

# Technology Vision Plan

2009-2010

**College of Education  
The University of Texas at Austin**

Submitted by

**The College of Education  
The University of Texas at Austin**



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# College of Education Technology Vision Plan 2009-2010

## Summary of Requests

The College of Education (COE) strives to continually improve the professional preparation of students in its undergraduate and graduate programs by utilizing technology to facilitate instruction, collaboration, and research. The COE demonstrates its commitment to this goal by working to integrate computing and telecommunication technologies into all aspects of its academic, research, and service functions. The College's steady advance toward this objective is evident in an educational environment enhanced with high-speed data networks, numerous technology facilities and services, online communication and collaboration tools, and the training and support necessary to make effective use of these resources.

This technology-rich environment fosters collaboration and leads to innovation. Collaborative work areas allow students to use their laptops together and conveniently recharge batteries. Online tools let them communicate and create without physically being together. Faculty, inspired by the many possibilities for improving learning that technology offers, are given the support they need to develop and integrate new uses of technology into their instruction.

Providing innovative support for student learning is the focus of three of the 2009-2010 College of Education Technology Vision Plan projects. One project would develop and implement a system that will bring together, under one login, all the online tools that Education students need, including email, Blackboard, blogs, wikis, discussion forums, and the College's own e-Portfolio system. Another project will pilot the use of mobile learning applications on cell phones. And faculty and students will learn about the best uses in education of a wide array of technologies with the proposed Learning Technologies Lab.

Other projects expand or upgrade the technology facilities and infrastructure that are the critical basis for the College's collaborative and innovative activities. A proposal to update the College's wireless network in Belmont Hall will result in a faster, more stable system for the Kinesiology and Health Education Department. Another project will provide additional power outlets in popular student study areas and classrooms for more convenient laptop usage.

The budget requested for the 2009-2010 projects is **\$277,250**.

If there are questions concerning these projects or other information described in this report, please contact Dr. Paul Resta, Director, Learning Technology Center, College of Education (*resta@mail.utexas.edu*).

## Needs and Proposed Use of Funds 2009-2010

### Infrastructure

Hardware	\$100,300
Network	\$30,000
Software	\$22,441
<b>Total Allocation</b>	<b>\$152,741</b>

### One-Time Projects

#### Upgrade of Belmont Hall Wireless Network (N)

The College proposes an update of the wireless network infrastructure in Belmont Hall, from the current 802.11g to 802.11n technology. The project will increase the maximum throughput of wireless connections to 248 Mbit/s and augment the number of wireless access points in the building, resulting in a faster, stronger signal in most building areas. This infrastructure update will provide more equitable access to wireless networking for Belmont Hall students and is essential if the College is to continue to support the rapidly growing use and dependence on wireless networking.

**Project Budget** **\$100,000**

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#### Install Additional Power Outlets in Sánchez Building (R)

With the rapid increase in use of laptop computers over the last few years, the Sánchez Building does not have enough power outlets for laptop users to easily recharge batteries, especially during long classes. This project will provide additional power outlets in heavily used student study areas and several classrooms for more convenient laptop usage.

**Project Budget** **\$50,000**

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## **Innovative Support for Student Learning**

### **Develop Online Communication and Collaboration Portal System (P,S)**

Using open source software, this project will develop a centralized online communication and collaboration system for the College of Education. Users will go to a single Web portal for logon to e-mail, Blackboard, discussion forums, course blogs and wikis, the COE's e-Portfolio and video case-based learning systems, and other collaborative tools. The unified, easy-to-use system will be a much needed improvement over the multiple separate and often confusing system logins students currently must use.

#### **Budget Detail**

.5 FTE Student Developer/12 months (2)	\$38,000
iMac Computer (2)	\$5000
<b>Project Budget</b>	<b>\$43,000</b>

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### **Mobile Learning Pilot Project (P,S)**

This project will bring together and build on the work of previous projects on the use of handheld devices and the proposed communications portal described above. Working with faculty and LTC staff, project personnel will design, produce, and implement communication and learning applications for access and use on cell phones. The project will focus not only on making the most of the cell phones that most students already own and use, but also on emerging mobile tools and ownership and usage trends.

