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Critical research practices at Binghamton University

A case study in collaboration

This article provides a brief history of information literacy efforts at Binghamton University (BU) Libraries and a description of the work of the Critical Research Practices Committee. This committee conducted a survey of teaching faculty and teaching assistants in collaboration with the university's assistant provost for curriculum, instruction, and assessment and subsequently worked to promote successful critical research practices among students at BU.

History of information literacy at the Binghamton University Libraries

BU Libraries established an Information Literacy Committee in January 2000, building upon the work conducted previously by the Instruction Working Group. Traditional information literacy efforts included bibliographic instruction, Web pages, drop-in library workshops, credit courses, tours, and orientation sessions.

The Information Literacy Committee drafted a curriculum based upon the ACRL "Information Literacy Competency Standards for Higher Education," developed in 2000.[1] Once the curriculum was completed, the Libraries began working closely with the University Undergraduate Curriculum Committee (UUCC) to offer two experimental credit-bearing courses in 2000, taught by library staff.

In February 2002, UUCC approved three university-wide courses in library and Internet research. The courses were open to all BU undergraduates. Librarians had taught credit-bearing courses prior to this, but these specific "Information Strategies" courses were new. The two-credit courses were offered from 2002 to 2004, and while they were considered effective, enrollment was low. As a result, the libraries decided to discontinue them and consider a different approach.

The committee outlined a short-term plan to address information literacy needs, which included continuing the development of Web pages and guides and working with the university's First Year Experience (FYE) program. Over the course of the 2004-2005 school year, Library Administration met with the Information Literacy Committee and began a series of discussions aimed at reinvigorating information literacy efforts at the libraries.

Critical research practices committee

In February 2006, the Libraries' Critical Research Practices Committee (CRPC) was organized and charged with establishing "a shared understanding of critical research practices and information literacy as they relate to the use of library resources, including electronic and print collections, profes-

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sional resources and learning technologies."[2] The eight member committee was initially comprised of four librarians: Kate Bouman (chair), Angelique Jenks-Brown, Bern Mulligan, and Erin Rushton; three university faculty members: Nancy DeJoy, Sharon Fellows, and Edward Kokkelenberg; and a graduate student: Francis Wiafe-Amoako. An overarching goal was to demonstrate to students that the research process is an important lifelong, life-enhancing activity.

As early as the second meeting, the committee started discussing ways of gathering information on the "campus climate" for research practices by students. Two ways that the committee decided might be fruitful were a survey of teaching faculty and teaching assistants on their perceptions of student research practices and a "tally" sheet to be used at the reference desk to obtain librarian observations on similar student research behaviors.

Committee members consulted with colleagues and teaching faculty to determine the main areas of concern about student research practices in creating the survey and the tally sheet. Drafting these two instruments took the better part of Spring 2006 to accomplish.

On August 25, 2006, a meeting took place between Sean McKitrick (assistant provost for curriculum, instruction, and assessment), John Meador (director of libraries), Susan Currie (associate director for public services), and Kate Bouman (chair of the CRPC) concerning the libraries' role in supporting student research. McKitrick was very interested in the work the committee was doing because of two recent assessments his office had done of faculty in which the research practices of students had surfaced as a concern.

On October 19, McKitrick met with committee members and whole-heartedly endorsed the two instruments on which they had been working. He volunteered to send the survey to faculty, which both added an official dimension to it (faculty were more apt to respond to something coming from the provost's office) and facilitated the mechanics of its administration and tabulation. Approval for human subjects' research was granted for the survey.

From November 1-10, the survey was sent to each of the deans' secretaries, who were asked to distribute e-mails to their respective faculty requesting their participation in the survey. It was also sent to the Graduate School, whose secretary sent an e-mail out asking that all graduate teaching assistants participate as well.[3]

At about the same time (November 6-13), the committee asked staff at the Bartle and Science Library Reference desks to fill out the tally sheet.[4] On November 30, McKitrick returned to discuss the results of the survey. The results of the tally sheet were also discussed.

Survey and tally sheet results

Of the 256 respondents who answered the survey, 100 were faculty members (39%), 150 were graduate teaching assistants (59%), and the remainder did not state their status. The majority of the respondents were from Harpur College, which includes Arts & Sciences (180, 70%); 29 were from the Watson School of Engineering (11%); 15 were from the Decker School of Nursing (6%); 11 were from the College of Community and Public Affairs (Human Development, Social Work and Public Administration) (4%); 7 were from the School of Education (3%); and 5 were from the School of Management (2%). In respect to course level, 107 respondents were teaching lower-level undergraduate courses (42%); 101 were teaching upper-level undergraduate courses (40%); and 38 were teaching graduate courses (15%).

For the first question (whether or not they required library research in their courses), 73% answered that they did require library research in their courses.

For the second question (what kinds of assignments they used to evaluate student research if they did require library research), the assignment categories were as follows: 91% papers and reports; 83% lab work; 92%

presentations; 97% informal writing; 81% exams; 83% homework; and 86% other.

For the third question (how frequently they noticed their students had difficulty narrowing topics), 42% noticed their students had difficulty narrowing topics always or often.

For the fourth question (how frequently they noticed their students used unreliable Internet resources), 44% noticed their students used unreliable Internet resources always or often.

