Technology Vision Plan

1999-2000

College of Education

The University of Texas at Austin

College of Education Faculty Computer Committee

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Executive Summary

The College of Education is entering a new phase of technology planning, having completed a three-year technology plan which realized enormous progress toward the goal of integrating computing and telecommunication technologies into all phases of its teaching, research, and service functions. The College envisions that all phases of the undergraduate and graduate student preparation programs, including field experiences, academic courses, and research activities, will utilize the latest computing technologies to maximize educational benefits, professional preparation, and research quality.

Earlier Plans have been notably successful in addressing the mission and technology goals of the College. This edition of the College of Education Technology Vision Plan builds on this foundation and sets forth the direction and goals for the 1999-2000 academic year, with projects that will enable the College of Education to continue as a national leader in the integration of technology throughout all aspects of instruction and research as the new millennium approaches.

This technology vision plan addresses needs for the maintenance and upgrade of present

equipment, software and facilities as well as projects to meet the growing demands for ubiquitous access to high-quality technology capabilities throughout the college. In order to continue the progress that has already been made, the College must balance the upkeep of established facilities with the creation of new ones, provide competent staffing for all facilities, and improve the technical competence and awareness of the faculty, thus enabling the College to integrate modern instructional technology into a diverse curriculum.

This document updates the continual, substantial progress the College has achieved during FY 1997-1998, and outlines future directions and necessary resources, projects, and staffing. The budget requested for 1999-2000 is **$348,475**.

For additional information about all projects described in this report, please contact Dr. Paul Resta, Director, Learning Technology Center, College of Education *(resta@mail.utexas.edu).*

Vision, Goals, and Objectives

It is the vision of the College of Education to provide a technology-rich academic and research environment that maximizes the collaboration potential between faculty and students, thus enabling them to attain the highest levels of excellence as professional educators.

The College has identified the following specific technology goals to be addressed on an ongoing basis:

- to provide universal 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 teaching profession.

- to integrate technology into all phases of instruction and develop new models of instruction based on the latest instructional technologies.

- To provide faculty, students and staff with easy-to-use collaborative environments and network access to the information they need for study, teaching, research and administration.

- to develop high levels of technological competence in the College's faculty and students.

- To increase access to high performance computational services in support of ongoing research and graduate training through the local computational resources as well as connections to major national and international facilities.

- to initiate systematic College-wide strategic planning of information resources and technologies that include all students, faculty, administrators, staff

Notable progress towards the above goals was made during the 1997-98 academic year. Network bandwidth within the George I. Sanchez (SZB) building was greatly improved by the installation of a high-speed Ethernet switch and upgrades to existing infrastructure in building network closets, providing the building with a 100 MBPS network feed, thus improving access speeds to UT Austin-based network resources and to the Internet. A collaborative environment for intra-College email, multi-participant conferencing and user-managed web page service was expanded

and re-introduced into the College, providing sufficient capacity for all CoE faculty, staff, and students. Construction on a major new technology classroom/computer lab in SZB was completed, and opened for classes in fall 1998. Annual incremental hardware and software improvements were made in existing Learning Technology Center computer laboratories. Faculty development workshops were hosted by the Learning Technology Center, focusing on technology integration methods for curriculum. A committee of technology coordinators representing each CoE department continues to meet on a frequent basis for technology planning and discussion of issues of College-wide interest, such as Year-2000 concerns within the College.

Facilities and Staffing

The College of Education (CoE) occupies portions of six buildings on the University of Texas at Austin campus:

- **George I. Sanchez Building (SZB)**; Academic Departments: Curriculum and Instruction, Educational Administration, Educational Psychology, and Special Education; Service and Support Areas: Learning Technology Center, Education Career Services and Field Experiences; Project and Program Offices: Cognitive Learning Strategies Project, Community College Leadership Program, Counseling Psychology Training Program, Education Productivity Council, N.I.S.O.D., School Psychology Training Program, Science Education Center, Systemic Research and Design Center in Math, Science and Engineering Education, Texas Center for Reading and Language Arts, University Affiliated Program/Texas Assistive Technology Program

- **Bellmont Hall (BEL)**; Academic Department: Kinesiology and Health Education

- **Anna Hiss Gymnasium (AHG)**; Academic Department: Kinesiology and Health Education

- **Gregory Gymnasium (GRE)**; Academic Department: Kinesiology and Health Education

- **Texas Swim Center (TSC)**; Academic Department: Kinesiology and Health Education

- **Texas Tennis Center (TTC)**; Academic Department: Kinesiology and Health Education

Academic departments in the College are Curriculum and Instruction, Educational Administration, Educational Psychology, Kinesiology and Health Education, and Special Education. The College employs 233 full and part-time faculty, and 115 full and part-time staff in departments, service and support units, and project and program offices.

