

Emily Daly

Embedding library resources into learning management systems

A way to reach Duke undergrads at their points of need

The embedded librarian: Background and history

It is no secret that undergraduates expect to access nearly all library resources outside the library walls—namely, on their computer screens or handheld devices. While Duke University's students enjoy using library spaces for studying and working on group projects, they want library resources at their fingertips: easily accessible and fully available online.

It is, of course, one of the responsibilities of Duke's public services librarians to provide students with time-saving search strategies and instructional

resources that they may use to access these scores of online resources. The results of Duke's 2007 LibQUAL+ survey, however, helped to confirm that students do not take advantage of the Libraries' vast resources and, further, that it was no longer enough for librarians merely to post research guides on the Libraries Web site and wait at the reference desk for students to request their services.¹

Rather, it was time for librarians to figure out a way to be where the students are, which, given the number of places Duke's students are, is no small feat. One place that is nearly universal to the academic experience at Duke, however, is the university's learning management system, Blackboard. More than 70 percent of Duke courses offered to undergraduates use

a Blackboard course site in some capacity, and, before fall 2007, the Libraries had little presence in it: Students' readings, "e-reserves," have been available through Blackboard since 2003, and a content item entitled "Ask a Librarian," which linked

Figure 1: Library Links (Blackboard page designed using template). Visit this article online for detailed images.

to a page with methods for contacting the Librarians, was placed on all course sites in spring 2007. Blackboard usage statistics revealed that the "Ask a Librarian" content item got very little

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traffic, and anecdotal evidence indicated that students simply did not notice it.

It was obvious to librarians that students enrolled in courses with a research component could benefit from increased collaboration with librarians and that the Libraries' presence within Blackboard was insufficient and under-used. A method for enhancing the Libraries' involvement in Blackboard was suggested: Why not include librarians' contact information and links to library resources in course sites where students may more easily find and interact with the information—and, ideally, with librarians who specialize in fields related to their courses?

First steps to becoming embedded

In fall 2007, four librarians asked a dozen faculty to give them "coursebuilder access" to their individual Blackboard course sites. This status enabled librarians to edit individual course site interfaces, allowing librarians to add a content item entitled "Library Links" and then populate this Blackboard "page" using a template designed by the working group (see Figure 1). The template included a place for librarians' contact information and a note about their involvement in the course site; a section with links to general Libraries resources (e.g., stacks guides, lists of subject librarians); feeds from social book-marking sites, such as Connotea; and space for links to subject-specific databases, library resources students might find useful for particular assignments, subject guides hosted on the Libraries Web site, help pages for citing sources or using EndNote or RefWorks, and short animated tutorials.

The group assessed the effectiveness of the pilot through faculty interviews and short surveys of students, and positive feedback led

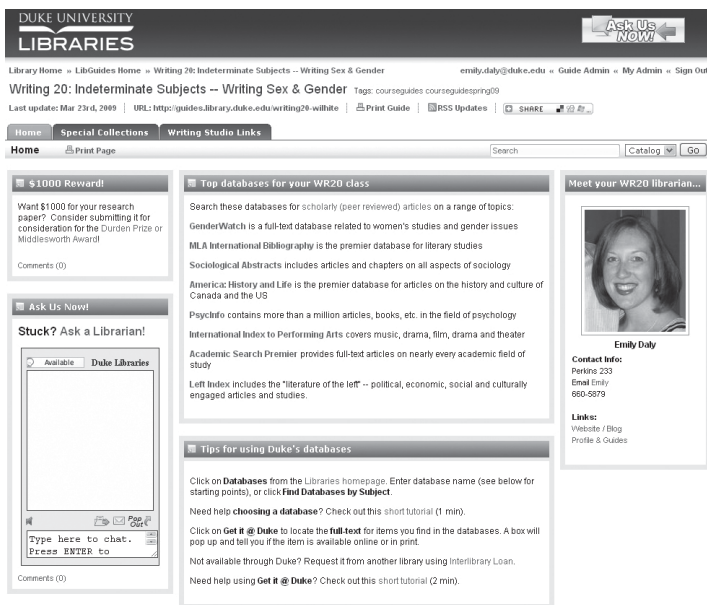


Figure 2: Library Guides (course-specific LibGuide).

them to expand the project in spring 2008. By the end of the spring semester, 16 librarians had become coursebuilders of 56 Blackboard course sites.

While the group did not conduct student surveys, librarians interviewed faculty and found, once again, that they supported the project and hoped that librarians would continue to incorporate more courses into it. Librarians benefited from the initiative, as well: They found it easier to plan library instruction sessions with access to syllabi and class readings, and they enjoyed being on course e-mail lists.

