

XAVIER UNIVERSITY OF LOUISIANA

In June 1996, Xavier University of Louisiana's Center for the Advancement of Teaching was awarded a two-year grant of \$375,000 from the Andrew W. Mellon Foundation to develop multimedia modules that reflect African American perspectives and contributions to the humanities. As that project has unfolded¹ with five faculty as multimedia authors, the University has become increasingly aware of the need to train many more faculty members to use technology if it is to be successful in integrating technology into instruction. This proposal requests \$450,000 over a three-year period to engage faculty in faculty development and training activities that will enable them to acquire, improve and/or advance their capabilities in using information technologies to transform the teaching and learning process. The objectives of the project are to:

- *provide training in the use of currently available information technologies and provide the experiences with these technologies necessary for faculty to develop applications to transform the teaching-learning environment;*
- *provide expert support and consultation necessary for faculty to integrate information technologies into their courses;*
- *establish collaborative networks of faculty and students to work together to integrate information technology into the curriculum and implement various levels of technology in and out of the classroom; and*
- *provide incentives for faculty to develop and implement web-supported, web-based courses and other more innovative uses of information technology.*

Technology has altered every aspect of our society, particularly education. Education will be profoundly influenced, if not radically reshaped, by the new technologies of the information age. The last decade of the twentieth century has witnessed an enormous change in how higher education achieves its goals, in the nature of knowledge transmission, and in the concept of the academy. With the increasing national emphasis on incorporating emerging technologies into the instructional milieu, universities in the future can no longer depend on the traditional course as the primary vehicle for teaching. Knowledge will be available anywhere and anytime *via* technology, which will support and satisfy the need for interactive, collaborative consultation with other learners, teachers, researchers and experts anywhere in the world.

Xavier's commitment to the infusion of technology into instruction began four years ago with the creation of the Center for the Advancement of Teaching (CAT), which

¹ This project entitled *The Sacred and the Secular in the African Americas* is nearing completion. The URL is <http://www.xula.edu/Administrative/cat/Mellon98>.

had as one of its original goals the advancement of teaching to meet the needs of students living in a technological age. The developers of this goal were remarkably prescient. They could not have known about the explosion of resources on the Internet or the astonishing development of the World-Wide Web, but they anticipated correctly the need to prepare students and teachers for today's technological world and the intercultural global village that technology has enabled. Most important, they recognized that this preparation required the investment of resources in Xavier's primary strength, its teaching faculty.

The Center has been a catalyst in significantly increasing faculty interest in the use of technology to improve teaching. CAT staff established a University Teaching Learning Technology Roundtable (TLTR) based on the national TLTR model to encourage faculty interest and to include administrators in planning for the incorporation of technology into teaching and learning. In addition, the availability of multimedia computers and graphical access to the Internet in the Center set a new standard for educational technology on Xavier's campus. CAT has played a significant role in the University's decision to develop a strategic plan for technology and establish a campus-wide network with improved access to the Internet. This work is substantially complete. The major academic buildings have already been networked and all faculty and students have e-mail accounts. By the 1998-1999 academic year, the campus network will be fully operational, all buildings (with the exception of the older dormitories) will be online with network connections in all faculty offices, expanded open labs for student use will have significantly increased student computer access on campus, and all students will have remote access from dorms or home for e-mail and the Internet. The outlay of funds necessary to accomplish these projects has taken a heavy toll on Xavier's resources, but the University recognizes that technology access is imperative if Xavier students are to be competitive. Otherwise, *lack* of minority access to technology—the alleged democratizer—will separate the *haves* from the *have-nots*.

During the 1998-1999 academic year, the University will undertake an institutional self-study in preparation for reaffirmation by the Southern Association of Colleges and Schools (SACS). In determining the goals of the self-study, the Self-Study Steering Committee identified technology and its integration into the educational

experience of students as the major issue significant to the enhancement of the University. This proposal will enable Xavier to find its niche in the information world by preparing faculty to integrate various levels of technology into the curriculum and to pilot programs for non-traditional learners who choose to remain where they live and pursue learning without the limitations of time and space.

