

# Technology Vision Plan

2000-2001

**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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# UT Austin College of Education

## 2000-2001 Technology Vision Plan

### Executive Summary

The College of Education enters the new millennium having realized significant 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 components of the undergraduate and graduate student preparation programs, including field experiences, academic courses, and research activities, will utilize the latest computing technologies to enable collaboration between faculty and students, thereby maximizing educational benefits, professional preparation, and research quality.

The 2000-2001 version of the College of Education Technology Vision Plan builds on the progress achieved in prior-year plans, and sets forth new goals. Projects proposed for 2000-2001 include additional technology-enhanced classrooms, continued expansion and staff support for the CoE Preservice Technology Integration Program (providing student teachers with special training and laptop computers), support staff for faculty who are working to integrate technology into their curriculum plans, wireless networking hardware for the CoE Model Technology Classroom, and portable videoconferencing equipment to be used during student teaching activities at Austin ISD Professional Development Schools.

Previous CoE Technology Vision Plans have been notably successful in addressing the mission and technology goals of the College. New initiatives have greatly increased the extent to which technology is involved in the activities of the students, faculty, and staff of the College. Long-term funding has been allocated to sustain the staff support for most of these initiatives. Maintenance and upgrades, however, are essential to the continued usefulness of all information technology systems. Equally essential are the development of new projects that address needs which were not evident in previous

years. 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 that address perceived needs, provide competent staffing for all facilities, and improve the technical competence and awareness of the faculty, thus enabling them to integrate modern instructional technology into a diverse curriculum.

This document updates the continual, substantial progress the College has achieved during FY 1998-1999, and outlines future directions and necessary resources, projects, and staffing. The budget requested for 2000-2001 is **\$695,900**.

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 collaborative 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

Progress continued towards the above goals during the 1998-99 academic year. Network performance was enhanced at the desktop level within the George I. Sanchez (SZB) building with the installation of peripheral ethernet switches in selected building network closets, greatly reducing network contention by users who connect through those closets. The performance potential of the CoE collaborative environment, known as TeachNet, was enhanced with the installation of network and mass-storage capacity improvements. The CoE Technology Cohort Program was expanded by an additional class of 20 students, each of whom are provided with laptop computing technology. The Advanced Applications Laboratory, the College's flagship technology classroom facility, was upgraded to state-of-the-art status with the installation of 40 new student workstations. All student workstations in two other Learning Technology Center computer laboratory facilities were replaced with systems incorporating the latest technology available. 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 6 buildings on the UT Austin Campus:

- **George I. Sanchez (SZB) Building**; academic departments: Curriculum and Instruction, Education Administration, Educational Psychology, and Special Education; service/support: Learning Technology Center, Ed Placement and Field Experience; research: Texas Center for Reading and

Language Arts, Cognitive Learning Strategies, Community College Leadership, Counseling Psychology Training, Curriculum Studies, Instructional Technology, Early Childhood, Education Productivity Council, Language and Literacy Cluster, Mathematics/Science Cluster, Multilingual Studies Cluster, Rehabilitation Counseling, School Psychology Training, Texas Assistive Technology Program, University Affiliated Program

- **Bellmont Hall (BEL)** ; academic departments: Kinesiology/Health Education; research: Biomechanics, Sports Management, Human Anatomy, Nutrition, Sports Physiology, Exercise Physiology, Motor Control, Motor Development, Gerontology and Aging, Cardiac Metabolism, Sports Psychology, Clinical Exercise Physiology
- **Anna Hiss Gymnasium (AHG)**; academic departments: Kinesiology/Health Education; research: Pedagogy, Sports History, Physical Culture History
- **Gregory Gymnasium (GRE)** ; academic departments: Kinesiology/Health Education; research: Nutrition, Fitness, Team Sports, Trainer Development
- **Texas Swim Center (TSC)**; academic departments: Kinesiology/Health Education; research: Texas Aquatics
- **Texas Tennis Center (TTC)**; academic departments: Kinesiology/Health Education

Academic departments in the College are Curriculum and Instruction, Education Administration, Educational Psychology, Special Education, and Kinesiology/Health Education. The College employs 265 full/part-time faculty in the departments, and 150 full/part-time staff in departments, service/support organizations, and research units.

