

Integrating information literacy into the learning outcomes of academic disciplines

A critical 21st-century issue

by Ilene F. Rockman

Information literacy is no longer just a library issue. It is *the* critical campuswide issue for the 21st century, of keen importance to all educational stakeholders, including faculty, librarians, and administrators.

The increasingly complex world in which we live contains an abundance of information choices and formats. Those individuals who are knowledgeable about finding, evaluating, comparing, selecting, analyzing, integrating, managing, and conveying information to others effectively and efficiently are held in high esteem. These are the students, workers, and citizens who are most successful at solving problems, providing solutions, and producing new ideas and directions for the future.

Within the higher education environment, it is important for students to be able to build upon a foundation of information literacy skills and abilities by being able to transfer their knowledge of information literacy from course to course. Responsibility for helping them reach this goal and for assessing their progress is best accomplished through faculty-librarian partnerships.

The California State University (CSU), the largest system of senior higher education in North America, has recognized the value of faculty-librarian partnerships for many years and is strongly committed to graduating students who possess a mastery of information competence. Since the CSU serves over 400,000 students on 23 campuses, its teaching and learning missions are of paramount importance. Students who graduate

from one of 23 CSU campuses use their education to improve their lives, and the lives of others.

In addition, from its 1995 Information Competence Initiative, faculty-librarian collaborations have resulted in the creation of information literacy courses, summer faculty workshops, assessment instruments, and, most recently, the integration of information literacy principles into the learning outcomes of academic departments.¹

CSU has received national recognition from ACRL, who selected CSU-Fullerton as a "best practices" campus for its ability to integrate information literacy systematically across all university departments and vertically within these departments at both the lower and upper division levels. CSU-Monterey Bay, an outcomes-based campus, has also been successful in integrating information literacy principles into multiple academic disciplines across the campus.

Incentives for such working relationships have come from a competitive grant process in which small grants (approximately \$5,000) have been awarded on an annual basis. Such monies have been used to fund faculty retreats to learn more about information competence and to define information competence in specific disciplines, release time for faculty to revise course curricula or to create assignments that will strengthen students' information competence skills, to develop a matrix of information competence objectives for key courses in the department, for the development of Web-based tutorials and other instructional tools, and for the development of assessment tools

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to evaluate students' information competence skills and abilities.

Success stories

In the 2001–2002 academic year, CSU awarded 25 grants to 16 campuses. The grants required that instructional departments integrate information competence into their student learning outcomes, and that this information be visible on their course syllabi. In addition, the grant stipulated that faculty create assignments that would promote the development of student information competence skills and abilities.

In order to share these successful grant experiences, the CSU Information Competence Initiative sponsored several systemwide one-day workshops in 2003. Presenters were discipline and library faculty representing exemplar grant projects at the undergraduate (biology, history, first-year experience) and graduate (educational psychology/counseling) levels.

The initiative funded one faculty member and one librarian to attend the workshops from each of the 23 CSU campuses. Opportunities were also provided at the workshops for focused small group discussion and sharing of individual campus experiences.

Biological sciences

The biological sciences information competence workshop was presented by a faculty-librarian team (Bob Hyde and Charity Hope) from San Jose State University. The goals of their project were to:

- assess how information competency is currently taught in the Biology curriculum,
- articulate information competency objectives for the program as a whole and for key courses,
- build support for information competency within the department, and
- facilitate the sharing of successful information competence teaching strategies and assignments across the department.²

Based on ACRL's "Information Literacy Competency Standards for Higher Education,"³ the department faculty applied the standards to the biological sciences. They identified specific learning outcomes for each course by clarifying individual course objectives using the standards as a guide. Examples of some of the educational course objectives were:

- to find primary sources for evaluating everyday problems as revealed in news articles after these problems have been defined,
- to analyze relationships between biotic and abiotic factors with course materials and primary sources,

- to construct and/or interpret graphical presentations for data for most topics covered,
- to communicate effectively (in writing and orally) the results of analysis of primary sources and lab data, and

- to include in all written analyses the proper use of citations from primary sources.

Biology faculty also developed a curriculum matrix, which correlated course offerings (e.g., plant science, animal biology, scientific communication) with various components of the standards; created a pre- and post-student self-assessment worksheets; and created various open-ended student assignments (such as researching a topic on PubMed, conducting a literature review and citing materials correctly, or developing arguments for a scientific debate). All of these were mounted on a campus Web site for easy access so that faculty could refer to them and use them in their teaching.⁴

History

The history information competence workshop was presented by a faculty-librarian team (Dee McBroom, Anne Paulet, and Ray Wang) from Humboldt State University. The history department wanted to create a fully integrated major sequence of courses, with information competence as an important component, culminating in Senior Seminar and Portfolio Assessment.

The department decided to establish two basic lower division courses (Introduction to History and Computer Research in History), which would form the core of the major.⁵

Information competence skills were strongly integrated into both of these courses. Faculty agreed that the courses should include these student learning outcomes:

- research skills/gathering sources,
- facility with primary and secondary sources,
- critical reading and thinking,
- history methodologies,
- historiography,
- facility in oral presentation, and
- production in coherent and analytical historical writing.

In addition, in the computer research class, students are introduced to the Internet, online library databases (especially for locating full-text journal articles), locating primary sources on the Web, evaluating and designing Web pages, and citing information correctly.

