

Quality Undergraduate Education in a Research University—The Role of Information Literacy

Ann C. Schaffner, Leslie Stebbins, and Sally Wyman

New concerns about undergraduate education, particularly in research universities, present new opportunities for us as librarians—opportunities to strengthen our information literacy programs, to enhance our role in undergraduate education, and to improve the quality of that education.

Of course, concern about undergraduate education has been with us in one form or another for decades, from early reform efforts by John Dewey, and Alfred North Whitehead to the experimental colleges of the 1960's and the "culture wars" of the 1980s.¹ In the last 5 years, however, the level of concern has intensified and the flood of reports, position papers and recommendations has crested at an alarmingly high level. Reports with catchy and compelling titles continue to roll off the presses with increasing regularity: "Shaping the Future: New expectations for Undergraduate Education in Science, Mathematics, Engineering and Technology," "Beyond Bio 101: The Transformation of Undergraduate Biology Education, Physics at the Crossroads," to mention just a few.² The reports, in turn, have generated

a lively discussion in the literature of just about every discipline—including mathematics, German, geology, and many others.

Most important for us as librarians is not the quantity, but the focus of this new round of criticism and debate—a focus on issues central to our own missions—research skills, active learning and critical thinking.

The Boyer Commission Report, "Reinventing Undergraduate Education: A Blueprint for America's Research Universities,"³ brings together many of these concerns in a well-developed critique of undergraduate education at U.S. research universities. Released in April of 1998, the report's conclusions, while aimed at research universities, applies to most U.S. institutions of higher education, whether classed as research institutions or not. In the months since its release, the report has been a catalyst for discussion, defensive action, and reform at a number of institutions—Rochester, SUNY Binghamton, University of Michigan and the University of Southern California, to mention just a few. Many of our campuses are actively engaged in creative efforts to improve undergraduate education.

Ann C. Schaffner is associate director, public services, Leslie Stebbins is reference librarian/instruction coordinator, and Sally Wyman is librarian for research services, Brandeis University.

The Boyer Report asserts that undergraduate education in research universities does not take full advantage of the unique opportunities available in these institutions. Links are often not made between undergraduate education and faculty research; opportunities to enrich and strengthen undergraduate education through exposure to the research process are missed. Undergraduates are too often the passive recipients of a segmented curriculum presented by untrained graduate students. Uninspired, unmotivated, pushed through their education as unwilling participants, students often emerge from this process without an understanding of how knowledge is produced, ignorant of the relationships between different fields, and incapable of expressing themselves clearly.

We can all see some of these results in the students we work with at research universities. What are the solutions proposed by the report? There are ten major recommendations, and they will sound familiar to those of you who are instructional librarians:

1. Make research-based learning the standard
2. Construct an inquiry-based freshman year
3. Build on the freshman foundation
4. Remove barriers to interdisciplinary education
5. Link communication skills and course work
6. Use information technology creatively
7. Culminate with a capstone experience
8. Educate graduate students as apprentice teachers
9. Change the faculty reward system
10. Create a sense of community

Sound inspiring? What can we do as librarians? What role does the Boyer Commission outline for us? None! The report advocates involving undergraduates in research, exposing them to primary source materials, and educating them about the production of knowledge. Yet libraries are given only a passing mention (as a part of the resources students may expect at a research university) and no mention is made of the role of librarians or information literacy programs.

At the same time, library instruction programs at many of our institutions have begun to work on precisely these issues. We are all contributing to changing undergraduate education in exactly the ways envisioned by the report.

At Brandeis, where we have the advantage of being a small research university, library instruction programs reach every first year student and many students in advanced courses. Through these programs we encourage

research, teach evaluative skills, encourage the use of primary materials, provide one-on-one guidance, introduce many of our students to the concept of a “discipline”, encourage and support multi-disciplinary approaches and introduce active learning techniques to many students.

The Brandeis library instruction program takes place through two formal programs: the Freshman Library Instruction Program (or FLIP), for all first-year and transfer students, and the Library Intensive Program for upper-level and graduate students.

The FLIP program began in 1994, as a component of the writing lab portion of the University Seminars in our newly-revised curriculum. The University Seminar program pairs small groups of first-year students (rarely more than 18) with established faculty members from all different disciplines in the University. The course topics are designed to catch the attention of the students, while at the same time, give faculty members the opportunity to experiment with particularly interdisciplinary topics. The adventurous spirit of these courses is best illustrated by two of the recent course titles: “Everyday Activity”, taught by a Computer Science faculty member, and using such activities as playing a CD and carrying on a conversation to explore models of skill acquisition and problem-solving and the role of culture in everyday activity; and “Don’t Get Mad, Get Even: The Ethic and Aesthetic of Revenge”, taught by a faculty member from the Theater Arts program. Accompanying this discussion portion of the course is the writing lab taught by a writing lab instructor. It is within this context and in anticipation of writing their first research paper for the writing lab, that the students visit the library for their FLIP experience.

