



## Libraries in the Learning Management System

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### Overview and Definition

A learning management system (LMS) is web-based software that allows instructors to deliver content, collect student work, and administer their classes. These systems usually contain a similar suite of features such as discussion boards, gradebooks, assignment drop boxes, quiz functionality, internal messaging (both synchronous and asynchronous), an announcement space, and the ability to create pages to detail weekly content, assignments, and more. In the absence of a standard or facilitated space for the library in LMS products, libraries have developed a variety of strategies for providing resources, services, and librarians within the virtual classroom.

### Basis for Current Interest

Over the past decade and a half, higher education has seen an explosion in enrollment and options for online learning. A full 26% of all students took at least one online course in 2013 (National Center for Education Statistics 2015) and continues to grow, though at a slower rate than in the previous decade (Allen and Seaman 2015). The growth of LMS options has paralleled the growth in online learning, as these are critical tools for administering and delivering content in online courses.

While originally designed to support online classes, Learning Management Systems are now frequently used in face-to-face and hybrid (partially online) classes as well, as the features provide a convenient space to make materials available and communicate with students outside of face-to-face class time. Currently, the LMS market offers a mix of open source and proprietary, long-time and new-to-the-market options. In 2013, the four most popular Learning Management Systems in the

United States were Blackboard, Canvas, Desire2Learn, and Moodle, but others options exist and some institutions have developed their own solutions (Green 2013).

Colleges and universities have also seen tremendous growth in enrollment of adult learners. In 2013, 39% of all college students were twenty-five years of age or older (National Center for Education Statistics 2015). The proportion of adult learners taking online courses is greater than traditional-aged students (Lokken and Mullins 2015). Online learning particularly appeals to this population because of its flexibility, allowing them to balance careers and families along with education. In order to be proactive in the online classroom, the library must have a presence in the LMS.

### Current Applications in Academic Libraries and Higher Education

Since before the existence of commercial LMSs, librarians have been working to provide library content, instruction, and outreach to distance students. However, this has not been without its challenges. Cohen (2002) shared the results of a study which suggested that LMS developers were not considering the role libraries could play in the LMS nor how they could deliver content via the LMS. Unfortunately, even with Canvas, the newest LMS option, which is known for its flexibility, there is not a default librarian role, which suggests that libraries are still largely not being considered in LMS development (Perpich 2015). As a consequence, academic libraries have had to be creative in their approaches to embedding content, instruction, and librarians into the LMS environment.

Since the integration of the library is not a standard feature of any LMS, there is no standard way that libraries have embedded themselves into the Learning Management System. The ability to embed in a seamless and customized way depends on the library's relationship with the unit(s) that administer the LMS, the technological skills of those

developing the solution (either within the library or in IT), and interest from the library in maintaining a highly-customized presence. Some institutions simply offer a link from the LMS into the regular library website, but others have created library portals or widgets within the LMS, some of which are customized for specific courses or programs.

In a seminal article on the subject, Shank and Dewald (2003) outlined two kinds of library integration into the LMS: Macro-Level Library Courseware Involvement and Micro-Level Library Courseware Involvement. At the Macro-Level, libraries create a single library presence within the LMS. The primary benefit of the Macro-Level approach is that it is not nearly as time-consuming to maintain as something customized to the course or program level.

Some libraries have built this presence directly within the LMS itself, which requires a level of library access for making updates, while others use an external site that is served up within the LMS. The University at Buffalo Libraries developed a library nugget (also known as a widget) for the Angel LMS that is displayed by default in every online classroom. It provides search boxes for the catalog as well as links to commonly-used resources (Foley 2012). At the University of Kentucky, a universal library tab is available to students when they log into Blackboard. Clicking on it provides a page of links that essentially serve as a portal to library services (Chestnut et al. 2009).

At the Micro-Level, the LMS provides access to a library presence customized at the course or program level (Shank and Dewald 2003). Micro-Level content is usually created by the subject librarian and is better targeted to the specific needs students may have in their class. However, this approach is more time-consuming to develop and maintain.

Some libraries have developed widgets or library links that serve up customized content dynamically. Every Desire2Learn classroom at Portland State University contains a contextually-aware library widget on the front page. This widget provides the ability to search the discovery tool and access several key library resources. More importantly, though, it links students to the appropriate course guide (when one has been created) or subject guide as well as a link to the materials on reserve

for that particular course. Linking the LibGuide to the subject or course is done through tagging, using the subject prefix for a subject guide or course prefix and number for a course guide (Flakus and Hofer 2013). Ohio State University has a similar system, called Carmen Library Link, where librarians develop course and subject pages outside of the LMS that are then dynamically pulled into the LMS (Black and Blankenship 2010).