From manual to automated

At the end of the spring semester, another group, the Subject Portals Task Force, was formed and charged with creating a more user-friendly and attractive template for the Libraries' subject guides. They recommended that the Libraries subscribe to LibGuides, a Web-based "content management and knowledge sharing system for Libraries."²

By the start of fall 2008, it seemed natural to merge the two task forces and to transition from using the Blackboard interface for Library Links to using the newly acquired LibGuides application to design pages that would serve the same purpose, but with enhanced aesthetic appeal. Librarians continued to request coursebuilder access to Blackboard course sites and continued to add a content item manually, renaming the button “Library Guides.” Library Guides provided users with a link to a course-specific LibGuide as opposed to a Blackboard “page” with lists of links and

to Library Guides, noting that coupled with face-to-face instruction, the Library Guides “packed a powerful punch.” Librarians were also interviewed: They overwhelmingly agreed that the LibGuides interface was easy to use and that the initiative helped them collaborate with faculty in more meaningful ways.

While the group was pleased with its efforts thus far, it had become clear after two semesters that the current process was not scalable. It was simply not realistic to expect that librarians would ever be able to integrate resources into all (or even a majority) of the nearly 1,700

course sites that are created each semester—in each of the previous semesters, librarians had been enrolled in approximately three percent of all course sites. The group, with the help of one of the university’s Blackboard support staff, began to discuss ways to automate the inclusion of Library Guides, hoping to link all students either to subject-specific LibGuides or a LibGuide with general information about accessing library resources.

The process behind this automation was developed, surprisingly,

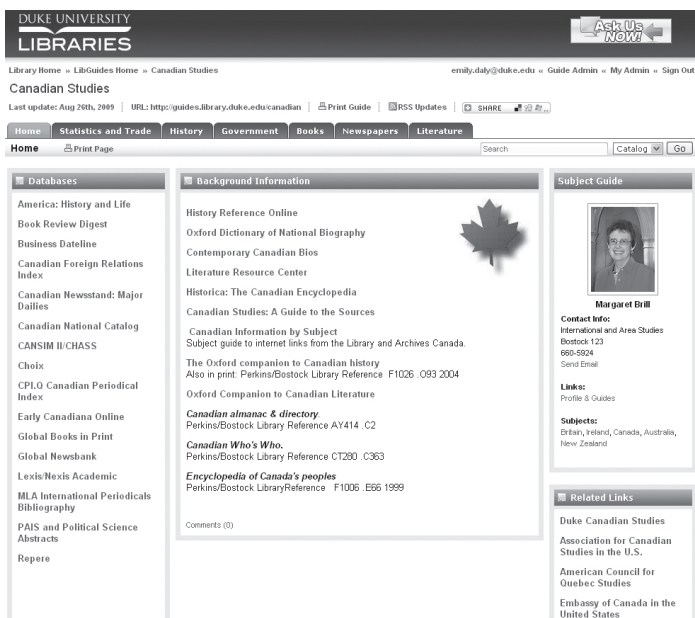


Figure 3: Library Guides (subject-specific LibGuide).

resources (see Figure 2).

By the end of this semester, 16 librarians had developed guides for 58 course sites. And librarians were doing more than merely creating content—students were using the guides, as evidenced by the 12,737 hits that the 58 guides received between August and December (it is worth noting that librarians’ hits are included in this number and that some of these hits may have come from outside Blackboard).

Once again, faculty reported liking the new Library Guides interface, and some even claimed to see a difference in their students’ work that they believed might be attributed

with relatively little effort from just two library staff—a member of the university’s Blackboard support team and one of the Libraries’ Web application developers. Essentially, students click on “Library Guides” in the Blackboard interface, and the following transpires: Javascript redirects users to an on-the-fly URL with a Blackboard-defined variable (for this purpose, the variable is the subject code for the course; e.g., ARTHIST, PUBPOL). The URL points to a middleware tool; programmers chose to use Django, which is an open source “web framework that encourages rapid development,” to create this tool.³ The Django database reads the

on-the-fly URL, matching the Blackboard-defined variable to the corresponding LibGuide (or other Web page), which a subject librarian created for that particular subject code. It then places the corresponding URL in the Library Guides menu item. Because librarians have complete control over the Django database, virtually any URL—ranging from the Duke Libraries homepage to a specialized LibGuide created with the needs and assignments of a particular group of students in mind—may be pulled automatically into Blackboard. Because the system is dynamic, the page that users see when they click on Library Guides may be instantly changed at any point in the semester by simply entering a new URL in the Django database.

Of course, this functionality is worthless without content to populate the Library Guides button, so the task force needed to determine which LibGuide (or other Web page) would be mapped to each of the 263 subject codes that correspond to approximately 1,700 course sites. The group looked to the expertise of the Libraries' 36 subject librarians, as well as librarians in each of Duke's four professional libraries, asking that subject specialists provide one URL for each subject code falling within their areas of expertise. Subject librarians were encouraged to develop subject-specific LibGuides (for instance, the librarian for Canadian studies created a LibGuide for all courses identified by the subject code "CANADIAN"; see Figure 3) but could link to non-LibGuides (e.g., more traditional subject guides using the Libraries' content management system) or even their library's homepage (librarians in Duke's professional libraries opted to do this for many of the subject codes that apply to their work) as well.

There are, of course, subject codes that simply do not correspond logically to a subject area overseen by a Duke librarian. The Black-

board sites for courses with these subject codes are linked to a general LibGuide, created to serve as an introduction to library resources (see Figure 4), which includes many of the instructional resources originally prescribed by the Librarians in Blackboard working group.