The Learning Technology Center (LTC) is a central service organization within the College, providing technical expertise, consulting services, faculty development assistance, computing-technology classroom/laboratory facilities, distance learning classroom facilities, equipment checkout, and media production services to CoE departments and research units. The LTC supports seven computer labs/classrooms that are available for use by CoE students:

- **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 2000-2001 (IT Fee-Funded)**

**Department:** College of Education

**Project Title:** CoE Technology Classrooms

**Description:**

The College proposes to refit two major Sanchez Building classrooms (SZB 330 and SZB 370) with permanently installed equipment which will enhance in-class presentations with multimedia computer workstations and high-quality audio and video. An added benefit will be direct, hands-on exposure to presentation technology for faculty and students who use the room.

This project is an extension of a 1999-2000 CoE Vision Plan project to refit five classrooms in the Sanchez Building and Belmont Hall.

**Audience:**

College of Education faculty and students who teach/attend classes in the enhanced classrooms

**Space:** No additional space is needed.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

## Equipment

2 custom, lockable podium/enclosures	\$14,000
2 Macintosh desktop computer systems	\$8,000
2 ceiling-mount projectors/installation	\$16,000
Software licensing	\$5,000
	\$43,000

**Budget Total** **\$43,000**

**Department:** Learning Technology Center

**Project Title:** Multimedia Research and Development Laboratory/Classroom Construction

**Description:**

The Learning Technology Center (LTC) proposed and received funding for the expansion of the current Multimedia Research and Development Laboratory in the 1999-2000 Technology Vision Plan. In the interim, it was determined that an even larger facility which could accommodate larger class sizes is needed, and that another location within the LTC was desirable rather than enlarging the site of the existing lab. In addition, state-of-the-art computers are proposed for the new facility in order to provide performance commensurate with the next generation of multimedia software.

**Audience:** College of Education students and faculty studying multimedia development

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

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Renovation	\$80,000
Furniture, carpet, lighting	\$80,000
Macintosh G4 Computers (25)	\$125,000
Reserved prior-year budget	(\$79,000)
	\$206,000

**Budget Total** **\$206,000**

**Department:** College of Education

**Project Title:** Preservice Technology Integration Program

**Description:**

The CoE Preservice Technology Integration program, also known as the CoE Technology Cohort Program, provides student teachers with the loan of a laptop computer, preloaded software, and specialized technology training during the field experience portion of their professional development training. This program has been very successful from an academic standpoint and has also been popular among the students because of the hands-on experience they acquire while participating, which is a significant job credential.

The College proposes to expand the Technology Cohort Program to include an additional class of up to 25 students, beginning in January, 2001. Twenty-five additional laptop systems will be needed, configured comparably to the systems used by the current classes. The Program also has a growing need for specialized technical support and curriculum design expertise to assist the student teachers and their mentoring teachers with usage problems and technology inclusion. A full-time staff position is proposed to address this need, including funding for annual salary, benefits, travel, and startup expenses.

**Audience:** College of Education students participating in the Technology Cohort Program.

**Space:** Office space for staff position will be allocated in existing space.

**Staff Support:** as proposed

**Budget Detail:**

Staffing

Instructional Technology Specialist	\$40,000
Benefits, computing / startup resources, travel	\$15,000

Equipment

Macintosh PowerBook (25)	\$62,500
Carrying Cases (25)	\$1,250

Software

UT Connect software license (25)	\$150
First Class software license (25)	\$375

**Budget Total** \$119,275

**Department:** College of Education

**Project Title:** Model Technology Classroom Computing

**Description:**

The CoE Model Technology Classroom is a technology-enhanced teaching facility currently in the design phase, to be located in SZB 438E. When completed, this room will provide a model environment for CoE students in which they may explore the use of technology in the instructional realm.