#### **Budget Detail**

.5 FTE Student Developer/9 months	\$14,500
.25 FTE Student Developer/9 months	\$7,250
iMac Computer	\$2500
<b>Project Budget</b>	<b>\$24,250</b>

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### **Learning Technologies Lab (P,H,S)**

Students will see and learn to evaluate emerging technologies at the proposed Learning Technologies Lab. They will also learn the best strategies for using technologies in education, with a special emphasis on low-cost and open source

tools. The LT Lab, housed in the Learning Technology Center, will provide class orientations that will be valuable in particular for preservice teacher, Instructional Technology, and Educational Administration courses. Innovative ideas developed in the LT Lab will be disseminated to the College via the LT Lab Web site. After the initial development, LTC IDEA Studio staff will operate the LT Lab.

**Budget Detail**

Hardware	\$30,000
Software	\$11,000
.5 FTE Student Developer/12 months	\$19,000
<b>Project Budget</b>	<b>\$60,000</b>

## **Overview of Current IT Programs and Infrastructure**

### **Mission and Goals**

Through its mission of teaching, research, and service to the state and nation, the College of Education at The University of Texas at Austin prepares outstanding teachers and other educational leaders and advances society’s knowledge of teaching and learning. An integral part of the College’s mission is to prepare education professionals who understand, and are skilled in, the educational uses of technology. The College is committed to preparing educators who can effectively use and teach with technology so that they can, in turn, impart to their students the skills and knowledge necessary for a complex 21<sup>st</sup> century economy, with its critical need for workers who can use a wide variety of technologies.

The College’s Vision Plan Committee has developed the following technology goals that have been addressed on an ongoing basis by previous Vision Plans and other technology initiatives:

- Continue systematic College-wide strategic planning of information resources and technologies based on input from students, faculty, administrators, and staff.
- Develop high levels of technological competence in the College’s students, faculty, and staff.
- Provide access to high performance digital services and global online resources to support teaching, research, and service.

- Provide access to information technologies for all members of the College community and provide the support and experience needed in a range of technology applications and environments likely to be encountered in the workplace of the 21<sup>st</sup> century “Knowledge Society.”
- Infuse technology into all phases of teaching, research, and service and develop new models, tools, and strategies of instruction based on the latest technologies.
- Provide students, faculty, staff, and other community partners with online collaborative environments and network access, both on and off campus, to promote the sharing of the information they need for study, teaching, research, and administration.

## **IT Organization**

The College-wide Learning Technology Center (LTC) manages most of the College of Education’s technical facilities and services. The LTC’s Technical and Network Services develops and maintains the data networks, all College servers, and an e-mail/conferencing system, and provides a technical help service for faculty/staff. LTC Services maintains nine computer lab/classrooms, provides an equipment checkout service, and delivers equipment, such as mobile laptop labs, to classrooms. The LTC’s IDEA Studio helps faculty integrate the best uses of technology into their instruction and research. The LTC also provides a teleconferencing classroom.

The LTC’s Web Designer maintains the College and LTC Web sites and leads the College’s Web Committee. Each academic department and other major offices designate an employee representative to the Committee who is in charge of maintenance of that department’s sub-site. Some departments, including Educational Psychology, Educational Administration, and Kinesiology and Health Education, also have an additional employee who provides technical assistance for the department faculty and staff. Read more about IT programs that have a major impact on the College’s IT organization in Appendix 1.

## **Infrastructure**

In the last three years, the College of Education has equipped 31 of its classrooms with projection systems. Laptops and document cameras are available for delivery. The College has also renovated its Science Education Technology Classroom, SZB 316. This room has projection, instructor console, 30 iBook laptops in a mobile laptop cart, and science lab workstations.

