

Library Support of Instruction for Undergraduate Research Methods:
Toward a Proposal to the Humanities Subgroup of the Curriculum Review Committee

The problem:

The Yale University's review of the undergraduate curriculum asserts that undergraduates should leave Yale "research literate." This implies that the graduate has mastered necessary skills for investigation, discovery, critical analysis, and clear communication of knowledge.

Many entering undergraduates are not prepared to take full advantage of the rich access to information available to them at Yale. We have not institutionally attended to making simple or effective, undergraduate student's transition from their narrower scope of high school information channels to the more open, wide and diverse range of research resources found here. The challenge is to ensure that each Yale undergraduate progressively develops research skills, including those necessary to utilize information effectively.

At the conclusion of a meeting with the University Librarian and Associate University Librarian, the Humanities Subgroup of the Curriculum Review Committee posed a set of questions about how the Library and its staff might help develop that competence. Specifically, the Group invites us to address the following questions:

- What information literacy standards might be set for the educated Yale undergraduate student?
- How might the Library participate in setting these standards?
- How can the Library help to ensure that undergraduates become "research literate?"
- What would it take to do it?

The library profession, nationwide, has actively attempted to identify and teach "information literacy" skills. These are closely related and perhaps a foundation for "research literate" skills discussed on campus. Such skills are identified as the abilities involved in identifying an information need, accessing needed information, evaluating, managing, and applying information, and understanding the legal, social, and ethical aspects of information use¹.

This paper brings attention to a nationally developed description of standards and competencies for an information literate person, highlights what the Yale University Library has been doing to support the development of information literacy skills among undergraduates, and suggests possible ways that the Library might strengthen its engagement in the education of freshmen and sophomores. This is not a concrete

¹ Association of College and Research Libraries. Guidelines for Instruction Programs in Academic Libraries [draft, revised September 2002], p. 1 as found at: <http://www.ala.org/acrl/guides/guisdrftrev.html>

proposal. Rather, it is background information we offer for further discussion among the faculty and with the Library. It builds on discussions librarians have had about this topic, including the work of a group charged to recommend improvements to the Library's undergraduate instruction efforts a couple of years ago².

National standards.

The Association of College and Research Libraries (ACRL) has developed and promotes competency standards for information literacy in higher education³. An information-literate student should be able to:

1. Determine the nature and extent of information needed
2. Access the needed information effectively and efficiently
3. Evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system
4. Use information effectively to accomplish a specific purpose
5. Understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally⁴.

Twenty-two performance indicators and outcomes for assessing literacy skills among college students accompany this national standard⁵. These guidelines were designed to assist faculty and librarians in institutions of higher education who are interested in preparing information-literate students to shape customized standards that fit their local setting.

The Library welcomes an opportunity to develop such a program with faculty and administrators. In 2000, a group of Yale librarians investigated the application of these standards at Yale and recommended local customization of the standards as part of a comprehensive instructional program. In particular, the group recommended Standard 2, focusing on the student's ability to access needed information effectively and efficiently, to be most applicable to Yale's educational environment. The performance indicators for this standard include the following expectations of what an information literate student can do:

- 2.1 select the most appropriate investigative methods or information retrieval systems for accessing the needed information
- 2.2 construct and implement effectively-designed search strategies
- 2.3 retrieve information online or in person using a variety of methods
- 2.4 refine the search strategy if necessary
- 2.5 extract, record, and manage the information and its sources⁶

² This document was prepared with assistance from several librarians. It also incorporates work undertaken by an ad hoc group of RSC Librarians, chaired by Nancy Godleski, to explore undergraduate instruction, results were reported in June 2000.

³ Other professional organizations are developing subject based information literacy guidelines as well. For example, the Education and Behavioral Science Section of ACRL published psychology-specific guidelines. These may be viewed at: <http://www.lib.msu.edu/corby/ebss/psycguid.htm>

⁴ Association of College and Research Libraries. Information Literacy Competency Standards for Higher Education. (Chicago: ACRL, 1998), p. 9-10 Also at: <http://www.ala.org/acrl/ilintro.html>.

⁵ A listing of these performance indicators and outcomes can be found at: <http://www.ala.org/acrl/ilstandardlo.html>

⁶ ACRL Information Literacy Competency Standards for Higher Education. Found at: <http://www.ala.org/acrl/ilstandardlo.html>

The librarians noted two areas where the Yale environment will influence local application of national standards. The first is the strong emphasis on using Yale's physical library collections to balance the standards' emphasis on learning about electronic resources. The other is the integration of library-based learning into course content. Here, close collaboration among faculty and librarians in the planning of an instruction program will be most effective.

Present Library instructional activities to support undergraduate education.

Yale librarians have numerous examples of how such partnerships with individual faculty members and academic departments have contributed to undergraduate's research capabilities. We estimate that 800 undergraduate students attend lectures or sessions on basic research that librarians present each year. These are offered through mandatory and optional courses in English, History, and Psychology. The Library also teaches more advanced skills for majors in several academic departments, including History, Economics, Political Science, English, Psychology, American Studies, Architecture, Molecular Biophysics & Biochemistry, and Biology. Staff estimate that 400 upper-level undergraduates are reached through these programs.

The Library presented approximately 1000 instruction sessions this past year [FY02] to nearly 9000 students, faculty and staff. Over 30 librarians, subject specialists, and curators design and deliver instruction as part of their job responsibilities.

The Library teaches basic research skills in at least four different settings. Where attendance is required by the faculty, the Library is more successful in reaching students than through those sessions offered for the self-motivated learner.