The College believes that portable computing platforms, possibly utilizing wireless networking technology, will be a significant attribute of the classrooms of tomorrow. The advantages of portability are of special interest in an environment where flexibility and configurability are key design goals, such as in the CoE Model Technology Classroom. The College proposes to pioneer the use of portable platforms, i.e. laptop computers, in a teaching setting similar to what our students will likely someday teach in. Funding for twenty-five laptop systems is requested, with an additional allowance for wireless networking infrastructure.

**Audience:** CoE faculty and students who use the Model Technology Classroom

**Space:** Space has already been allocated.

**Staff Support:** Support will be provided by existing staff

**Budget Detail:**

25 Macintosh iBooks	\$37,500
25 iBook Airport modules	\$2,225
1 Wireless access point (hub)	\$2,000

**Budget Total** \$41,725

**Department:** College of Education

**Project Title:** Faculty Technology Integration / Web-based Course Support

**Description:**

The College hopes to expedite the progress of the use of technology in curriculum by CoE faculty by providing dedicated staff support for technology integration. This support will include mentoring

faculty in the use of technology-based instructional methods, especially web-based courses, the use of instructional multimedia, the use of collaborative software and methods both in and out the classroom, and implementation assistance for all technology-inclusion efforts.

Multiple full and part-time positions are proposed to effectively assist the College faculty with technology integration. One dedicated part-time technical staff position is proposed for each CoE department (i.e. five positions, 12-month appointment). These positions would be especially well suited for graduate students who have acquired technology skills that would be applicable, i.e. experience with web-based courses and multimedia software. Additionally, a full-time doctoral-level position is proposed to serve a coordinator for all faculty technology integration needs and supervisor for the five part-time positions.

**Space:** Office will be allocated in existing space.

**Staff Support:** As proposed.

**Budget Detail:**

Graduate Research Assistants (5)	\$100,000
Social Sciences/Humanities Research Associate IV	\$40,000
Benefits, computing/startup resources	\$20,000

**Budget Total** \$160,000

**Department:** Special Education

**Project Title:** Assistive and Instructional Technology Field Experience Applications

**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 five 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. Public schools may only have limited technology applications available for their students; consequently, field experience students lack the opportunity to generalize knowledge about assistive technology to real-world applications with children.

Funding for different assistive technology applications includes: augmentative communication software and alternate switch input devices for the laptop systems, and assistive technology instructional software for writing instruction. Three Franklin spellers are also recommended as devices to facilitate spelling and writing instruction. 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 326, SED 675, EDC 331, and SED 393.

**Space:** No additional space is needed.

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

**Budget Detail:**

Macintosh PowerBooks (5)	\$15,000
<i>Speaking Dynamically Pro</i> (software, 3 copies)	\$1,800
Alternative Switch Input Devices	\$500
<i>Co Writer</i> and <i>Write Outloud</i> (software, 5 copies each)	\$300

Franklin Systems

\$900

**Budget Total**

\$18,500

**Department:** College of Education

**Project Title:** Student Field Experience Research Computing

**Description:**

The CoE Office of Student Field Experience frequently engages in research tasks occurring in selected AISD schools that are designated as CoE Professional Development Schools. These tasks typically involve data collection, presentations, and specialized instruction by CoE student teachers and graduate research assistants. The acquisition of a small fleet of laptop computers is proposed, to be available for students to check out for use in field research assignments. The proposed budget also includes funding for application software that is designed for field-based research, presentation, and instruction.