There are also a number of interdisciplinary subject codes that correspond to the interests—and, therefore, LibGuides—of multiple subject specialists. Similarly, there are a number of courses at Duke that are cross-listed under two, three, or even four subject codes. Each of these courses is arbitrarily assigned one subject code for the purposes of Black-

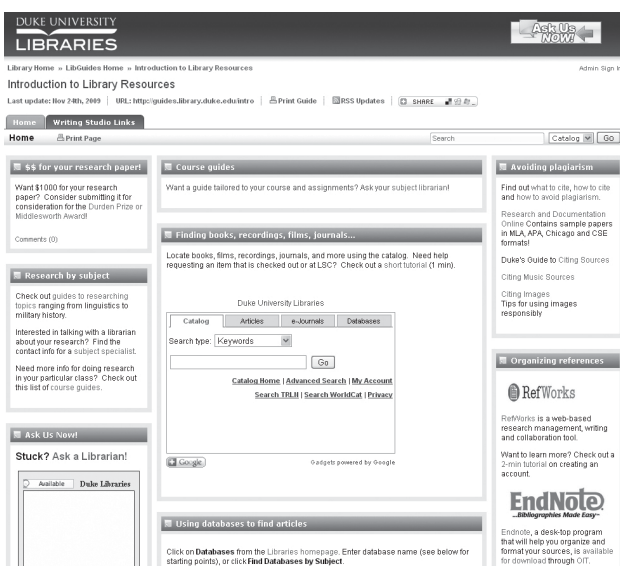


Figure 4: Library Guides (“default” LibGuide).

board management, and it is this subject code that determines which URL is automatically linked. Faculty members have been informed of this project and are encouraged to contact subject librarians if they feel that the LibGuide that has been mapped to their course is inappropriate.

This automation may sound complex, but the staff members who worked on it repeatedly commented that it was actually fairly simple to put into place. Likewise, the work for subject librarians was fairly minimal. They needed simply to provide URLs for their discipline-specific guides, many of which were

already created. The pay-off validated their efforts, for many noted that the project led to enhanced communication and increased instructional opportunities with faculty and students in their departments.

Maintaining, sustaining, assessing

To an even greater extent than in previous semesters, the task force assessed the use of both automatically and manually linked Library Guides at the end of spring 2009. Students who accessed the Library Guides menu item were surveyed, and 89 percent of the 106 respondents reported that course-specific guides were “somewhat useful” or “very useful” for their research, while 90% of those surveyed believe that guides should continue to appear in Blackboard course sites.

Hits to guides were also scrutinized. There were a total of 16,379 hits to the 74 course guides and a total of 5,947 hits to the subject guides/Web pages automatically linked within Blackboard, confirming librarians’ suspicion that manually linked course guides—often accompanied by face-to-face library instruction—are more heavily used than the more general, automatically linked Web pages.

So while the automated process ensures that every Blackboard course site includes

a general introduction to library resources, a subject-specific LibGuide or a professional library’s Web page or list of research tools, librarians are still encouraged to foster and maintain relationships with faculty and students in their disciplines, developing course-specific LibGuides in much the same manner that they did in the early semesters of the project. In manually linking specialized guides to the Library Guides menu item, they overwrite the automatically generated URL and, as before, become privy to course communication, syllabi, and assignments.

The task force disbanded in June 2009, but a representative has continued to market the Library Guides feature both to students and faculty and to provide support for these embedded librarians—librarians who have accepted the challenge to show up where Duke’s undergraduates are and when they need them.

Notes

1. Association of Research Libraries (2007), LibQUAL+ 2007 survey, Washington, D.C.
2. Springshare, LLC. (2009). Springshare. Retrieved March 10, 2010, from www.springshare.com/.
3. Django Software Foundation (2009), Django. Retrieved March 10, 2010, from www.djangoproject.com/. ♪

(“*Making the best . . .*” cont. from page 207)

focused so you can make the best out of the worst times.

Notes

1. Department for Professional Employees, “Library Workers: Facts & Figures,” AFL-CIO, www.dpeaflcio.org/programs/factsheets/fs_2009_library_workers.htm.
2. Ben S. Bernanke, “Four Questions about the Financial Crisis,” Board of Governors of the Federal Reserve System, April 14, 2009, www.federalreserve.gov/newsevents/speech/bernanke20090414a.htm.
3. Carolyn Jones, “Hard times hit home; Scenes of this recession evoke images of nation’s darkest era; Out of work: Lines of those

seeking jobs grow longer,” *San Francisco Chronicle*, August 23, 2009, www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/08/23/MNL819134C.DTL.

4. ALA, JobLIST, joblist.ala.org.
5. University of Texas School of Information, Job Web, www.ischool.utexas.edu/jobweb/Search.php.
6. LibJobs, www.libjobs.com.
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8. ALA, “New Members Round Table,” Resume Review Service, ala.org/ala/mgrps/rts/nmrt/oversightgroups/comm/resreview/resumereview.cfm. ♪