At some institutions, the library presence is a standard aspect of every course, but at others, librarians have to work with individual faculty to achieve any integration. Oakland University has created a Moodle widget that faculty can customize for their individual courses and select whether to display the discovery tool search, an existing course guide, and reserves for the course (Hristova 2013). At the University of North Carolina Greensboro, liaison librarians use a custom-designed interface to develop lists of recommended resources for disciplines, courses, and even individual class sections within Blackboard. A link to the recommended content, however, must be added individually to each Blackboard classroom either by the instructor or the librarian.

## Applications in Academic Library Instruction

Since they are often appealing for their flexibility, online programs tend to be largely asynchronous. This makes it difficult for librarians to provide traditional course-integrated instructional support in the online medium. Instead, librarians need to find ways to make instructional content and instructional support available at students' points of need; something best done through the LMS.

Research guides are becoming increasingly instructionally robust. In addition to providing useful resources, many librarians include search tips, tutorials, and videos in the guides they create for courses and subject. Integrating research guides into the LMS makes librarians' instructional content more visible and accessible.

Since Shank and Dewald published their article, many librarians have adopted a third approach to integration in the LMS: embedding librarians into online classes. This approach usually takes the form of a librarian staffing a discussion board for the course where they can answer questions,

provide proactive instruction, and promote library resources (Farkas 2008).

Libraries have also developed instructional content in the LMS to be added by disciplinary faculty into individual courses. Librarians at Middle Tennessee State developed an information literacy learning module in Desire2Learn that faculty could choose to add to their course (Adebonojo 2011). The Instruction Services Department at the Claremont Colleges Library developed an information literacy quiz within the LMS that instructors could pull into their class and assign after students went through the library's information literacy tutorial (Lowe et al. 2014). Many Learning Management Systems offer a learning object repository where content can be placed that can be used by instructors in multiple classes. If an institution has an LMS with a learning object repository, librarians can create instructional content and quizzes in the LMS that can be easily and seamlessly incorporated into many different classes.

Library instruction can even be embedded in the fabric of the course itself. In a previous job, this author developed two week's-worth of information literacy and library awareness content for an online Master's of Education program. While this level of integration may result in the librarian being less visible, because the content looks like it is coming from the instructor, it also may make it more likely that students will utilize the content.

## Potential Value

For online students in particular, the Learning Management System is effectively their campus. Positioning the library at the heart of the virtual campus seems as important as positioning the library as the heart of the physical campus. While it is true that students could seek out librarians and instructional content via the library website, making library help and instructional content available at students' points of need in a familiar platform can lead to significantly greater usage of those services and resources. Librarians at Capella University found that having librarians available in student discussion boards led to a 400% increase in reference traffic (Bennett and Simning 2010) and those at Portland State University found that a significant percentage of their web traffic was coming from their D2L widget (Flakus and Hofer 2013).

## Potential Hurdles

Many of the largest hurdles with regard to integrating the library into the Learning Management System are institution-specific, and thus, what is a problem for one library may not be for another. One common roadblock is the willingness of the unit administering the LMS to provide the library with access to the LMS and technological support to achieve integration. All of the case studies cited in this document were able to achieve the integration they did through collaboration with that unit. Libraries that already have a strong relationship with the people who manage the LMS tend to have an easier time achieving a mutually-beneficial collaboration (Farkas 2008).

Sometimes, the unit that manages the LMS is willing to facilitate access, but it is the members of the library staff that must actually develop the integration solution. What is possible then is dependent on the technological skills of the staff. Some libraries, like Portland State University, have made their LMS widget code available online and other librarians have shared in detail how they have achieved integration.

A potential barrier to developing instructional content for multiple courses in the LMS is the lack of a learning object repository. This is usually an add-on to the LMS that can be costly, but without it, the library would have to create its content in each instructor's classroom rather than having a central place from which instructors could pull in the content. Without a learning object repository, building reusable content outside of the LMS, such as using easily embeddable tools like YouTube videos and LibGuides, is a sensible solution.

For those institutions that do not have a default library presence in each online classroom, achieving integration requires significant outreach to individual instructors. If the librarian is developing custom content for a course, however, the chances are good that the relationship with the faculty member already exists. Still, relying on busy instructors with varying levels of tech-savvy to embed library content in their course is a hit-or-miss proposition.

The burden of maintaining library integration largely depends on the chosen approach.

Developing a single presence will be easier to keep current, but it will also have less value to students versus one customized at the course or program-level. Developing integration that relies heavily on the LMS can be problematic at institutions that frequently switch platforms. The library might put tremendous effort into integrating resources into Desire2Learn only to find that their university is moving to Canvas. Determining which integration solution makes sense really depends on the motivation and constraints of the staff and long-term institutional IT planning.

One of the major drawbacks of offering a librarian discussion board in the LMS is the time it takes to monitor the board and answer questions. Given the increase Capella University librarians saw in reference transactions due to their embedded librarian program, planning for increased workload seems critical. Ways to mitigate workload issues include tracking assignments to plan around busy times, setting up notifications for new posts, developing a collection of frequently asked and answered questions, only having the discussion board be open during certain weeks of the term, and posting content proactively so students get the information just before they need it (Hoffman and Ramin 2010).