1. In-class sessions are required of students enrolled in English 114. These sessions provide students approximately 2.5 hours of instruction in the fundamental principles of information organization and retrieval, and analyzing research topics to retrieve relevant information; a physical orientation to the Cross Campus and Sterling Memorial Libraries is also provided. Approximately 300 undergraduates, mostly freshmen, learn about information resources and retrieval through this channel each year.

2. Two out-of-class sessions are required for history majors as part of a program that librarians have developed with the History Department. The non-credit session, "Introduction to Library Research in History" communicates basic concepts and tools in 1.5 hours. We estimate that 175 undergraduates participate in this experience. A similar concept has been introduced this year for architecture students. The research skills of history majors develop farther if faculty elect to have a research session in the context of required junior seminars. The history librarians urge faculty to schedule these opportunities as a required class time activity. The second required session for history majors is the Senior Essay Colloquium, which directs seniors to more advanced tools and methods in the field of their research.

3. Library sessions that are not required by the faculty are provided in conjunction with English 115 as part of the syllabi. Similar sessions are typically provided through History 140, Psychology 140a and Theater Studies 110. An estimated 240 students attend these introductory sessions.

4. In addition the Library provides instructional sessions on using a specific tool, such as Endnote, or on specific research strategies such as how to find a journal. Though open to any member of the Yale community, these are mostly attended by graduate students and faculty. In addition to classroom presentations, librarians and other subject specialists prepare Web-based guides to collections and to research in specific academic disciplines. These useful subject guides may be seen at:

<http://www.library.yale.edu/guides/>

and tutorials and other online instruction tools may be reviewed at:

<http://www.library.yale.edu/instruction/>

Ways the Library might contribute to preparing Yale undergraduates to be research literate

We identify four immediate opportunities for the Library to contribute toward improving the preparation of Yale undergraduates with research skills important to their life-long learning habits and successful utilization of information. Librarians can:

1. Work closely with faculty to clarify the information literacy competencies expected of Yale undergraduate students, at different stages of their education. The Humanities Subgroup members and two or three librarians, utilizing the ACRL standards as a starting point of discussion, could do this this academic year. The Library would be happy to execute such a charge for the Subgroup if time does not permit it be part of the full group's agenda.
2. Participate in planning the development of these competencies through a progressive learning plan for undergraduate students. The Library is eager to coordinate its teaching of information skills to complement the curriculum and effectively develop its contribution to a progressive learning program. The Library could help assure that information literacy increases complexity through a student's career to match his/her increasingly sophisticated academic skills.
3. Assist in the evaluation of information literacy programs and assessment of learning outcomes. The Library has experimented with assessment methods such as surveying students and teachers, testing skills and understanding of concepts, interviewing faculty about pedagogical needs, and inviting feedback on satisfaction with library services⁷. We acknowledge that more can be done

⁷ One example of a close collaboration with a faculty member to assess the impact of a library instruction program illustrated both the ambivalence toward questionnaires among Yale students and the positive effect of integrating the information literacy instruction with the course. Professor Johnston and librarian Nancy Godleski introduced a pre and posttest to gauge understanding of basic concepts in a session of History 132. Although part of the course requirement, response to the final questionnaire was below 50%. However, of those responding, an increase from 20% before the library instruction to 80% after it was seen in the number of students who correctly answered a question regarding locating a periodical article in SML, a skill emphasized in the sessions.

and believe that assessment of outcomes of instruction in research methods should be a shared responsibility with the faculty.

4. Use the opportunity for renovation to construct more spaces to support teaching and learning in close proximity to research resources and the expertise of librarians. Initial planning for the renovations of the Cross Campus and Sterling Memorial Libraries, as well as the Social Sciences Library, promotes the Library as a place that fosters a culture of inquiry-based learning for undergraduates. We look forward to explore with faculty, students and architects ways to update and expand various learning environments in the libraries, including study spaces used individually and by groups, electronic and seminar classrooms, and consultation areas.

What is needed for the Library to engage more effectively with information literacy instruction?

The following conditions would allow the Library to improve its contributions to preparing information literate undergraduates at Yale.

1. A university and faculty commitment to including information literacy as an essential goal of the Yale undergraduate education.
2. Inclusion in planning of the undergraduate curriculum, both in designing how students will develop information literacy and the design of specific courses to achieve competence.
3. Clear goals and measures for success about the contribution of research skills to undergraduate education. Establishing standards for research proficiency could benefit from collaboration among teaching faculty, administrators, librarians, and experts in teaching and technology.
4. Library staff resources adequate to develop and implement an instruction program coordinated with the undergraduate curriculum. This might require a program director, clerical support, and an added equivalent of two or more FTE teaching librarians, as well as appropriate workspace, equipment, software, and technology assistance for at least 3 years⁸.
5. Learning and teaching spaces, adequately equipped for use of new information technologies, including assistive technologies for learners with disabilities. The Library currently has one electronic classroom in CCL for teaching students, another classroom for staff training and a second makeshift area in the Arts Library.

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⁸ To date, program development, delivery of general education sessions, maintenance of web-based and print communication of instructional events and guides, service assessment, and development of teaching skills among librarians have occurred through committee work, volunteer effort, minimal administrative direction, and minor clerical support. The estimated annual cost to improve this evolving program might approach \$200K for staff and \$50K for technology support [at 2/3FTE]; one time cost for computer stations and basic software for four new staff would be around \$12K.