FLIP’s are 50-minute hands-on active learning sessions, utilizing a specially designed interactive web page. Prior to the session, students are instructed to complete and electronically submit a web-based worksheet on topic analysis and construction of a basic search strategy. The session begins with a brief introduction by the librarian. Students are then paired up to complete an in-class web exercise requiring that they use their previously-devised search strategy to search the Brandeis online catalog. Next, they choose from a selection of journal indexes to find articles on their topic, and, finally, they venture out onto the Web to look for more information. The last ten minutes of the session are devoted to a group discussion of the differences encountered in the differ-

ent types of databases. This portion of the session provides a chance to emphasize the need for critical evaluation of the references the student retrieves, and to discuss the cues useful in distinguishing between popular and scholarly literature. While the librarian is there to conduct the session, his/her role is secondary to the self-instruction and collaborative learning taking place in the working pairs at the workstations. The librarian does, however, make an effort to orchestrate the closing discussion to make sure that certain key points are made in a “guide at the side” model.

The goals of the FLIP were, from the beginning, modest. They were, first and foremost, to get students into the library and to make contact with an approachable and knowledgeable librarian, who could serve as a resource when needed later on. Additionally, the program was designed to introduce students to the concept of a discipline, to the research process, to the types of resources available, to the differences between popular and scholarly literature, and to plant the seeds of the idea of critical evaluation. One other goal is that there be little preparation time involved, so that librarians have time to devote to the lengthier preparations required by the Library Intensive Program. We are conducting a preliminary evaluation of the FLIP program this semester, with a full-scale one planned for the fall.

The Library Intensive Program is a formal program providing course-integrated information literacy instruction for upper-level undergraduates and graduate students. From the beginning it was viewed as, centrally, a partnership between librarians and interested faculty members to design instruction highly tailored to the needs of the students in a particular course. To that end, certain expectations are made of the faculty members who join the program. Each faculty member must make a commitment to the program well in advance of the start of the semester of instruction; that commitment must include the faculty member’s agreement to begin working closely with the librarian well in advance of the in-class sessions, to design instruction and a closely linked assignment jointly. Finally, the faculty member must agree to provide the necessary amount of class time to accommodate the library instruction—from 1 to 3 in-class sessions.

The cornerstone of the program is the Faculty-Librarian Workshop, held near the end of each semester. Faculty members from the past semester are invited, along with those faculty members who have been iden-

tified as participants for the upcoming semester. Any faculty members who might be potential participants are also invited, along with various University administrators. We find that the workshop is one of the most important aspects of the program, exposing faculty members to the possibilities for instruction and assignment design, engaging them in broader discussions, and allowing them to make connections with librarians and with faculty members in other disciplines. The glue for all of this is the library and library instruction.

The instruction taking place in the Library Intensive sessions, while very loosely guided by a model curriculum, is highly individualized in its approach. The choice of tools taught, the emphasis of the instruction, and the nature of the assignment, help convey to the students that information is transmitted in a particular way in the particular discipline. At the same time, features common to library research across disciplines are also taught.

Increasingly, just as the University curriculum is reflecting greater emphasis on inter-disciplinary instruction, so is the Library Intensive Program required to address those needs. To meet this demand, library intensive courses are frequently team-taught now, with each librarian contributing his/her expertise to the enlarged partnership with the faculty member. It has been interesting to note, in these instances, that it is sometimes the librarian who is providing the bridge to the less-familiar discipline for the faculty member. Such was the case this past fall, when a chemistry professor taught his first forensic science course. One library instruction session focused on the wide diversity of scientific literature and tools. The second library session, taught by the legal studies librarian, introduced the students—and, not incidentally, the faculty member—to some of the intricacies of researching court cases. Both elements of the library instruction were integral to the success of the students in completing their research paper assignment.

The Library Intensive Program is considered a great success. We know this from the comments of students and faculty members, who almost unfailingly remark on how much they have learned. We know this also from the growing demand for Library Intensive instruction, and from the rising attendance levels and active participation of faculty members at the Workshops. One of the reasons the Program seems to work so well is that the faculty members who participate do so out of choice—and it is their commitment to the importance

of this instruction that motivates the students.

Of the major points in the Boyer Report: “Ten Ways to Change Undergraduate Education,” the following are incorporated in library instruction at Brandeis:

1. Make research-based learning the standard

For library instruction to be meaningful, there must be a need. The Library Intensive Program has played a part in encouraging faculty at Brandeis to require a research paper or other type of research effort — this phenomenon has been most noticeable in the sciences, where movement away from complete reliance on textbooks has been most difficult, but is taking place slowly. The greatest benefit occurs when the instruction is timed in the semester to the period when the students are beginning their research efforts, and will be most open to instruction.

2. Construct an inquiry-based Freshman Year

The Brandeis USEM program, with its real-life questions and writing and research requirements, has provided a good venue for the training of first-year students in research and critical evaluation skills in the FLIP sessions.