Below is a list of the computer labs or IT-equipped classrooms within the Learning Technology Center and their resource specifications. All labs have access to ITS Printing Service laser printers.

- Distance Learning Classroom, SZB 323: Instructor console, rear projection, cameras and microphones, technician-operated, providing interactive audio and video links via IP Codec, UT network, telephone, or webcast.
- Advanced Applications Lab, SZB 324: Wireless network, instructor console, dual rear screen projection, laptops provided on request. Seats 40.
- Open Lab, SZB 439: 6 Dell Pentium 4s and 6 iMacs. Scanner available. Always “open” for student walk-in use.
- Multimedia Research and Development Lab, SZB 439A: 10 Mac Pros, 10 Dell Pentium 4s, instructor console, and ceiling-mounted projection.
- Macintosh Lab, SZB 439B: 30 Intel Core 2 iMacs, instructor console, and ceiling-mounted projection.
- PC Lab, SZB 439C: 24 Dell Pentium 4s, instructor console, and ceiling-mounted projection.
- Model Technology Classroom, SZB 439E: 25 Apple iBooks, wireless network, instructor console, rear projection, and 2 plasma screens.
- Laptop Collaborative Area, SZB 536, 537: Group and individual seating for 40 to use and charge laptops, collaborate, and study.
- Laptop Compatible Classroom, SZB 518C: Wireless network, large screen projection, seating for 23.
- Assistive Technology Lab, SZB 518E: Specialized equipment to demonstrate accommodations for the needs of people with disabilities.
- Kinesiology Lab in BEL 844: 13 Dell Pentium 4s, laser printer.

Additional computer equipment available for classroom delivery:

- Mobile presentation cart: 1 in SZB with MacBook with PowerPoint, wireless network connection, projector, and speakers.
- Mobile Laptop Class Cart: 4 in SZB, 1 in BEL equipped with MacBooks and wireless network connections.

Video editing facilities include:

- 3 Digital Video Editing Bays in SZB 537
- Digital Stereo Audio Mixing Room in SZB 537

Other equipment available for student and faculty checkout includes:

- Mini DV Camcorders, Digital Still Cameras, Digital Audio Recorders
- Apple and PC laptops
- LCD Projectors
- FireWire Hard Drives
- Microphones, Speakers, Conference Phones

The Learning Technology Center’s Technical & Network Services team maintains the College’s computer data networks and servers. Pertinent data:

- Switched data network with 100% full duplexed 100 Mbps Ethernet connectivity. 1580 active network nodes spanning 5 buildings.
- Wireless networking in 4 buildings.
- TeachNet e-mail/conferencing/chat system averages 2,841 logins per day.
- The College has 33 servers, running Mac, Windows, and Unix systems.
- The College's Web server averages 116,826 requests per day.

## **Current and Proposed Funding Sources for IT Programs and Infrastructure**

- 19-9706-00 – Annual Infrastructure Allocation and One-Time Project Allocation (ITAC Funding): \$360,741
- 19-2638-22 – Learning Resource Center Usage Tuition, including \$30,000 from Dean's Office for Vision Awards and LIFE software: \$445,660
- 14-7482-80 – Deans Research and Support Account, supporting Vision Awards and LIFE software: \$1071 balance forward from 2007-2008
- 30-2101-27 – UT Libraries UTOPIA Grant, supporting Vision Awards: \$6638 balance forward from 2007-2008

## **Best Practices**

The College has implemented several "best practices" in recent years. Those with the greatest impact are listed below, with fuller descriptions in Appendix 2.

### **IDEA Studio**

The IDEA Studio in the Learning Technology Center provides technology integration support to College of Education faculty.

### **Vision Awards**

The Vision Awards program supports faculty proposals for technology-based projects that enhance their teaching and have the potential to improve instruction throughout the College.

### **Trend Toward Laptop and Wireless Use**

The move toward the use of laptops and wireless networking provides greater access to technology, promotes collaboration, and lowers costs.

