Turning Vision and Expectation Into Reality: 
Building A Wireless Campus and Library For The Future At Saint Francis University

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Abstract
Saint Francis University embarked on a four phase program to improve teaching and learning on its campus. The plan began in 1999 and included: building a Library For The Future, the purchase of laptop computers for each entering class (beginning with the Class of 2004), building a wireless local area computer network and introducing a university-wide course management tool. The success of this project is discussed.

Introduction
During the Fall Semester of 2000 Saint Francis University and the Center of Excellence for Remote and Medically Under-Served Areas (CERMUSA), began a partnership project to improve the character of teaching and learning on the Loretto, Pennsylvania campus. While the team of faculty, administrators and students recognized there were many ways to improve both teaching and learning, they chose to focus on four major additions to the campus fabric. They were:

• Build a library for the future;
• Initiate a program to provide a laptop computer to every student at the University;
• Construct wireless local area computer connectivity to link the new computers to the campus LAN;
• Purchase a course management tool and teach the faculty and students to use it.

The campus has now reached the midway point in this project and feels compelled to explain the interlocking nature of this project to other college and university administrators planning similar projects. Our hope is that our experience can save other schools both time and money as they introduce the concept of technology to their educational institutions.

Library For The Future
In the third millennium libraries are multi-dimensional. Successful facilities have become exciting and adaptable visitor destinations. Library personnel are incorporating marketing lessons learned from other institutions and civic spaces, e.g., museums and discovery centers. Their focus is audience-centered. As collections incorporate more virtual material libraries are evolving, and their missions are changing. They are becoming information commons, providing access to all forms of knowledge. They are also becoming cultural community centers, emphasizing a host of interactive activities, such as information literacy training, shared computing centers,
group learning spaces, and wireless computing opportunities. Libraries need to integrate new user-friendly techniques to help patrons navigate through this world of multi-dimensional information. New interactive environments have to emphasize orientation, hands-on activities and creative patterns of flow. The library must become an information laboratory and a center for innovation.

Saint Francis University envisions its Library for the Future as one that:

- Provides faculty, staff and students with information resources which are easily and readily accessible regardless of physical location;
- Enables faculty to make innovative uses of these resources to improve academic programs; and
- Educates students in the appropriate uses of such resources to further their learning.

The Pasquerilla Library mission is to provide the students, faculty and staff of Saint Francis University with excellent:

- Access to information resources;
- Support for academic programs;
- Leadership in planning for instructional support initiatives and implementing strategies for integrating technology into the curriculum;
- Instruction in the effective use of information resources;
- Preservation of knowledge in all its accessible forms;
- Enrichment opportunities for lifelong learning;
- Support for the exercise of intellectual freedom.

Building a Library For The Future requires the University to develop an effective library program that provides pro-active leadership in collaboratively building a dynamic campus information infrastructure. The ultimate objective of this effort is to improve teaching/learning.

A further objective is to develop information literacy competencies that enable students, faculty and staff to acquire skills that eliminate intellectual barriers to accessing information.

A third effort is to provide a physical environment that encourages experiential learning and promotes intuitive intellectual and social development. Additionally the Library must serve as a gateway, providing complete information delivery through a strong infrastructure of internal and external linkages that seamlessly connect information resources with the people who need them.

A final direction of the Pasquerilla Library is to provide intellectual and physical resources in appropriate formats and quantities, making quality services available even when the library facility is closed. This effort identifies, develops, coordinates, and provides services that address the information needs of the extended Saint Francis University community and are equitable with those provided to the on-campus community.

The strategies Saint Francis University is employing to achieve this vision include:

- Teaching/LearningTechnology Center (TLTC)
- Distance Learning Resource Center
- Information Literacy Services
- Creative Learning Environment

TLTC: The Pasquerilla Library’s Teaching/Learning Technology Center, a project made possible largely through grant support, became functional in fall 2000 and was completed in fall 2001. It features three interactive multimedia computer classrooms, a faculty/staff
training center and a full-time instructional technology specialist. The TLTC provides intuitive learning spaces that accommodate the University’s required one-credit freshman information literacy course. It also provides a schedule of workshops and institutes designed to promote faculty and staff information literacy.

