

Collaborating with Faculty in Preparing Students for the Asynchronous Classroom

*Kay Harvey, Head Librarian, J. Clarence Kelly Library
Penn State University McKeesport Campus*

*Nancy Dewald, Reference Librarian, Thun Library
Penn State University Berks Campus*

ABSTRACT

If the academic library is at the center of a liberal education, then librarians must be proactive and aggressively pursue opportunities to collaborate with teaching faculty and technical support personnel in the new educational paradigms of student-centered active and collaborative learning. Academic librarians must prepare themselves to expand the traditional content of library literacy sessions by incorporating critical thinking, evaluating resources, and computer searching skills. Librarians can partner with teaching faculty to provide the appropriate instruction in the expertise needed by the students in this new environment. Penn State University's Project Vision Library Studies course, "Learning Strategies for the Information Age," is used as a model.

Academic librarians have always supported the educational mission of the campus by providing instruction in the information-seeking skills students need for learning. Several forces working together are changing the learning climate in higher education, and this new learning climate calls for changes in library instruction. Librarians must be proactive in leading their campuses to awareness of the new skills students need, and collaboration with teaching faculty is an effective means of preparing students for the new learning environment.

The first force changing higher education is the movement toward new paradigms of active and collaborative learning. Educators realize that students who passively listen to lectures do not learn as well as students who are actively involved, and working together with other students helps to increase the learning dialogue for each student. The second force changing higher education is the advent of electronic search systems that provide an overwhelming amount of information to students, who therefore need critical thinking skills to evaluate the usefulness of resources.

Simultaneously with the development of the active and collaborative learning movement and the availability of vast amounts of information, new technologies are emerging to enhance the classroom experience and move it beyond the classroom walls. Computer-mediated communication, the World Wide Web, and remote access to library online public access catalogs (OPACs) and databases all facilitate asynchronous learning, where students may choose when and where they wish to learn. As an alternative to the conventional setting for lectures and discussions, these new delivery systems allow students to go online to access class materials, hold group discussions, make presentations, have more frequent interaction with their professors, submit assignments electronically, and pose research questions to the librarian via the Internet.

In 1995, Penn State University created a program called Project Vision to use the new technologies and to create an interactive teaching and learning environment. Project Vision was an experiment in active, collaborative, asynchronous learning in which selected freshmen on several campuses were offered four specially designed courses. A team of library faculty, teaching faculty, instructional design specialists, and technical support personnel developed and delivered the four Project Vision courses: Library Studies; Health Education; American Studies; and Science, Technology, and Society. Students and faculty, using laptop computers, conducted much of their communication online, using:

- Web pages for course syllabi and assignments;
- electronic mail and conferencing software for one-on-one, group, class, and intracampus group discussions;
- interactive video teleconferencing for "face-to-face" meetings with students taking the course at a distance campus;
- presentation software for creating group projects which were then placed on a server for students at the local and remote campuses to view; and
- library OPAC, databases, and the Web for research.

Computer-Based Networks in Education

Computer-based networks have been used to enhance education at all levels, from primary and secondary education through post-secondary, adult, and distance education. The purpose of network-based learning is to "facilitate human communication and interaction among members of an educational community."⁽¹⁾ Computer-mediated communication in education includes use of electronic mail, computer conferencing, bulletin board services, and the World Wide Web.

While computer-mediated communication has long been simply used as an adjunct to traditional classroom activities, post-secondary network-based learning also includes two other modes: mixed-mode learning, using a considerable amount of computer-mediated communication within a "traditional" class, and learning in a totally online mode, in which the computer interaction is the principal format used.⁽²⁾ Mixed-mode courses consist of traditional face-to-face classes in which major portions of the work, such as individual and class discussions, homework assignments, course information for students, research projects, and group presentations occur on computers. Penn State's Project Vision courses were mixed-mode courses. Among several examples of online mode is a joint experiment carried out between 1985 and 1987 at the New Jersey Institute of Technology and Upsala College, which offered undergraduate courses in mathematics, computer science, statistics, and introductory sociology.⁽³⁾ Drexel University's College of Information Science and Technology in Philadelphia, Pennsylvania, is currently offering graduate courses in information and software systems design to employees of Cigna Corporation in Hartford, Connecticut, using an interactive asynchronous learning network.⁽⁴⁾ And Stanford University has delivered asynchronous graduate engineering courses over high-speed networks to distance learners at their places of work.⁽⁵⁾

Both mixed-mode and online-mode courses demand thoughtful, active participation by students, often on a daily basis, as contrasted with a traditional lecture course in which students only need to listen and take notes two or three times per week.⁽⁶⁾ Participating in online discussion sessions and accessing course resources on a Web site are examples of the type of active learning activities students experience in network-based courses. These courses also contribute to collaborative learning and group work, by providing more opportunities for group communication outside of class. Students who work together on projects, in study sessions, or in discussion groups have more interaction with classmates and spend more

time learning from each other than students who meet only in the physical classroom. Collaborative learning has been shown to be one of the most effective forms of learning. Future use of network-based learning modes will increase, as the benefits of active and collaborative learning in a networked environment are recognized.(7)