### **Content Management System for College Web Sites**

The College Web sites are programmed with a Content Management System that provides a structured format and allows easier maintenance.

## **Use of Previous Academic Year Allocations (2007-2008)**

### **Infrastructure**

Hardware	\$136,954.66
Network	\$269.95
Software	\$15,516.39
<b>Total Allocation</b>	<b>\$152,741.00</b>

### **One-Time Projects**

For the year 2007-2008, ten projects were proposed with a total of \$496,835 requested in funding. The College of Education received a \$214,474 ITAC allocation. The Vision Plan Committee partially funded eight projects and fully funded one project.

- 1. Studiocode: Visual Analysis.** This project proposed 12 licenses with support and training contracts, originally budgeted at \$33,800. The project was funded at \$29,900, for 10 licenses. The project was completed in 07-08.
- 2. Fiber Channel Video Storage for Class Projects.** This project involved deploying fiber channel and a 5.5 terabyte volume for the storage of students' in-process video projects. It was fully funded at \$31,000. Equipment was purchased in 07-08. A balance of \$3410.05 was carried over for 08-09 to complete the project.
- 3. Establishing a Physical Activity Technology Lab.** This project proposed creating a lab with technology related to exercise and health. Of \$50,350 originally proposed, \$24,000 was funded. Equipment purchases were made in 07-08 to begin the project. \$16,412 was carried over to complete the project in 08-09.
- 4. Instructional Applications of Handheld Computing Devices.** This project proposed augmenting the 2006-2007 Handheld project with an additional \$39,185. \$20,610 was allocated. The project was on hold in 07-08 as project staff researched how best to react to the shift away from PDAs to mobile devices. Of a \$33,063.60 balance, \$30,496.60 was carried over to 08-09; \$2567 was transferred to fund the 08-09 "Expand COE e-Portfolio System" project.

5. **Apprentice and Novice Teacher Support (PROMISE).** This project proposed providing support for novice teachers via desktop videoconferencing. \$50,350 was originally budgeted; \$25,000 was allocated. The project was completed in 07-08. A balance of \$9524.91 was carried over to fund the 08-09 "Expand COE e-Portfolio System" project.
6. **Installation of Projectors in Classrooms.** This project proposed continuing the installation of classroom projection systems begun in 2003. \$88,000 was requested and \$33,000 was allocated. This project is ongoing. \$7304.77 from 06-07 and the 07-08 allocation were carried into 08-09, while a new system for smaller conference rooms was designed. Several rooms will be outfitted in 08-09 with the \$40,304.77 in funding.
7. **Technology Toolkits for LIFE Program.** This project called for 10 more technology kits, augmenting the 06-07 Technology Tool Kits project, which had a balance of \$16,213. \$23,850 was the budget requested for 07-08; \$11,064 was allocated. Due to changing needs in the LIFE Program, the Committee decided to refocus this project on purchasing new laptops for long-term checkout to those working with LIFE courses, as well as video cameras for LIFE student checkout. Purchases were made for these purposes, with a balance of \$16,213 carried into 08-09.
8. **Laptop Fleet for Belmont Hall.** \$129,000 was requested for two mobile laptop carts with 60 laptops. \$40,000 was allocated for one cart. The project was completed in 07-08; a balance of \$3501.16 was carried over to fund 08-09 projects (see below).
9. **Digital Recording Devices for Checkout.** This project, budgeted at \$2300, provided digital audio recorders for checkout to students and faculty. \$1000 was allocated, enough to buy 10. These were purchased in 07-08, with a balance of \$7.31 carried over to fund 08-09 projects (see below).
10. **Videoconferencing Capability for the Advanced Applications Laboratory.** This project proposed making a large computer classroom capable of videoconferencing, with a budget of \$49,000. This project was not funded.