The Learning Technology Center (LTC) is a central service unit within the College, providing technical expertise, consulting, faculty development assistance, computer classrooms and laboratories, distance learning classroom facilities, audio-visual equipment checkout, and media production services to the College. It employs a staff of 52. The LTC's seven computer facilities available for students are:

- **Advanced Applications Laboratory**; SZB 324
- **Multimedia Research Laboratory** ; SZB 536AA
- **Central Macintosh Laboratory**; SZB 438D
- **PC/Statistics Laboratory**: SZB 518C

- **Collaborative Learning Laboratory**; SZB 438F
- **Special Education Assistive Technology Laboratory**; SZB 518E
- **Kinematics Laboratory**; BEL 844

Academic/Instructional Projects Proposed for 1999-2000 (IT Funded)

Department: College of Education

Project Title: CoE Technology Classrooms

Description:

The College proposes to equip five large classrooms in the Sanchez Building and Bellmont Hall with special podiums and enclosures that will house multimedia computer workstations, high-quality video projectors, and special loudspeakers for CD-quality audio. This equipment, proposed for SZB 292, SZB 296, SZB 380, SZB 416, and BEL 962, will enhance the quality and impact of class presentations and provide direct, hands-on exposure to the latest presentation technology for faculty and students who use the room.

Audience:

College of Education faculty and students who teach or attend classes in the enhanced classrooms will benefit.

Space: No additional space is needed.

Staff Support: Support will be provided by existing staff.

Proposed Funding Source: IT Funds

Budget Detail:

5 custom, lockable podiums/enclosures $25,000

5 Macintosh desktop computer systems $20,000

5 Projectors $30,000

Software licensing $12,500

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Budget Total $87,500

Department: College of Education

Project Title: Sanchez Network Improvements

Description:

The acquisition of Ethernet workgroup switches to be installed in three network closets in the Sanchez Building is proposed. Three other closets have previously been so equipped. This upgrade replaces outdated network infrastructure and enables access to switched and Fast Ethernet services in all parts of the Sanchez Building.

Audience:

These proposed improvements to network service will benefit all College of Education network users.

Space: Existing space will be utilized for all equipment.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail

10/100Base-T Workgroup Ethernet Switches (3) $3,400

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Budget Total $3,400

Department: Learning Technology Center

Project Title: PC Applications Laboratory

Description:

Expansion and upgrade of a 20-station PC computer lab in SZB 518C is proposed. The Learning Technology Center's current 15-station PC lab in this location is often scheduled for classes or at full occupancy during open lab hours. Demand for access to newer, faster PC systems by CoE students continues to increase, making this improvement an essential need and an appropriate use of IT funding.

Audience:

The proposed expanded facility will benefit all College of Education students who require access to PC systems in LTC labs either during class time or open lab time. Any courses that are taught in the lab will directly benefit from the performance improvements realized by the upgrade.

Staff Support:

Existing Learning Technology Center staff will provide support for the PC lab.

Space: Existing Learning Technology Center lab space will be used.

Proposed Funding Source: IT Funds

Budget Detail

PC systems (20) $60,000

Network Hub $500

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Budget Total $60,500

Department: Learning Technology Center

Project Title: Multimedia Research and Development Laboratory Expansion

Description:

The Learning Technology Center proposes to remodel and expand the Multimedia Research and Development Lab, located in SZB 536AA. The lab currently provides eleven high-end workstations and software for multimedia design and also functions as a small technology classroom. Twenty stations are proposed in order to accommodate a larger class size, which will require expansion of the room. Additional computers and software licensing are budgeted.

Space: Existing Learning Technology Center space will be used for expansion.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

Renovation:

Expansion of existing Multimedia lab: $20,000

Furniture, carpeting, and lighting Installation $10,000

Equipment

Macintosh systems (5) $15,000

PC systems (4) $16,000

Software:

Additional Licenses for Multimedia Production Software $18,000

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Budget Total $79,000

Department: Learning Technology Center

Project Title: Central Macintosh Laboratory Upgrade

Description:

Incremental replacement of five workstations in the LTC Central Macintosh Laboratory, SZB 438D, is proposed.