Collaborative Teaching

The abundance of literature on collaborative teaching focuses on how teaching faculty collaborate with one another. Most of the literature on collaborative efforts involving both teaching faculty and librarians is limited to the concept of librarians providing a one-time library literacy class presentation. Courses in the 21st century will be designed by teams rather than individual subject specialists. If the academic library is at the center of a liberal education, then librarians must aggressively pursue opportunities to partner with teaching faculty and others to create and deliver these new courses.(8)

The team will design the course content, expected learning outcomes, teaching strategies, and media production. As a result, the courses the teams develop will be more cost effective and more sophisticated than those developed by individuals.(9) This team approach or collaboration can mean different things to different people. One definition considers collaboration as laboring with others, cooperating, working as part of a team so that members will blend into a group that moves effectively together.(10) It is also considered to be a process of functional interdependence in an attempt to coordinate skills, tools, and rewards.(11) Collaborative teaching can be considered as teachers working together to design and deliver a course that itself makes use of group learning.(12) However it is defined, collaboration requires cooperation where people work closely together and share mutual responsibility for their joint endeavor.(13) Librarians have long been accustomed to functioning in a collaborative environment and can, for example, draw on their experiences in designing and operating cooperative resource sharing agreements between libraries.

Collaboration can be manifested in different forms depending on the goals and objectives of the teams. For example, initial collaborative efforts can be among faculty within the same discipline, as in the Penn State model, where librarians at the six Project campuses worked together with each other to develop the Library Studies three-hour credit course, "Learning Strategies for the Information Age" and then continued to share information, presentation, and evaluation modules throughout the course.

Another form of collaboration occurs when faculty members from different disciplines participate in the development of course modules by contributing their individual expertise in specialized areas, such as collaborative learning, critical thinking, evaluating resources, conferencing, or using presentation software. All of the Penn State courses drew on the abilities of the instructional design specialist and the technical support personnel. The Library Studies course, however, also called on various teaching faculty members with expertise in such areas as collaborative learning and critical thinking. This course, which became the cornerstone of the Project, familiarized the students with their computers and its software: e-mail, conferencing, presentation, Internet search engines, OPAC and online information databases. The course also gave them an introduction to collaborative work, and it taught them critical thinking skills in planning online searches and evaluating resources for their research. A key contribution by the librarians to the collaborative teaching effort was helping the students develop their skills in critical literacy by increasing their understanding of the evaluation criteria and how the problems of evaluating are exacerbated by the conditions of seeking resources through the Web.

A third form of collaboration is the pairing of courses that by their very nature lend themselves to collaboration. Courses in speech communications, freshman and sophomore English, and library studies are ideally suited to be paired with subject content courses such as American studies, health education,

history, music, nursing, political science, psychology, or sociology. For example, a speech communications course could be paired with a political science course, where the speech content is political science. Librarians have been designing and delivering library literacy presentations for specific subject courses for years, so the idea of team teaching a library literacy course with a faculty member who teaches an academic subject content course is the next logical step towards integrating library literacy into the curriculum. In the Penn State model, the Library Studies and the Health Education courses were taught concurrently, with Bioethics serving as the subject content for both courses.

There are four basic stages for effective collaborative ventures: 1) selection of colleagues or team members, 2) division of labor, 3) establishment of work guidelines, and 4) termination of the collaboration.(14) As with any experimental venture, the Project Vision model struggled in various phases of this process, and that included the incorporation of the librarians as members of the team. Initially, the idea was that Project participants would receive laptops to use in specially designed courses that would be taught in a completely asynchronous mode.

Late in the development of the Project, there was a realization that students would arrive on campus with a wide variety of computer, library, critical thinking, and evaluative skills, and that these skills would have to be taught before asynchronous teaching could begin. Librarians at each of the campuses were brought into the Project because they "knew all these skills," and had been teaching many of them in course-integrated and course-related library literacy sessions. The issue of division of labor was more challenging for the teaching faculty than for the librarians. Faculty members as well as librarians were spread from one end of the state to the other as they endeavored to create syllabi, assignments, schedules, tests, and resource materials for their courses.