The proliferation of online services and data through the Internet and the World-Wide Web also presents the challenge of helping students to acquire the skills necessary to take full advantage of the new technologies. In this new age, textual literacy, or the ability to write, read, and comprehend printed texts, must be supplemented by “information literacy.” Irene Clark, director of the Writing Center at the University of Southern California, defines information literacy as “the ability to access, retrieve, evaluate, and integrate information from a variety of electronically generated resources.” Information literacy appears destined to become the primary means of generating and disseminating data and knowledge. To keep pace with and compete in the next century, Xavier students must become information literates.

Our students must be called upon to demonstrate facility in information literacy through research and research writing, which they may engage in as early as the first semester of the freshman year. Online technology provides the ideal means to teach students to conduct creative, productive searches and to make critical judgments about the information retrieved. With the availability of networked computers and experts in writing, the University’s Writing Center has already begun assisting students in the acquisition of these important skills. In the coming year, they will develop a sequence of three online mini-courses designed to teach students:

- how to access online services;
- effective strategies for researching and retrieving online information;
- how to evaluate the academic worth and appropriateness of the information; and
- how to integrate retrieved information into their own writing.

This proposal will support the preparation of our faculty to make effective use of these mini-courses in assisting students to evaluate electronic resources critically.

As a result of the groundwork laid by CAT initiatives and increasing faculty and student access, the level of faculty interest in incorporating technology into teaching is

rapidly rising. However, this interest is far outpacing the acquisition of faculty skills in technology. Advanced multimedia authoring requires a level of expertise that the majority of our faculty do not yet possess. The learning curve for such software is still steep for the faculty community as a whole. Accordingly, a three-year project supporting faculty at different levels of technological expertise would be an ideal instrument for closing the gap between faculty skills and technology goals. Faculty projects would not be predetermined; rather, faculty would be able to design their own projects such as course Web sites, access and use of national databanks and discipline-based software, use and critical evaluation of online resources, incorporation of e-mail discussions into courses, and Web-based course and teaching portfolios. In the course of fulfilling their core, major, and minor requirements, students at Xavier take a variety of classes in Humanities, Social, and Natural Science. Increasingly, in all these academic disciplines, professors must expect students to be competent in the use of information technologies, from the web to e-mail, and accordingly give assignments which require that students be prepared to operate with these technological tools as part of their coursework. Thus, students in a given course may be asked to summarize current research results, and will have to search an electronic database of online scholarly journals, such as JSTOR, to find the relevant materials. To carry out this task successfully, faculty must be prepared to train students to deploy the right information retrieval tools to complete the assignment.

To effectively integrate technology into courses, one need not always create the technology. Commercial software, often specific to the discipline, is increasingly available. The Biology Department has utilized *BioQuest* in the Genetics Laboratory course for the past two years. This simulation software is research-like in design, such that it asks students to pose hypotheses, design “experiments,” (*i.e.*, computer simulations), collect and analyze data, and persuade others of their conclusions. Currently, the simulations of Mendelian genetics are incorporated into the course. The genetics faculty would like to integrate the population and evolutionary genetics simulations into the course in the spring 1999 semester.

Mathematics faculty are considering using in their teaching and research the following software packages: Scientific WorkPlace, Mathematica, Scientific Notebook, Maple V, Matlab, Minitab, SPSS, SAS. Scientific WorkPlace is useful in teaching

Precalculus, Linear Algebra, and Differential Equations. Mathematica has already been used in some sections of Calculus I Honors. Matlab has been used in Linear Algebra course and Minitab in Statistics courses.

As faculty skills progress during the grant period, more sophisticated projects such as simulation modules, virtual advising and office hours, advanced multimedia course materials, and Web-delivered courses could also be encouraged and supported for qualified faculty.