Audience:

The proposed improvements to this laboratory will benefit all College of Education students who require access to Macintosh computers in LTC labs either during class time or open lab time. All College courses taught in the Central Macintosh Lab will directly benefit from the performance improvements achieved as a result of the upgrade.

Facilities, Equipment, and Staff:

Existing Learning Technology Center staff will provide support for the Central Macintosh Laboratory.

Space: Existing Learning Technology Center lab space will be used.

Proposed Funding Source: IT Funds

Budget Detail

Macintosh systems (5) $15,000

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Budget Total $15,000

Department: Special Education

Project Title: Assistive and Instructional Technology Laboratory Upgrade

Description:

In an effort to provide students seeking special education certification the opportunity to obtain invaluable field experiences in the use of assistive technology, acquisition of three laptop computers is proposed to enable field work with individuals who have disabilities. Currently students have the opportunity to learn about different types of assistive technology equipment but lack the ability to apply this knowledge in field experiences. Funding for augmentative communication software and alternate switch input devices for the laptop systems is also requested. These portable systems will be checked out from and considered a resource of the Assistive and Instructional Technology Laboratory.

Audience:

The proposed improvements will benefit Special Education majors completing the field experience portion of their coursework. The following undergraduate and graduate Applied Learning and Development and Special Education courses would be specifically served: ALD 322, ALD 326, SED 372, SED 376, SED 377, SED 393, SED 675, and EDC 331, SED 393, and selected Rehab Counseling classes.

Space: No additional space is needed.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

Macintosh PowerBook Computers (3) $9,000

Speaking Dynamically Pro Software (3 copies) $1,800

Alternate Switch Input Devices $500

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Budget Total $11,300

Department: Learning Technology Center

Project Title: Kinematics Computer Laboratory Improvements

Description:

Incremental replacement of five workstations in the Kinematics Computer Laboratory, BEL 844, is proposed.

Audience:

The proposed improvements to this laboratory will benefit all College of Education users of Kinematics Laboratory.

Space: No additional space is needed.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

5 Macintosh systems $15,000

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Budget Total $15,000

Department: Learning Technology Center

Project Title: Improvements to Digital Video Editing System

Description:

The Learning Technology Center proposes to improve its digital video editing system. Software updates, increased hard drive capacity and additional processor RAM are needed to insure the continued functionality and flexibility of the system. This system is essential to video production in the College and is a vital adjunct to multimedia development and production. The system is used by graduate students to complete video and multimedia assignments.

Audience:

All College of Education users of video and multimedia production facilities.

Space: No additional space is needed.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

Software Update $1,800

Technical Support Agreement $600

128 Megabyte RAM $300

18 Gigabyte Hard Drive Array $2300

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Budget Total

$5000

Department: Learning Technology Center

Project Title: Software Preview Center and Instructional Resources Collection

Description:

Expansion of the LTC Software Preview Center by 4 computer systems and addition of a network hub is proposed.

Audience:

All College of Education faculty, staff, and students may benefit.

Space: No additional space is needed.

Staff Support: Support will be provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

2 PC systems $6,000

2 Macintosh systems $6,000

Network hub $500

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Budget Total $12,500

Department: College of Education

Project Title: Preservice Technology Integration

Description:

The existing CoE Preservice Technology Integration program, otherwise known as the CoE Technology Cohort, has been a notable success from a collaboration standpoint, and has also been extremely popular among the students due to the hands-on technical experience they acquire while participating. The College proposes to expand the project to include an additional class of up to 25 students, beginning in January, 2000. Twenty-five additional laptop systems will be needed, configured comparably to the systems used by the current class.

Audience: College of Education students participating in Technology Cohort program(s).

Space: No additional space is required.

Staff Support: Provided by existing Learning Technology Center staff.

Proposed Funding Source: IT Funds

Budget Detail:

Equipment

Macintosh PowerBooks (25) $50,000

PC Card Modems (25) $5,000

Carrying Cases (25) $1,250

Software

UT Connect software license (25) $150

HyperStudio software license (25) $2,500

First Class software license (25) $375

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Budget Total $59,275

Administrative/Research Projects (Non-IT Funded)

The following current projects represent major ongoing research and development efforts in the College of Education. These projexts do not directly involve CoE students and are thus not eligible for IT funding. Each project is supported by grant funding.