The total amount of balances left in projects noted above, along with \$5899.05 from an 05-06 project and an 06-07 project that were declared complete, is \$9407.52. \$3500 of this amount was transferred to the LIFE project to purchase additional laptops. \$5907.52 was transferred to the 08-09 "Expand COE e-Portfolio System" project. This project now has enough funding to proceed without use of any 08-09 ITAC funding.

# Appendixes

## Appendix 1 – IT Programs

### **Laptop Initiative for Future Educators (LIFE)**

The Laptop Initiative for Future Educators (LIFE), now in its seventh year, is a groundbreaking initiative that requires all teacher education students entering the professional development sequence to acquire a prescribed laptop computer and software. The program is designed to immerse preservice teachers in a technology-rich learning environment of ubiquitous access to technology tools, Internet-based resources, and online communication systems in both their coursework and field experiences. Faculty and clinical supervisors are also equipped with the same equipment and software and are given curriculum development support.

This complex program requires considerable recurring funds for the salaries, equipment, and resources necessary to effectively carry out its operations. Extensive training is provided to faculty and students. Students may check out a wide array of peripheral technology equipment to prepare multimedia assignments created with their laptops, as well as loaners when their laptops must be sent for repair. The Laptop Help team provides walk-in technical support for students, covering both hardware and software issues. A coordinator manages this extensive range of efforts and resources, and provides information to other higher education institutions interested in developing their own laptop programs.

Several Vision Plan projects have addressed LIFE-related needs. Technology kits, equipped with projectors, digital cameras, and camcorders, have been provided to apprentice teacher cohorts for use in their field experience schools, and collaborative workspaces have been created in the Sánchez Building where LIFE students can use and recharge their laptops. Funding has also been used to replace aging loaner laptops.

### **Learning Technology Center**

The Learning Technology Center (LTC) supports the College of Education's instructional and research activities by providing computer, digital media, and telecommunications facilities, equipment, and services. Through the work of the LTC staff, many new technologies have been made available in the College in recent years. The LTC developed and maintains the College's wired and wireless computer networks, the server system, and a conferencing/email system. Several

large-scale technology facilities have been designed and constructed to serve faculty and students in five buildings, including a Student Collaboration Area, Distance Learning Classroom, and Model Technology Classroom. The center also provides nine other computer lab facilities, with both Mac and PC platforms. These include an Assistive Technology Lab with specialized hardware and software to teach students about adaptive equipment for people with disabilities, and a Laptop Compatible Classroom where students can plug in power to their own laptops during classes. LTC staff have also developed important technology services for the College, including an automated backup service for faculty and staff computers and an ePortfolio system. The LTC checks out peripheral equipment, such as digital camcorders, to students free of charge, and delivers equipment, such as mobile laptop labs, to College classrooms.

The LTC's IDEA Studio assists College of Education faculty with the integration of technology into their curricula. (See IDEA Studio description in Appendix 2—Best Practices for more information.) The Technical & Network Services team provides desktop technical help for College faculty and staff. The LTC also employs a Communications Coordinator who promotes the use of the LTC through electronic and print content, and a Web Designer who manages the College and LTC Web sites and assists departments and centers with their sites. And through the leadership of its Director, Dr. Paul E. Resta, the LTC has been involved in a number of research projects and collaborative initiatives that advance the use of technology to meet the needs of teachers and students throughout the state and nation.

These wide-ranging, high-quality resources and services require a large and skilled staff. The LTC employs 21 regular full- and part-time employees and 25 hourly part-time employees. Its IT-related funding consists of ITAC allocations (LTC personnel handle all ITAC-related purchases, and the resources purchased for many ITAC projects are housed and managed in the LTC), and a percentage of the flat rate tuition that all College of Education students pay each semester. In addition to this college-wide program, some of the College's academic departments have IT personnel, for the most part concentrated on maintaining departmental Web sites and setting up departmental computers.