Implementation plan

Like the 1996 grant from the Andrew W. Foundation, this project will be housed in the Center for the Advancement of Teaching, which functions as the University's faculty development center. CAT Director, Dr. Todd Stanislav, will be project director. CAT Instructional Designer Ms. Gayna Stevens-Credle will assist funded faculty in project design. CAT Faculty-in-Residence Dr. Jonathan Rotondo-McCord, who has played a significant role in the project to develop multimedia modules in the humanities, will also play a key role in project planning and implementation for this proposal.

The first step in the implementation process will be to assess current faculty technology skills. This needs assessment will establish the basis for developing training sessions of several types and lengths—one-week courses, one-day workshops or half-day training sessions in all areas of instructional information technologies. Because of the considerable disparity in faculty familiarity and expertise with instructional information technology, the workshops will span a broad continuum of topics. Examples of possible workshops include:

- Introduction to Microsoft Word;
- Choosing and Using a Computer-based Gradebook;
- Introduction to the Internet;
- Curriculum Development and the World-Wide Web;
- Teaching and Learning with Electronic Discussions; and
- Image, Video, and Sound Editing for Multimedia Courseware

These workshops will also provide collaborative, hands-on research in the relevant fields of participants and provide faculty with assistance in helping students critically analyze Web-based resources. Workshop participants could form disciplinary or interdisciplinary

teaching or technology communities organized around the incorporation of Internet research and critical responsibility in the classroom.

Concomitant with needs assessment will be the identification of necessary expert technical support. We plan a two-pronged approach. First, technologically oriented faculty in each department will be appointed to serve as facilitators and support persons for faculty in the discipline.² Both training and stipends will be provided to support these Faculty Technology Liaisons. Liaison faculty will be available at the departmental level to help their colleagues with basic questions about fundamental operating systems skills, e-mail use and management, and Internet use and search techniques. Second, faculty participating in the grant will be further assisted by engaging an expert technical support staff member³ to support them in the implementation³ of grant projects. This Multimedia Specialist who will be housed in the Center for the Advancement of Teaching will be trained especially in graphic design and multimedia production, both essential resources for the completion of more complex faculty projects also foreseen by the grant. Both the Faculty Technology Liaisons and the Multimedia Specialist will ensure that each technology development activity and project will match the skill and level of the individual faculty member and provide him or her with appropriate training and experience in using these technologies. This CAT Multimedia Specialist will also serve as a resource to faculty who are ready to engage in the development and implementation of more innovative applications of technology. This process will allow faculty to transform their teaching strategies and methodologies to meet the challenge of the information age. As faculty members develop new skills, they can set up collaborative networks with other faculty at Xavier and at other institutions for motivation and support.

CAT staff and Faculty Technology Liaisons will work with Information Technology Center (ITC) staff to develop a “core curriculum” for faculty to prepare them to infuse technology into teaching and learning. Content of this core will be developed based upon the results of assessment.⁴

² Small departments will be grouped.

³ See job description in Appendix A.

⁴ See Appendix B for anticipated core curriculum outcomes.

The Center for the Advancement of Teaching will host a Technology Fair for workshop demonstrations that can suggest projects.⁵ Faculty will register for the core curriculum courses and have the opportunity to submit one-page project proposals⁶ with course completion or in response to CAT RFP's. These proposals will be reviewed by the University Teaching, Learning, Technology Roundtable (TLTR), which will recommend (to CAT) projects for funding. Stipends, mini-sabbaticals, release time, and recognition of outstanding uses of instructional technology will serve as incentives to foster the adoption of technology in the teaching and learning process. Faculty incentives for project development would increase in relation to project complexity and potential for innovation in the teaching and learning process.

Examples of "high-end" projects could include:

- construction of virtual teaching environments to include real-time digital video,
- virtual classroom offerings and virtual office hours (such projects need not necessarily be viewed as "distance education" courses, but rather as alternative approaches to present classroom-based courses).
- development of "intelligent" computer applications which could use simulation technology; automatically determine the skills and knowledge level of a student user and adjust the presentation and interactivity levels of the on-line materials accordingly.

