

Defining the Challenge

No longer is online learning relegated to the distance-learning realm; that era is over. As it has evolved, the Web has woven itself successfully throughout countless aspects of higher education—with no sign of stopping.

Students in even the most traditional, lecture-style courses come in constant contact with the Web, either by choice or by necessity. Net Generation (Net Gen) students e-mail their professors, correspond with fellow students via instant messenger (IM) and text messages, obtain and read course materials online, submit papers into digital drop boxes, and seek information and conduct research on the Internet—almost to the exclusion of the printed word.¹

These Net Geners represent just the first early steps toward an ever-deeper immersion of education within technology. New Millennium Luddites be advised: Resistance is futile, unproductive, and a source of boundless frustration.

The Best of All Worlds

One facet of the blending of education and technology offers a fully integrated online-learning environment. The question academic libraries need to be asking is not *if* but *how* to embrace and support the vision of a fully integrated online-learning environment. An ideal vision would include the following:

- seamless, one-stop access to information resources, regardless of source;
- individualization for the learner;
- flexibility for the instructor; and
- ease of use for all.²

Libraries have a substantial role to play in this vision. However, for the vision to be realized, it will require fundamental changes in library services as well as in the ways libraries offer up their content for use in the online-learning environment. From the perspective of the roles played and contributions made by academic libraries, this report examines how close we are to this vision.

This survey begins by examining the current barriers to the seamless integration of library resources into course-management systems; it also will highlight the many successful examples of how some of these barriers have been overcome.

One successful integration example involves library-authored course guides or course pages. These afford another means to reaching the same goal of providing library resources for integration into the individualized online-learning environment. When course-management systems are unavailable for library use, these library course pages provide an alternative.

The latter part of this report includes a showcase of the growing corpus of library course pages.

Libraries in the Student Context

While any academic library would acknowledge its need and desire to be a part of the growing online-learning environment, we do not yet know exactly all of what this encompasses. What is increasingly clear, however, is the need for library resources and services to be collocated and customized at a much more refined level than presently achieved.

Customization (for a personalized level of integration) by librarians is probably the ideal, but currently is beyond the resources and technical capabilities of most academic

libraries. Subject-level customization, as represented by subject guides and lists of discipline-specific databases and journals, is well within a library's capability, though. But there is an increasing body of evidence that lends proof to the fact this approach is too broad to be effective for undergraduate students.

The Digital Natives' Definition

Traditionally, academic libraries have created subject guides, pathfinders, and research guides to provide students with guidance to the best information resources within a specific discipline. A student writing a research paper on an aspect of American politics would be expected to consult the political science subject guide for assistance in his or her library research.

However, Web hit statistics, as a measure of utilization, reveal students are not using the subject guides in this way. For instance, of the more than 200 subject guides at the University of Rochester's River Campus Libraries, only 12, or 5.7 percent, received more than 300 hits in April 2004, with April being a generally busy month for student paper writing. Moreover, these hit counts do not exclude the many visits by library staff and use during bibliographic instruction session, which can inflate the hit statistics significantly.

River Campus Libraries Subject Resources www.lib.rochester.edu/index.cfm?page=subjects

At Australia's University of New South Wales, which has more than 40,000 students, only 7.5 percent of the 160 subject guides received more than 300 hits in April 2003. Similarly, the most popular subject guides at a large state institution, with a population of more than 28,000 students, received only 289 hits in April 2003 (Reeb and Gibbons 2004).

A 2003 survey by Duke University Libraries provides further evidence. Of the more than 1,000 library patrons surveyed, 53 percent had never used the libraries' Web subject guides, with an additional 24 percent reporting only rare use (Reeb and Gibbons 2004).

Usability testing of academic library sites and subject guides points toward students' inability to match their information needs with the appropriate subject guides. Findings that show students "weren't familiar with our Subject Guides" and "students have no idea what subject guides are" are quite common.

The chronic complaints of faculty regarding their students' poor research skills and the dearth of quality resources in the bibliographies of student papers demonstrates students do, in fact, need the information contained in these subject guides. However, time and

again students fail to find the available guides or, if found, do not use the guides effectively.

One theory to explain this disconnect, offered by Reeb and Gibbons, is that undergraduates lack a strong understanding of an academic discipline: "The concept of disciplines is not usually part of the student's mental model; therefore, the collocation of resources by discipline is not recognized" (Reeb and Gibbons 2004, 125).

Moreover, undergraduate students live in a digital world of increased customization and personalization. "Customization is central to the definition of technology for Net Geners. Technology is something that adapts to their needs, not something that requires them to change" (Roberts 2005, 3.2).

When these digital natives fail to find library resources tailored specifically to their information needs, they most often move to other, simpler, more familiar information resources, such as Google and Yahoo.³

Collocation Context and the Google Factor

One approach to address the mismatch of student mental models and expectations with library resources is to present the library in a context more familiar to students—their courses. To accomplish this, libraries must go into the online-learning environment with offerings that fit into the students' expectations and course context.

The collocation of library resources and services for a specific class is a relatively new ambition, made possible by the emergence of various technologies, such as course-management systems and database-driven Web sites. Essentially, this can be thought of as the digital equivalent of a bibliographic instruction session tailored for a particular course.

The stakes for academic libraries are high. On the one hand is the potential marginalization of libraries by search services such as Google. Google is incredibly alluring, with its simple interface that returns instantaneous results and a gratifying sense of progress.

Google Scholar
<http://scholar.google.com>

And as Google provides more refined services for "scholarly" materials (such as Google Scholar), it becomes increasingly more difficult to argue that Google is an inadequate source for a student that needs "just a few good sources" for his three-to-five-page research paper.

Recommendations of relevant, contextual library resources provided at the time and point of need is perhaps the strongest and most effective response that libraries can make to the Googlization of information.

Money Matters

Another threat for academic libraries comes from shrinking higher education budgets cast against an increasingly vocal demand for accountability for those dollars. “As budgets are reallocated (and reduced), the system is clearly shifting toward placing students’ needs high on the spreadsheet. Libraries must learn to use courseware environments to take their services directly to the students or face budget cuts as their services are seen as less relevant” (OCLC E-Resources Task Force 2003, 6).

All of this is not to suggest that we should disintegrate the academic library into a series of plug-and-play services and resources. The challenge of course-tailored library guidance is in addition to many of the same services and resources the academic library currently offers.

Two increasingly popular ways for libraries to achieve the goal of course-level customization is to integrate libraries into course-management systems and supplement library subject guides with library course guides.

As stated by Dempsey, “The important point is that the user—the reader, the learner, the faculty member—has access to the [library] service where it makes the most sense” and in a meaningful context (Dempsey 2003, 108). While a lofty goal, the examples highlighted in this report demonstrate this is an attainable one.

Of course, such initiatives require both technical and staffing resources. However, as some of the examples included illustrate, academic libraries can sometimes accomplish this without a large infusion of resources.

The decision is not *whether* but *how* your library can contribute to the success of the online-learning environment. The intent of this report is to demonstrate how, thus far, this has been accomplished as well as to highlight some of the work left to be done.

The examples of successful collaborations, creative work-arounds, and home-grown alternatives included in this report do not represent the full spectrum. The author has overlooked many fine examples due to information constraints, and, in particular to the course-management system examples, the inability to get a good look at what is going on inside the system.

Notes

1. Term taken from *Educating the Net Generation*, 2005.
2. Adapted from Currier et al., 2001, Section 5.1.
3. Prensky (2001) first used the term “digital natives” to describe those who have grown up with technology versus “digital immigrants,” who have not.

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