In upper division courses, students hone, rein-

force, and apply these information competence skills (research, locating sources, critical thinking, oral and written communication, technology) as they complete their required coursework. This preparation and experience is necessary for the Senior Research Seminar, which requires them to produce a seminal paper or a piece of original research, and for the Portfolio Assessment class, in which they are asked to compile a portfolio of their work assessing their growth over time as both a writer and as an historian.

The grant helped the history department faculty to reflect upon, and reinvigorate, the content of their department courses without changing the basic structure of the history major. By all accounts, the grant experience was a success and a major step forward for the department.

Educational psychology/counseling

The graduate program in Educational Psychology/Counseling (EPC) was presented by the faculty-librarian team (Rie Rogers Mitchell, Merrill Simon, Greg Jackson, and Lynn Lampert) from CSU-Northridge. As with the other disciplines, the EPC faculty wanted to explicitly state their desired learning outcomes, and incorporate information competence principles into the graduate program.

The department faculty agreed with the ACRL document "Information Literacy in a Nutshell: Basic Information For Academic Administrators and Faculty,"⁶ which defines information competence as a gestalt composed of:

- tool competence (the ability to use print and electronic resources),
- research competence (the ability to understand and use information technology tools to carry out research),
- publishing competence (the ability to produce a text, multimedia report, journal article or PowerPoint presentation),
- resource competence (the ability to understand the form, format, location, and method to access needed information),
- social-structure competence (the ability to understand how information is produced, including the professional publishing process), and
- professional competence (how to use these skills effectively and efficiently with clients).

In addition, the department noted that because the typical graduate student lacks basic research and library skills, a prerequisite for admission into the graduate program would be the possession of information competence skills (or re-

ferred to where students can develop these skills), and that such competence (e.g., staying current with the professional literature, being able to conduct a literature review) is essential for lifelong learning and excellent performance as a professional in the field of counseling.

The department worked to develop processes to ensure that information competence was included in specific core classes by integrating information from the ACRL standards. The goal was that students would progressively acquire these skills throughout their coursework, and should improve as they advance in the graduate program. As a result, the department created a certificate of mastery in information and research competencies, which distinguishes its graduates from graduates in other programs from other universities. The certificate is signed by the department chair and distributed to students upon completion of the program.⁷

First-year experience/freshmen seminar

Addressing the needs of entering freshmen to integrate information competence into the freshman seminar curriculum was a collaborative team from Sonoma State University, including a discipline faculty member (Suzanne Toczyski), library faculty member (Karen Brodsky), peer mentors, and students.

Unlike other universities in which freshmen seminar is mandatory, at Sonoma State University, approximately 70 percent of the university's freshmen choose to enroll,⁸ and within the experience they receive a healthy dose of opportunities to develop information competence skills.

The goals of the freshmen seminars are to:

- increase information competence among the faculty and peer mentors,
- increase collaboration between the library and discipline faculty, resulting in course-specific student freshmen experiences, which further their information competence skills and abilities,
- increase contact between librarians and freshmen,
- help faculty to develop assignments that will allow students to use information competence in concrete, assessable ways, and
- assist students in identifying resources, implementing research strategies, writing bibliographies, citing sources, and presenting information both orally and in writing.

A distinct advantage of the experience from a faculty perspective was the time and opportunity

to consult with a librarian concerning appropriate assignments and research projects. This "check and balance" with a librarian prevented students from receiving assignments that were too complex, overwhelming, or inappropriate for a freshmen-level experience.

Students appreciated the interactions with a librarian in which they learned (often, for the first time) that not all information sources are of equal value or to be trusted. In addition, they learned how to define a manageable research project, the differences between scholarly journals and popular periodicals, and about Web and print resources.

Conclusion

It is clear that administrative support and strategic campus partnerships have helped to advance the infusion of information competence into the learning outcomes of academic disciplines within the CSU system.

Small grants have helped to seed the growth and development of the Information Competence Initiative, and intercampus sharing of successful experiences have inspired and motivated faculty to move forward in a positive direction.

The challenge in future years will be to sustain these programs, which is now more possible than ever before due to a common baseline

of information competence knowledge among the faculty. By doing so, the chief beneficiaries will be our students—our new lifelong learners.

Notes

1. Information on CSU's Information Competence Initiative is at www.calstate.edu/LS/infocomp.shtml.

2. See "Information Competency in the Biology Curriculum," slibrary.org/services/literacy/info_comp/infocomp_bio.htm.

3. ACRL's "Information Literacy Competency Standards for Higher Education," www.acrl.org, click on "Standards & Guidelines."

4. See "Information Competency in the Biology Curriculum," slibrary.org/services/literacy/info_comp/infocomp_bio.htm.

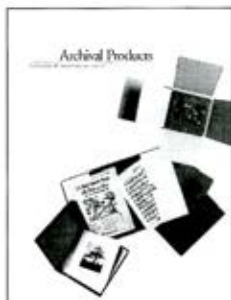
5. Humboldt State University Web page on Information Competence for History Majors is at www.humboldt.edu/~ap23/infocomp/index.htm.

6. Association of College and Research Libraries. "Information Literacy in a Nutshell: Basic Information for Academic Administrators and Faculty." www.ala.org/acrl/nili/whatis.html.

7. The certificate is online at: www.csun.edu/edpsy/ACES/pdf/document19.pdf.

8. Karen Brodsky and Suzanne Toczyski, "Information Competence in the Freshmen Seminar," *Academic Exchange Quarterly* 6:4 (Winter 2002): 46–51. ■

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