CAT staff will establish a project Website where faculty projects will be highlighted both to recognize faculty and to document project implementation. Faculty can share their experiences using technology in CAT newsletters and CAT-sponsored technology fairs.

An additional incentive for the more technologically advanced faculty, will be support for travel to technology conferences to meet with educators already applying instructional technology.

⁵ Projects could include developing web-centered curricula in an introductory Philosophy course, utilization of digital portfolios, implementation of an on-line diagnostic questioning tool for mathematics courses, oral history compilations, *etc.* Collaborative projects with CAT K-12 partner school faculty will be encouraged.

⁶ See sample RFP's in Appendix B.

Funded faculty will be responsible for evaluation of student learning outcomes. Reports to the Project Director will document assessment. The Center will provide support for evaluation *via* the Flashlight project.⁷

Projected Timeline

By September 30, 1998:	Assessment of faculty skills in technology
By October 31, 1998:	Employment of Multimedia Specialist
By October 31, 1998:	Identification and training of Faculty Technology Liaisons
By October 31, 1998	Publication of faculty workshop schedule
By November 30, 1998:	Technology Fair and Requests for Proposals
By December 31, 1998	Recommendations for Funding Proposals
By December 30, 1998:	Implementation of Project Website

Project Outcomes. For students, the integration of instructional and informational technology throughout the Xavier learning environment will result in technology learning outcomes and therefore improve workforce competitiveness in the new millennium. In coming decades, students will quite likely have more careers and will need to be more flexible than in the past. In the corporate world, they will increasingly work in teams. Knowledge and experience in technology will prepare them for collaborative work.

In addition to its goal of preparing competitive students for successful careers, the University has targeted the increase of students pursuing graduate studies as a particular goal. For this reason, student research experience is especially important to the University. Increasingly, successful research in graduate schools relies heavily on discipline-specific computer-based applications. Students who are better prepared to use and evaluate technology responsibly will increase their chances of successful research.

For faculty, the benefits of incorporating technology into the curriculum will include more interactive teaching, an increased use of information technology, a greater number of graduates able to use information technology, and the opportunity to document

⁷ Funded by the Annenberg CPR project, Flashlight is a bank of assessment surveys intended to gauge the impact of technology on teaching.

teaching effectiveness. Equally important to faculty will be the ability to utilize Internet resources to support research and scholarship and to collaborate easily with colleagues at other institutions.

Technology lends itself to continuous learning by both students and faculty and prepares both to reinvent themselves repeatedly through continuous self-improvement. This transformation will enable faculty to move from an emphasis on teacher-centered instruction, in which students are passively informed, to the creation of student-centered, collaborative learning environments more appropriate to the information age. If this paradigm shift is to occur, faculty must take ownership of these informational technologies and adapt them to meet the needs of their students and of their own scholarship. Just as the campus infrastructure is being built, the institutional culture must be transformed. It is imperative that universities--and minority institutions in particular--empower faculty and students whose knowledge and experience with technologies increases their effectiveness to acquire and share knowledge.

Information technology can accelerate pedagogical trends already in place. Trudy Banta and Randy Bass (*Change*, March/April 1996, p. 47) have suggested that “the increased involvement of faculty in electronic environments is helping to breach the traditional boundary between scholarship and teaching” by making teaching a more public act. Technology can be the tool that allows Xavier to build a new campus culture based on the scholarship of teaching, to conduct teacher-directed and content-specific classroom research, and to engage students and teachers alike in continuous, life-long learning. We are grateful to the Andrew W. Mellon Foundation for the opportunity to learn from developing multimedia course materials in the humanities and appreciate the opportunity to request additional funding to encourage the adoption of technology by all Xavier faculty.

