the availability of coaches and other resources, and of course, the specific learning goals for the course.

- **Create a safe environment for learning.** Separating the learning activities from assessment activities provides a environment where learners feel able to make

mistakes and learn from them without fear of being penalized. Use an LMS to track completion of a course rather than learner performance during the course if at all possible. To assess learning of skills and knowledge, create separate "assessment scenarios" and be upfront with learners about when their performance is being tracked and when it isn't.