The fifth question had two parts: a) how frequently they required students to use the same resources—16% responded that they required students to use the same resources always or often; b) from those who responded they did *not,* 35% noticed that students used the same resources always or often. (This question was designed to find out whether the instructors noticed that their students, if left to their own devices, didn't go beyond the first page of search results and tended to use the same convenient resources for their assignments.)

Respondents were also given the opportunity to offer open-ended comments. Several respondents were concerned that students use Internet resources (e.g., Wikipedia and Google) too often as opposed to licensed library databases. Several were also concerned that students tend to rely only on the "first page" of electronic full-text resources, as opposed to critically assessing the relative worth of resources, either print or electronic.

Those who wrote in comments were complimentary of library staff and resources but were concerned about the kinds of resources students used.

Results from the tally sheet suggested that some students are unaware of the amount of time needed to conduct research. The results further suggested that some students consult unreliable Internet resources, perform ineffective search strategies, change topics to suit availability of resources, and fail to use the appropriate number of resources for their assignments.

Response to the results

In looking at the results from the survey and tally sheet, the committee determined that the two main problem areas in student research that the libraries could concentrate on were access to and evaluation of information. In order to address the first area (access), committee members wanted to make help available at the point of need. Binghamton University faculty and TAs use Blackboard as their course management system. So Blackboard was considered to be a good vehicle for transmission of library help.

The committee created two prototype tutorials ("Finding Scholarly Journal Articles" and "Finding Books") using Camtasia screencasting software in January 2007. To facilitate production and downloading and to maintain student attention, the tutorials were kept to around three minutes.

To begin to address the problem of evaluation, the committee developed a "Web Page Checklist." Using this page, students can go through an evaluative process to determine if a Web page is useful and reliable. The committee also developed a Web page that describes the differences between trade, popular, and scholarly journals ("What Is a Scholarly Journal?").

Sharon Fellows, faculty member from the freshman engineering program (Engineering Design Division), volunteered to pilot the tutorials and Web pages with her beginning engineering classes and developed a brief questionnaire for her students to evaluate these tools. This course is required of all freshmen engineering students (253 in Spring 2007). These students were working on a "Conceptual Engineering Design Project" that involved critical reading, thinking, research, and writing skills. The pilot project was a success, as both students and instructors found the materials useful.

At the committee's final meeting in April 2007, guidelines for expanded tutorial development based on the pilot experience were discussed. In its final report, the following recommendations were made:

• develop a set of standards for the creation of the tutorials;

• develop a process for maintaining tutorials;

• set up and maintain a process by which faculty can easily select and add tutorials and/or Web pages to their Blackboard class page;

• publicize tutorials/Web pages;

• work with First-Year Experience Blackboard Site; and

• gather feedback and data on usage.

Effects and continuing efforts

A very positive result of collaborating with McKitrick and his office is that the libraries have garnered attention throughout the university regarding critical research practices, information literacy, and instruction. In February 2007, the university released the Educational Policy and Priorities Committee's report on "Critical Thinking/Information Management," which had used the results of the CRPC's survey, among other measures, to inform its report.

The First-Year Experience (FYE) program, in particular, offers an opportunity to reach those students who may most need to develop critical research practices and information literacy skills. Enrollment in the FYE has increased to almost one third of the entering freshman class of more than 2,000 students.

For fall 2007, the FYE library component included the tutorials and Web pages developed by CRPC and a ten-question quiz to help gauge students understanding of library skills. The tutorials, Web pages, and quiz are embedded in Blackboard and may become part of a larger component to assess the FYE program at a later date.

Additional efforts to capitalize on the work of CRPC have included collaboration with the Graduate School. For fall 2007, at the Graduate Student Teaching Assistants Orientation, two workshops were conducted by library faculty, "Academic Integrity and Plagiarism" and "Why and How To Use the Libraries."

While CRPC gained attention and support for the libraries, a practical course of action that takes into account library resources and how they can be used in a reasonable way needs to be implemented. The libraries need to continue collaborating with teaching faculty and leverage the technology so that library resources and staff are not overtaxed. Toward this end, the libraries held a joint Reference, Research, and Instructional Services and Collection Development meeting. The framework for the discussion included the work of the CRPC and a review of traditional subject area bibliographic instruction activities. The discussion resulted in a new Libraries Instructional Services Coordinating Committee.

The committee will be collaborating with McKitrick to develop a workshop titled "How to Use Information Management Resources to Empower Students to Master Critical Thinking."[5] The university is considering using the ISKILLS Information and Communication Technology Literacy Test from the Educational Testing Service (ETS)[6] to identify and gauge deficits and be able to compare our students with students from other schools.

The libraries hope to continue to build on these successful partnerships as well as develop new opportunities to collaborate closely with all offices and departments in the university.

Notes

1. ACRL, "Information literacy competency standards for higher education" (Chicago, IL 2000).

2. The complete committee charge is available at library.lib.binghamton.edu/sunyla/charge.doc

3. The complete survey is available at library.lib.binghamton.edu/sunyla/survey.doc.

4. The tally sheet is available at library.lib.binghamton.edu/sunyla/tally.doc.

5. Assessment at Binghamton University, assessment.binghamton.edu/gened.html.

6. ETS iSkills overview: www.ets.org. ᴢ