BUDGET

Personnel Costs	Year 1	Year 2	Year 3	Total
Project Director @ 1/10 of salary	5,000	5,000	5,000	15,000
Instructional Designer @1/4 of salary	11,000	11,000	10,500	32,500
Multimedia Specialist @100%	40,000	30,000	30,000	100,000
Faculty Facilitators @ \$1,000	15,000	15,000	0	30,000
Faculty @ 1/4 Release Time	20,000	30,000	25,000	75,000
Faculty Stipends	15,000	15,000	15,000	45,000
Total	106,000	106,000	85,500	297,500
Fringe Benefits @ 16%	16,960	16,960	13,680	47,600
TOTAL PERSONNEL COSTS	122,960	122,960	99,180	345,100
Travel	4,000	4,000	4,000	12,000
Equipment	25,000	25,000	25,000	75,000
Software	3,500	3,500	3,000	10,000
Workshops, Technology Fair(s), Colloquia	3,000	3,000	1,900	7,900
GRAND TOTAL	158,460	158,460	133,080	450,000

Rationale for Budget

Personnel: This project is very time intensive; thus, more than three quarters of the budget is committed to personnel costs. At a minimum, one tenth of Dr. Stanislav's time will be devoted to the project as Project Administrator. Although the Instructional Designer (Ms. Gayna Stevens) is expected to spend approximately one-half of her time working with this project, the budget request is for one quarter of her time. Dr. Stanislav's and Ms. Stevens' resumes are included in Appendix A, along with the proposed job description for the Multimedia Specialist described in the proposal, a new hire who will play a pivotal role in implementing the grant initiatives. In Year 1, the

grant will cover 100% of his/her salary, with the University underwriting approximately one fourth of the salary for Years 2 and 3.

In order to provide faculty members the requisite time to succeed in high-end technology projects, the total three-year budget includes costs associated with one-fourth release time for up to eight faculty who propose particularly time-intensive projects. In lieu of release time, stipends will be provided to other faculty members involved in technology projects and also to faculty who serve as Technology Liaisons. Project stipends will vary according to the time/complexity of the project. The proposed budget also provides for \$1,000 stipends for as many as fifteen Faculty Technology Liaisons in Years 1 and 2. Any unused stipends for Faculty Technology Liaisons will be used to support faculty technology projects.

Travel. \$4,000 in each of the three years of the grant is requested to support the costs of travel for CAT staff to attend technology workshops for additional training and for faculty to make presentations about their projects.

Equipment and Software: The proposed budget provides for the purchase of multimedia computers (PC and Macintosh), peripherals, and authoring and development software that will be used by the Multimedia Specialist. Because of the pivotal role that technology plays in reaching the goals of this project, and because not all Xavier faculty have computers in their offices, the proposed budget will also permit the purchase of multimedia computers and necessary software for at least twelve faculty members. These computers will be located in the offices of the faculty members whose projects are funded by the grant. (Should the faculty member leave the university or no longer participate in the projects, the computer will be reassigned by the Center for the Advancement of Teaching.) All hardware and software purchased with grant funds will be used primarily for the grant project and become the property of Xavier University at the conclusion of the project.

Last, the budget allows for modest, but necessary improvements and upgrades to computer labs and electronic classrooms managed by the Center for the Advancement of Teaching. Specific needs include the following:

- touch panels in the two electronic classrooms that will meet the standard used in other electronic classrooms on campus;
- Zip drives on all computers in the electronic classrooms, teaching laboratory, and student work laboratory; and
- a high-resolution LitePro (a computer projection system).

Workshops: Consultants and on-campus faculty members and staff persons will be used to lead workshops. The proposed budget will provide honoraria and travel costs for consultants. Similarly, modest honoraria will be given Xavier faculty and staff workshop leaders. Supplies and catering services for workshops, as well as the technology fair(s) and/or pedagogical colloquia, will also be made possible through the requested grant funds.

A minimum of two workshops per semester will be held.