## **Appendix 2—Best Practices**

### **IDEA Studio**

The IDEA Studio in the Learning Technology Center is a best practice in the College because it supports innovative uses of technology in education and helps faculty and their students make better use of the technology infrastructure. The IDEA Studio provides technology integration support to College of Education

faculty. Its services range from drop-in support for faculty who need help using their computer applications, to examining course syllabi to find ways to utilize technology to improve teaching and learning. The IDEA Studio also provides classroom training for students working on technology-based projects, customizing the training to fit the project and the students' level of experience.

The IDEA Studio support model emphasizes consultation and collaboration. The highly skilled IDEA Studio staff, most of whom have graduate education in curriculum and instruction, help faculty articulate goals, research options, and choose the most effective technology tools for their needs. The IDEA Studio also encourages innovation and research into the use of technology in education. In recent years, the IDEA Studio has helped faculty examine such topics as the use of desktop videoconferencing in teacher training and support and the use of online tools to teach difficult concepts.

### **Network and Information Security Policies**

Perhaps foremost among the College's best practices are the detailed policies governing network and data security. These policies, developed by LTC Technical & Network Services staff, have served as a model for the network and information security policies of other colleges on campus. The policies require the registration of all COE computers, which allows quick response to security breaches. The policies also require logins with a centralized system using complex passwords and a basic security configuration "template."

Since their introduction in 2006, the policies have reduced the impact of viruses, operating system vulnerabilities, and hacking incidents. Technical staff spend less time managing these security breaches and can more easily distribute to College users the latest virus protection and security updates. Users also benefit from a more cohesive and seamless computing environment.

The LTC Technical & Network Services team developed a Web-based application this past summer to gather the College's information for the ISO data risk assessment. This resource may be used campus-wide for next year's assessment.

### **Vision Awards**

The Vision Awards are certainly an example of a successful best practice. A 2002-2003 Vision Plan project proposed increasing technology integration in College of Education courses by tapping the technology expertise of UT students. The ITAC funded project, dubbed the "Vision Awards," began in 2003 with 10 projects. The program has continued to expand since then with funding from the Office of the Dean. Four student employees with a wide range of technology

development skills are hired for the “Vision Studio” and work year-round on projects proposed in three-yearly award cycles.

The program supports faculty proposals for technology-based projects that enhanced their teaching and have the potential to improve instruction throughout the College. Vision Award projects have been an immediate boon to course instruction, benefiting hundreds of students each semester. The projects allow faculty to integrate technology activities into instruction in ways they have been unable to in the past. The program is making real progress toward the College’s goal to improve instruction with technology. The quality of Vision Award projects was recognized in 2006 when two of them received Innovative Instructional Technology Awards.

### **Trend Toward Laptop and Wireless Use**

The move toward the use of laptops and wireless networking provides greater flexibility of access to instructional technology, promotes collaboration, and lowers the costs of equipping, maintaining, and staffing computer lab facilities. The creation of new laptop computing and collaboration spaces in the College will help to further facilitate this trend, and continues to be a priority. The LTC remodeled one of its areas to create a large laptop collaborative area, and an 06-07 ITAC project funded the creation of another laptop workspace for students on the third floor of the Sánchez Building.

Through the Laptop Initiative for Future Educators, the use of laptops and wireless networking has even extended into the public schools to enrich the field experiences of teacher education students. The College has also piloted the use of laptop videoconferencing to allow students in field settings to remotely participate in teacher education courses and receive university supervision.

Another goal the College continues to work toward, the installation of ceiling-mounted projectors in most of its classrooms, has begun to provide greater flexibility and convenience for faculty and students. Users plug their own laptops into the system, thus lowering costs because fewer deliveries of computer carts are needed.

### **Content Management System for College Web Sites**

The College Web sites are programmed with a Content Management System that provides a structured format and allows easier maintenance. The system went live in March 2008.

The system’s template provides a consistent graphic look among all the sub-sites, so that they all convey the College of Education identity. It makes editing pages and creating new ones very easy, and no experience with DreamWeaver or

other complicated Web development software is necessary. And with very flexible access controls, it is easy for departmental Web staff to delegate the upkeep of various pages to other support staff.