There are five types of collaborative teaching arrangements, each depending upon the role the team members play. A "star team" or "master-teacher pattern" has a primary teacher who is responsible for the class, but experts come in and make presentations on particular topics. This is the type of arrangement that the Library Studies class used in the Project Vision model. A "hierarchical team" has a senior faculty member plan the course and give lectures, but junior faculty or teaching assistants lead student discussions. It is typically used when there are large undergraduate courses. The "specialist team" arrangement is composed of faculty members who are jointly responsible for designing the course, but divide the teaching based on their individual areas of expertise. A fourth model is the "generalist team," where both course planning and responsibility are shared, but teaching is divided based on factors other than expertise, such as availability, etc. In the fifth model, the "interactive team" not only shares the responsibility for the class, but is present together at all classes.(15)

Student Preparation for the New Classroom

Academic librarians need to be prepared to provide instruction in the expertise needed by students for the new classroom. Library competencies have always included dynamic involvement by the individual student in information seeking, but the new classroom also includes asynchronous learning, collaborative learning, and collaborative teaching. Students need to learn e-mail and group-conferencing software, as well as Web and library skills for a variety of class, group, and individual activities. Also, the plethora of unrefereed material on the World Wide Web has increased the need to emphasize proficiency in critical thinking abilities. Librarians can participate in designing preparatory instruction to support the new learning paradigms and the new technologies, thus moving librarians into positions of leadership in creating a more learner-centered instructional mode. Preparing students for networked courses, whether mixed mode or totally online mode, is a vital part of ensuring success in these courses. In most cases, the faculty member offering the course provides all the requisite training and does this in a face-to-face environment. If the

course is entirely online, and a training site is not available to all students, alternatives such as written instructions supplemented by online and telephone assistance can be used.(16) In the case of the distance education at Cigna Corporation, Cigna employees were trained at Cigna on the software they would need for the Drexel University coursework.(17)

Increasingly, post-secondary education is incorporating network-based learning modes to allow students to learn at their own times and places and to facilitate active and collaborative learning. Yet faculty will want help in preparing students for these courses. Librarians can offer collaborative solutions to the need for student preparation. Collaborative opportunities can be created by being active on campus committees that deal with curricular change, by fostering relationships with teaching faculty which can lead to collaborative work, and by discussing curricular innovation and the librarians roll in it with campus administrators.

It is not necessary to wait for a restructuring of the college curriculum to begin supporting the networked classroom. There are activities on a smaller scale that can dramatically benefit campuses right now:

1. Teaching the online catalog and its databases, including instructions on how to access it from remote locations, and how to e-mail the librarian for help, thus encouraging the anytime, anywhere learning;
2. Teaching Web workshops, and encourage faculty to send their students. This should not be left to the Computer Center staff to teach, because it is more than teaching how to use the browser software. It also involves teaching search and evaluation skills, and these are library topics, not software topics;
3. Using every opportunity to teach evaluation of all types of resources; and
4. Creating computer-mounted library tutorials, accessible by students and faculty at any time, to supplement library instruction.

While Project Vision is a specific experiment in active, collaborative, asynchronous learning using a variety of technologies, these elements of the new learning paradigms and new technologies will soon be the norm in higher education. Librarians must be proactive in redefining their role in information literacy to include supporting these new paradigms. Faculty and students must be made aware that librarians are eager and willing to be partners in the new modes of teaching and learning. Librarians must collaborate with faculty and technical support personnel in teaching both the new technologies and the critical thinking and evaluation skills that students need when faced with the proliferation of information.

NOTES

1. The International Encyclopedia of Education, 2nd ed., s.v. "computer networking for education."
2. Linda Harasim et al. Learning Networks: A Field Guide to Teaching and Learning Online (Cambridge: MIT Press, 1995), 77.
3. Starr Roxanne Hiltz, "Evaluating the Virtual Classroom," in Online Education, Perspectives on a New Environment, ed. L.M. Harasim (New York: Praeger, 1990), 134-5.
4. S.J. Andriole, R.H. Lytle, and C.A. Monsanto, "Asynchronous Learning Networks: Drexel's Experience," T.H.E. Journal 23 (October 1995): 97-101; and "Asynchronous Learning Networks," Drexel, the Alumni Magazine of Drexel University 7 (Fall 1996): 4-5.
5. Dale A. Harris and Andy DiPaolo, "Advancing Asynchronous Distance Education Using High-Speed Networks," IEEE Transactions on Education 39 (August 1990): 445.

6. Harasim et al., 275.
7. Harasim et al., 274-5.
8. JoAnne Young, "Faculty Collaboration and Academic Librarians," *Catholic Library World* 66 (September 1995): 17.
9. James Davis, "Reengineering Teaching for 21st Century Learning," *Educational Record*. 76 (Fall 1995): 20.
10. Nannerl O. Keohane, "Collaboration and Leadership: Are They in Conflict?" *College Board Review* 135 (Spring 1985): 4.
11. Narsi Patel, "Collaboration in the Professional Growth of American Sociology," *Social Science Information* 12 (1973): 78.
12. Betty Robinson and Robert M. Schaible, "Collaborative Teaching: Reaping the Benefits." *College Teaching* 43 (Spring 1995): 57.
13. Ann E. Austin and Roger G. Baldwin. *Faculty Collaboration: Enhancing the Quality of Scholarship and Teaching*. ASHE-ERIC Higher Education Report No. 7. (Washington: George Washington University, School of Education and Human Development, 1991), 7.
14. Austin, iv.
15. Austin, 36-37.
16. Harasim et al., 164-5.
17. Stephen J. Andriole, electronic mail to Nancy Dewald, 6 December 1996.