**DLRC:** The Distance Learning Resource Center is a feature of the library’s web-based online catalog, FRANCIS. FRANCIS enables convenient access to local print resources as well as several key online research databases, including:

- Proquest—the online full-text resource center
- FirstSearch—“family” of over 50 databases
- JSTOR—retrospective full-text scholarly journals
- NetLibrary—E-books full-text online
- Website Index—direct links to Internet resources and tutorials

**Information Literacy:** Our information literacy services currently include:

- A one-credit information literacy required course for freshman students
- Help guides in print form and on FRANCIS provided to every student
- Course-specific “path-finders” or bibliographies with active links to resources
- Course-specific pages on FRANCIS with links to resources, databases and path-finders
- Online “if ... then” help guides and FAQ’s to assist “do-it-yourself” learners
- Pro-active contact by librarians with instructors to improve communication

**Creative Learning Spaces:** The Pasquerilla Library at Saint Francis University was designed, constructed and furnished to accommodate a 1960's student population, curriculum and faculty. Turning such an environment into a creative learning environment has been a great challenge. Through various grant projects, much of the facility has been renovated, wired, and most recently, “unwired.” Wireless network access is now available from any point within the library facility.

While the library has begun to transition its collections from print to electronic publications, much of the environment where these information resources are actually used is not conducive to student learning. Future plans call for an examination of new technologies and environments that increase access to and productive use of information resources.

**Laptop Initiative**

In the fall of 2000 the administration of the University put a plan in place that would put a laptop computer into the hands of every student attending Saint Francis University. Beginning with the Class of 2004 (year the class will graduate) each student was given a laptop computer for use in that student’s educational program. The cost of leasing a computer was added to each student’s annual college bill.

The faculty and administration collectively agreed that the purpose of the laptop computers is to:

- Promote “anywhere, anytime” communication
- Organize teaching and learning in and out of the classroom
- Promote collaborative learning among students
• Provide students with an optimal learning experience and technological skill

In August 2001 the laptop computers were distributed to the first class of students at the University. The new laptop computers were equipped as shown in Figure 1.

![Figure 1](image1.jpg)

**Laptop Computer Hardware Description**

- Pentium III 750 or higher processor
- 128 Mb RAM
- 13.1” LCD
- Tri-Modal configuration (wireless, hardwire, modem)
- 20Gb Harddrive
- Floppy drive and CDRW

Each laptop was also configured with a collection of software that the University faculty and administration had agreed to use. The laptop computers were equipped with the software shown in Figure 2.

![Figure 2](image2.jpg)

**Laptop Computer Software Description**

SOFTWARE DESCRIPTION

- Microsoft Windows 2000
- Novell Network connectivity drivers
- Campus E-mail
- Microsoft Office 2000
- World Wide Web Browsers

**Wireless Campus**

In conjunction with the Laptop Initiative CERMUSA / Saint Francis also developed a plan to bring a wireless local area network (WLAN) to the Saint Francis campus. The initial project included wiring three buildings (Library, Student Center, Dining Hall) that were not classroom buildings but handled a great deal of student traffic. Figure 3 shows students using the wireless connectivity in the Library.

![Figure 3](image3.jpg)

Using Wireless Laptop Computers In The Library

The second phase of the wireless project included providing WLAN connectivity to all the classrooms and laboratory facilities on the 600 acre Saint Francis campus. Future sites for WLAN connectivity to be completed in 2002 include most of the green space area on the campus, including the campus nature trail. The science students and faculty on campus heavily use these areas. The focus of the WLAN project has been to provide anywhere-anytime data communications.

**Course Management Tool**

During the spring and summer of 2000 CERMUSA began an experiment to identify the most complete and effective course management tool (CMT). Multiple CMT’s were studied
and CERMUSA ultimately selected WebCT for the campus.²

Criteria for the CMT selection process were the tool must:
- Work across all academic disciplines;
- Support every type and level of instructor and student;
- Provide ready access to educational content;
- Integrate with other technologies;
- Support institutional and individual branding and customization;
- Provide user support;
- Be priced for institutional use;
- Permit the University to explore distance options.

When the faculty were trained to use the course management tool we began to survey the students at the University concerning their use of the CMT. In the first experiment using the CMT we asked students how they would rate WebCT as it was used in their course. The results are shown in Figure 4.

Students were asked to tell the researchers their opinions at multiple times during the course. The results reported in this paper were measured at the end of the course. It is clear from the data that students were happy with the CMT and felt the tool assisted in their course.

Further, students were asked which tools in WebCT they liked the best. These results are shown in Figure 5.

One of the prominent features of WebCT is the ability to administer electronic exams to students. Students were asked about their opinion of electronic testing. The results are shown in Figure 6.

These results have been replicated in subsequent research studies. Students seem to like the electronic testing experience.

**Conclusion**

The teaching and learning process is difficult to confront, and even more difficult to improve. The authors of this report believe that if each of the improvements discussed here were taken individually it would be difficult to measure any improvement, however, with all four enhancements working together the campus has achieved a radical improvement in the learning environment on the Saint Francis University campus. This concerted effort has benefited both teachers and students.

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