Technology Skills: Towards a Faculty "Core Curriculum"

The following are starting points only; faculty users may need to learn substantially more skills in a given area, depending on their expected use of technology.

In Windows 95 or MacOS operating systems, faculty should be able to . . .

- boot up and shut down the computer.
- use taskbar or menu bar properly.
- empty recycle bin or trash as needed.
- create new folders.
- manage files and folders.
- find files.
- manage open windows (using minimize, hide, and close features).
- check computer and hard drive properties (specifically for memory space).
- copy and move files to and from floppy disks.
- manage date, time, sound, and other settings.

In desktop applications, faculty should . . .

- have a working knowledge of Microsoft Office, depending on the teaching and research practices of their discipline (in any case, they should be able to use most features of Microsoft Word with ease).
- be able to use either Microsoft Excel or a gradebook program of their choice to keep electronic records of their class gradebooks.

In managing their e-mail, faculty using OpenMail, Netscape Messenger, Eudora, or another mail program of their choice should . . .

- know how to send, reply to, and forward messages.
- create mailboxes and folders, and organize and store messages in them as appropriate.
- configure their chosen e-mail program properly.
- manage (and as necessary limit the quantity of) their mail stored on the Xavier UNIX server.
- create distribution lists for use in communication with other faculty and students.
- understand educational issues involved in use of e-mail as a course component, where desired or appropriate.

In using the Internet, faculty should be able to . . .

- use and configure Netscape Communicator properly.
- save, manage, and back up their personal bookmarks files.
- use search engines such as Yahoo, Altavista, and library OPACs to locate educational and research materials on the Web effectively.
- (ideally) create basic Web sites for a course or courses, and transfer and manage these files on the Xavier server using appropriate file transfer software (WS_FTP or Fetch).

Multimedia Specialist

Job Description

Duties would include (but not be limited to) the following:

- assisting new Mellon faculty authors in the creation of graphics and multimedia components (including video capture and digitization) for their individual technology projects.
- guiding faculty in construction of projects (e.g., Web pages) which accord with accepted principles of Web design layout [i.e., no ugly or "unprofessional" looking Web sites!]
- offering workshops to faculty in scanning and basic image processing skills (Adobe Photoshop); to train faculty in other multimedia skills as appropriate (sound and video editing, dependent on individual faculty projects).
- working closely with CAT instructional software designer to implement faculty technology projects in which multimedia elements are integrated with overall project design to produce educationally effective software.
- (possibly) teaching, in an adjunct capacity a course or courses in graphics design (art dept.), video (communications), or (possibly) CAD design (computer science).
- working in an outreach capacity with technology partnerships with area schools.

The CAT Multimedia Specialist would be expected to possess professional skills in:

- Adobe Photoshop, Adobe Illustrator, and similar graphics and desktop publishing programs within a digital environment (i.e., Web).
- SoundEdit, Adobe Premiere, or similar sound and video editing software.
- video and sound recording.
- teaching faculty in the context of individual consultations and CAT-sponsored workshops.

CAT believes that the rationale for the creation of such a position is compelling. Without a ready multimedia resource, development of Mellon faculty projects (especially Web-based ones and any other employing multimedia) will be severely hampered. Though the university possesses graphics design capability in Graphics Services, this latter is heavily burdened with general university printing jobs, and is not "faculty accessible" in the way that CAT staff positions should be. By housing the new Multimedia Specialist position in the Center, faculty would be encouraged to take advantage of the skills and expertise of someone who could truly assist them in the creation of vivid, fully developed multimedia projects. Though present CAT staff members have experience in multimedia software and use it regularly, none are trained in graphics design and multimedia techniques to the extent that they can quickly, imaginatively, and efficiently produce multimedia elements. For the current Mellon grant, we have engaged a competent graphics designer; however, her time is limited, and continuing to outsource graphics design jobs under a new grant to her or to others is an expensive proposition. Also, outsourced work typically does not bring designer and faculty member into close working contact.