Regardless of how the library is integrated into the LMS, the likelihood of students using the library depends significantly on whether or not the course instructor promotes library use. In a study of students at Ohio State University, librarians found that, in many cases, the library guides that got high usage in the LMS were recommended by the instructor (Murphy and Black 2013).

## Conclusion

The library literature illustrates many different ways to approach integrating the library into the Learning Management System. Since the library is so dependent on their institution's IT infrastructure, what makes sense for one library may not make sense for another. Librarians should look at how the LMS is used at their institution, their internal technological resources, the ability to maintain a chosen embedded approach in the long term, and the needs of students and individual programs in order to choose a solution that strikes a balance between needs and resources.

## References

- Adebonojo, Leslie G. 2011. "A Way to Reach All of Your Students: The Course Management System." *Journal of Library & Information Services in Distance Learning* 5(3): 105-113.
- Allen, I. Elaine, and Jeff Seaman. 2015. *Grade Level: Tracking Online Education in the United States*. Wellesley, MA: Babson Survey Research Group. <http://www.onlinelearningsurvey.com/reports/gradelevel.pdf>.
- Bennett, Erika, and Jennie Simning. 2010. "Embedded Librarians and Reference Traffic: A Quantitative Analysis." *Journal of Library Administration* 50(5/6): 443-457.
- Black, Elizabeth L., and Betsy Blankenship. 2010. "Linking Students to Library Resources through the Learning Management System." *Journal of Library Administration* 50(5/6): 458-467.
- Chesnut, Mary Todd, Stephanie M. Henderson, John Schlipp, and Robert Zai, III. 2009. "Value-Added Library Resources and Services through Blackboard." *Kentucky Libraries* 73(1): 6-12.
- Cohen, David. 2002. "Course Management Software: Where's the Library?" *EDUCAUSE Review* 37(3): 12-13.
- Farkas, Meredith G. 2008. "Embedded Library, Embedded Librarian: Strategies for Providing Reference Services in Online Courseware." In *The Desk and Beyond: Next Generation Reference Services*, edited by Sarah K. Steiner and M. Leslie Madden, 53-64. Chicago: Association of College and Research Libraries.
- Flakus, Michael and Amy R. Hofer. 2013. "Library Widget for the Learning Management System (with a Dash of Contextual Relevance)." In *The Embedded Librarians' Cookbook: Recipes for Making Long-Term Connections*, edited by Kaijsa Calkins and Cassandra Kvenild, 160-61. Chicago:

- Association of College and Research Libraries.
- Foley, Marianne. 2012. "Putting the Library at Students' Fingertips." *Journal of Electronic Resources Librarianship* 24(3): 167-176.
- Green, Kenneth C. 2013. "The 2013 Campus Computing Survey." The Campus Computing Project. <http://www.campuscomputing.net/item/2013-campus-computing-survey-0>.
- Hoffman, Starr, and Lilly Ramin. 2010. "Best Practices for Librarians Embedded in Online Courses." *Public Services Quarterly* 6(2/3): 292-305.
- Hristova, Mariela. 2013. "Library Widget for Moodle." *Code4Lib Journal*, no. 19. <http://journal.code4lib.org/articles/7922>.
- Lokken, Fred, and Christine Mullins. 2015. *Distance Education Survey Results: Trends in eLearning at Community Colleges*. Washington, DC: Instructional Technology Council. <http://www.itcnetwork.org/attachments/article/1171/AnnualSurvey2014PublishedApril2015FinalWeb.pdf>.
- Lowe, M. Sara, Char Booth, Natalie Tagge, and Sean Stone. 2014. "Integrating an Information Literacy Quiz into the Learning Management System." *Communications in Information Literacy* 8(1): 115-130.
- Murphy, Sarah Anne, and Elizabeth L. Black. 2013. "Embedding Guides Where Students Learn: Do Design Choices and Librarian Behavior Make a Difference?" *Journal of Academic Librarianship* 39(6): 528-534.
- National Center for Education Statistics. 2015. "Digest of Education Statistics: List of 2014 Digest Tables." Accessed June 30. [http://nces.ed.gov/programs/digest/2014menu\\_tables.asp](http://nces.ed.gov/programs/digest/2014menu_tables.asp).
- Perpich, Diana. 2015. "The Librarian Role in Our Canvas Pilot." *Insights on Library Instruction* (blog), January 12. <http://www.lib.umich.edu/blogs/insights-library-instruction/librarian-role-our-canvas-pilot>.
- Shank, John D., and Nancy H. Dewald. 2003. "Establishing Our Presence in Courseware: Adding Library Services to the Virtual Classroom." *Information Technology and Libraries* 22(1): 38-43.