3. Build on the Freshman Foundation

Library Intensive instruction assumes that students have already been introduced to basic research and introductory critical evaluation skills through their Freshman Library Instruction sessions. Library Intensive sessions can, thus, begin on a slightly higher level, and proceed commensurately.

4. Remove barriers to interdisciplinary education

Oftentimes, we have found that it is the librarians who encourage faculty members to think in more interdisciplinary ways, as they begin their planning for Library Intensive sessions. The team-teaching of Library Intensive sessions by librarians specializing in different disciplines incorporates the idea of the librarian as the bridge to a new discipline. Even in Library Intensive courses which are not team-taught, the fact that most librarians are generalists fosters a more an inter-disciplinary approach to classroom instruction of all kinds.

5. Link communication skills and course work

6. Use information technology creatively

The use of the interactive web page for FLIP provides instruction that feels comfortable to this generation of students. In Library Intensive courses, custom web pages and PowerPoint slide presentations are often used in creating hand-outs and as teaching tools in live demonstrations.

7. Culminate with a capstone experience

While Brandeis does not have a campus-wide “capstone experience”, the Library Intensive instruction, in a particularly in-depth format, plays an important role in several senior honors programs, including those in American Studies and Chemistry.

8. Educate graduate students as apprentice teachers

9. Change faculty reward systems

10. Create a sense of community

The Library Intensive Workshop held each semester provides a forum for discussion of information literacy issues. Many of the faculty members who attend are “regulars”. This is one of the few times during the academic year that issues of concern to both faculty members and librarians can be freely discussed. Recent discussions have covered such topics as use of the web for research, copyright, and critical evaluation.

The Freshman Library Instruction and Library Intensive Programs at Brandeis are not atypical of library instruction programs in other universities and colleges across the country. Many of these programs already address some of the issues and imperatives detailed in the Boyer Report. Clearly, library instruction is but one component of the much larger picture of higher education, but, just as at other institutions, the two Brandeis programs described here are working together to make a difference in that larger picture.

What are the lessons here for librarians? We think there are several:

1. Participate in the debate about undergraduate education.

Find out what is being discussed or planned in your institutions. National discussions about curriculum are being mirrored on individual campuses in major reviews and revisions of the undergraduate curriculum. Work with faculty and academic administrators to generate

interest and discussion on these issues if the debate is not already taking place on your campus.

2. Publicize the role that library instruction has played or can play in improving the undergraduate educational experience.

Make sure that academic planners know the role that an aggressive library instruction program can play in encouraging faculty to expose their students to the research process. As already mentioned, we have evidence at Brandeis that our library instruction program has changed the way that some science courses are taught—inspiring faculty members to incorporate library research (as opposed to lab research) into courses that previously relied entirely on texts, reserve readings and lab work. Administrators may not be aware of this. Make sure that the role we play in introducing research skills and critical thinking skills is also understood and appreciated.

3. Publicize the unique skills and talents that librarians can bring to the undergraduate educational reform effort.

In addition to the core skills in research and critical thinking, many librarians have broader skills and knowledge to contribute. Often we are among the few people on campus who have a broad view of the disciplines and of how knowledge is produced, transferred and preserved in different disciplines. This perspective may prove valuable on a campus which is beginning to embrace multidisciplinary or interdisciplinary studies.

Librarians are also often among the most knowledgeable people on campus about the educational use of technology or active learning techniques. We can be valuable resource people for efforts to incorporate technology and active learning into the curriculum.

4. Seize the opportunity presented by the interest in curricular reform to strengthen your library instruction programs.

Now is the time to make the case for that new instructional position or a new classroom. Now is the time to increase participation in our programs. By tying requests into the broader goals of educational reform, we have a better chance at success.

Finally, there is the lure of outside funding. Corporations, foundations, and government agencies are all supporting undergraduate educational reform. Library instruction programs can be linked to broader educational funding proposals. At Brandeis we have done just this with a proposal to incorporate multidisciplinary learning and critical thinking into the undergraduate curriculum. If funded, our proposal will bring added resources to our library instruction program, allow us to incorporate more critical thinking into our program, and integrate it more thoroughly into the curriculum.

Librarians and library instruction play an important role in a quality undergraduate experience. It will take some work to make sure that role is understood and appreciated on campus. Once it is, we can all realize real benefits for our programs, our profession, and the undergraduates we serve.

Notes

1. For a good review of the history of curriculum development and change in the U.S., see *Handbook of the Undergraduate Curriculum*, Jerry G. Gaff, and James L. Ratcliff, eds., San Francisco, Jossey-Bass, 1997.

2. For a good collection of recent reports see *Case Studies in Science*, <http://www.wublib.buffalo.edu/libraries/projects/cases/sites.htm>.

3. <http://notes.cc.sunysb.edu/Pres/boyer.nsf>