Project Title: Texas Regional Collaboratives for Excellence in Science Teaching

A two million dollar grant from the National Science Foundation to The University of Texas at Austin, with additional funding from the Texas Education Agency, is helping to strengthen the

teaching of science and technology in schools across Texas. The funds support the Texas Regional Collaboratives for Excellence in Science Teaching, headquartered in the College of Education. A major goal of the Collaboratives is to create ongoing partnerships of educators and business leaders who are committed to science education reform. The goal of the Collaboratives is to empower the teachers of Texas, through continued teacher training, to lead systemic reform, excellence, and equity in science education.

Project Title: The Texas Center for Reading and Language Arts

The Texas Center for Reading and Language Arts was established in the College of Education in the Fall of 1996 as a key component of Governor George W. Bush's Initiative on Reading. The Center's mission is to assist K-12 educators statewide in advancing the reading skills of Texas children. The Center, funded by the Texas Education Agency, has developed a series of products aimed at communicating state reading standards and best instructional practices to educators across the state, and furthers ongoing efforts to enhance the knowledge and skills that teachers use to promote literacy for all children, with specific attention to second language learners.

Project Title: Migrant Education Grant

Researchers in the Department of Educational Administration, College of Education, received a three-year grant from the Texas Education Agency to study the education of migrant children in America. The project is part of a multi-state study involving Texas, Michigan, Minnesota, and Washington, the four states with the largest migrant populations in the U.S. The goal of the research is to generate information that will assist policy makers in making decisions with respect to migrant education. By assessing current programs for migrant students with respect to cost, coordination, effectiveness, and outcomes for students, the researchers expect to identify ways to improve the educational system for children who move from state to state.

Project Title: Exercise and the Heart

Dr. Joseph Starnes is a nationally known expert on interactions of aging and exercise in heart metabolism and function. One of his research projects centers on his hypothesis that exercise-produced stress actually protects the heart from pathologically-produced stress. His work is shaping the way scientists think about the mechanisms by which exercise influences heart function, and also has important implications for training in older adults and for treatment and rehabilitation of persons who have suffered heart attacks. Dr. Starnes is also studying topics related to cardiac and skeletal muscle metabolism especially as they relate to exercise and aging, changes in proteins and molecules within the heart during exercise training, the role of antioxidants in protecting the heart, and cardiac dysfunction caused by alcohol abuse. Dr. Starnes' research has been supported by funding from the National Institutes of Health, the American College of Sports Medicine Foundation, and the American Heart Association (Texas Affiliate).

Project Title: Four Directions Project

The Four Directions Project has developed collaborative partnerships with three major universities, and one tribal university across the nation to provide professional resource support in areas of curriculum development, technological expertise, and connectivity support. Four Directions serves 19 rural nationwide Native American schools funded by the Bureau of Indian Affairs to transform curriculum through building on local cultures and values. Guiding principles of the Four Directions project unite efforts to celebrate and preserve Native American culture, while empowering Native American people of all ages to utilize technology. The University of Texas at Austin provides expertise in the areas of on-line coursework and mentoring, virtual museum support, and FirstClass Bulletin System support (Teach Net). This project is funded by a grant from the Department of Education.

Project Title: Educational Productivity Council

Researchers in the Department of Educational Administration's Educational Productivity Council continue their longitudinal studies of student achievement in Texas schools, looking for ways to close the gap between low achieving students and their peers. Working with teams of principals, teachers and other public school personnel, the researchers help to establish systems for improving the quality of decisions made at student, classroom, program, and campus levels, assessing the effects that time, curricula, and other instructional variables have on student achievement. The project networks with 400 campuses, three regional service centers, the Texas Education Agency, and private sector organizations, and has developed a data base of longitudinal performance information for approximately one million students. Results of this research are used by school administrators and teachers to assess the effects of specific policies on student performance and to set goals for achieving higher levels of effectiveness. The Council receives funding from the Texas Education Agency, the Charles A. Dana Center, and from school districts that use the Council's data.

Project Title: Systemic Research and Design Center in Mathematics and Science Education

Across the country, states and rural and urban schools are undertaking major reform initiatives in science and mathematics education. Funding from the National Science Foundation has been provided to the College of Education for establishing a Systemic Research Center in Math and Science Education. The goal of the center is to serve as a catalyst for more effective systemic reform by strengthening the research base and building national capacity to conduct effective systemic reform research. Underlying principles of the center include re-envisioning excellence in science and mathematics education, supported by technology, in light of disciplinary and technological changes, building adaptive learning organizations, fostering the multi-directional flow of research-practice results, and anticipating new models of collaborative research. The center's research should provide significant contributions to the knowledge base on systemic reform and effective school practices in science and mathematics.

Information Technology Funding Overview

Information Technology (IT) funding has historically been awarded to the College of Education in two component sums: a) an annual recurrent component, based on CoE enrollment, and b) a project component, based on proposed technology projects. Recurrent funding has typically been applied to maintenance and updating needs for student-use facilities and infrastructure, while project funding is normally designated and set aside for design and implementation efforts for projects proposed in the *College of Education Technology Vision Plans.*

In the CoE, IT funding is used to address technology needs in the following categories:

1. **Instruction:** Funding is used to provide equipment, software and services which enhance the quality and impact of instruction for CoE students. Examples include mobile computer/projection presentation carts, computer lab systems, and server-based software provided for labs.

2. **Research:** Funding is used to provide and equip facilities in which students may participate directly in research projects, allowing them to benefit from field and laboratory experiences in which classroom concepts are demonstrated. Examples include high-end Macintosh workstations, sophisticated multimedia production software, and the compact disk production system provided in the Learning Technology Center Multimedia Research and Development Laboratory.

3. **Administration:** Funding is used to create and maintain network infrastructure in order to access external instructional resources, and to enable efficient staff support of facilities which are used in instruction and research. Examples include high-speed ethernet switches and remote-manageable ethernet hubs in CoE buildings, software which implements remote system management functions once possible only with hardware, and cross-platform lab computer management software which implements security checking.

Maintenance and upgrades are an essential aspect of each category above. It is the College's policy to systematically update the computer systems and software that are provided in student labs on an incremental basis; e.g. replace one-third of the systems each budget year. The availability of IT funding permits the CoE to make the most recent hardware/software technologies available to CoE students, thereby expanding and enriching the professional development experience for those students.

Appendix A

College of Education

The University of Texas at Austin

1997-98
Total IT Summary Expenditures

	Information Technology Fee	Learning Technology Center Usage Fee*
Staff	$0	$412,185
Equipment	$145,247	$25,000
Facilities	$289,000	$129,515
Network	$2,740	$1,500
Other (services)	$3,779	$7,000
Total	**$440,766**	**$575,200**

* The Learning Technology Center Usage Fee is a Learning Resource Center fee, assessed to defray the cost of providing learning resource centers. The Learning Technology Center Usage Fee is assessed and administered by the College of Education's Learning Technology Center and is used to fund LTC salaries, services, maintenance and non-computer equipment. Expenditures from this fee are summarized here because the staffing, equipment and facility infrastructure it funds are essential to the operation of the College's computer facilities.

Appendix B

College of Education

The University of Texas at Austin

Network Infrastructure Summary

Networking Status in CoE Buildings

The College of Education has office, classroom, and research laboratory space in 6 buildings on the UT Austin campus, as listed below. Network infrastructure has been installed and updated in each building as dictated by demand, and continues to evolve.

Campus Building	Usable Rooms	Rooms wired	% Wired
George I. Sanchez (SZB)	491	350	71
Anna Hiss Gym (AHG)	23	23	100
Bellmont Hall (BEL)	128	101	79
Gregory Gym (GRE)	13	13	100
Texas Swim Center (TSC)	3	3	100
Texas Tennis Center (TTC)	1	0	0
Total	**659**	**490**	**75**

CoE Technology Classrooms

The following special-use classrooms are operated by the College of Education in the George I. Sanchez Building and in Bellmont Hall. These rooms contain technology enhancements and

connectivity for improved presentation quality, resource access, and student-instructor interaction:

1. SZB 323 : Distance Learning Classroom
2. **SZB 324:** Advanced Applications Laboratory, 40 stations, Macintosh
3. **SZB 438D:** Central Macintosh Laboratory, 18 stations, Macintosh
4. **SZB 438E:** Software Preview Center, 14 stations, Macintosh and PC
5. **SZB 438F:** Collaborative Learning Laboratory, 18 stations, Macintosh
6. **SZB 518C:** PC/Statistics Laboratory, 15 stations, PC
7. **SZB 518E:** AssistiveTechnology Laboratory, 7 stations, Macintosh and PC
8. **SZB 536AA:** Multimedia Research Laboratory, 11 stations, Macintosh and PC
9. **BEL 844:** Kinematics Laboratory, 10 stations, Macintosh and PC