**Audience:** CoE students participating in Field Experience programs.

**Space:** No space is required.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Macintosh iBooks (20)  
Software

\$30,000  
\$15,000

**Budget Total**

\$45,000

**Department:** Learning Technology Center

**Project Title:** Improvements to Digital Video Editing System

**Description:**

The Learning Technology Center (LTC) operates a Media 100 Digital Video Editing System that provides high quality, easy to use digital video editing capabilities. This system is available to CoE students engaged in multimedia production projects. The installation of a special digital video hardware option is proposed in order to enable the system to interface with newer-generation computers. An ergonomic console and a switching system for multiple audio/video inputs are also proposed.

**Audience:** CoE students participating in multimedia production projects

**Space:** No additional space is required.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Media 100 Digital Video Option  
Console  
A/V switching patch panel

\$4,000  
\$8,000  
\$2,000

**Budget Total**

\$14,000

**Department:** College of Education

**Project Title:** Videoconferencing from Professional Development Sites

**Description:**

The CoE Distance Learning Classroom (DLC) is a state-of-the-art distance education facility, located in SZB 323, which can transmit and receive high-quality audio/video to and from remote distance education sites that are similarly-equipped. The College proposes to extend the distance education domain into the professional development schools where CoE students are placed for field experience to allow presentations to originate from either end of the link. Since the schools in question are, in general, not equipped for distance education, the acquisition of a portable videoconferencing system which could be transported to remotes sites is proposed as described below.

**Audience:** CoE faculty and students during the field experience phase of the UT CoE student program

**Space:** No space is needed.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Polycom portable videoconferencing system	\$10,000
Service and technical support	\$2,000

**Budget Total** \$12,000

**Department:** Learning Technology Center

**Project Title:** Advanced Applications Laboratory Video Camera System

**Description:**

The CoE Advanced Applications Laboratory (AAL) is a state-of-the-art technology classroom and student computer laboratory located in SZB 324. The AAL contains 40 high-performance student workstations with switched networking, dual 10-ft rear-projection screens, and a custom instructor's control station that permits selection of a variety of audio/video input sources for presentation. Wall-recessed video camera enclosures were included in the original design of this room, but acquisition of cameras was postponed for budget reasons. A remote camera system is proposed, permitting this room to function as a distance education facility in conjunction with the adjoining CoE Distance Education Classroom (see *Videoconferencing from Professional Development Sites* for a description of the Distance Education Classroom). An initial benefit of distance education capability for the AAL will be to expand the student audience of EDC 371 (*Computing Tools for Educators*) by offering remote sections (EDC 371 is a required course for all Education majors and has historically been overcrowded).

**Audience:** Distance education presenters and participants, students of EDC 371

**Space:** No additional space is required.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Remote camera system and controls	\$21,000
Integration with existing control electronics	\$3,000

**Budget Total** \$24,000

**Department:** Kinesiology/Health Education

**Project Title:** Student Field Experience Feedback on Teaching

**Description:**

During the student teaching experience in Kinesiology students receive quantitative as well as qualitative feedback on their teaching. Typical data collected during a lesson includes time usage, feedback, and number of learning trials. Research has shown these factors to be very powerful indicators of learning and that student teachers provided with data about their own teaching are able to make appropriate changes and feel committed to developing specific teaching skills.

Providing data based feedback to student teachers is a very time intensive exercise when done by hand. A computerized recording system is proposed to allow for multiple teaching behaviors to be recorded at once, provide immediate analysis and allow the student to see their progress over time. This system will provide greatly enhanced feedback to student teachers and allow them to work toward specific teaching goals.

**Audience:**

Students in the Kinesiology student teaching cohort will benefit from increased and more specific feedback on teaching. The laptops and software will be used by supervisors to provide regular data and feedback on teaching. The students learn to analyze recorded behavior during the methods will be able to use the software in the campus lab to track their own improvement in the to track their own progress.

**Space:** No additional space is needed.

**Staff Support:** Support will be provided by existing staff.

**Budget Detail:**

Macintosh Powerbook (4)	\$10,000
B.E.S.T. Software Site License	\$2,400

**Budget Total** \$12,400

### **Administrative/Research Projects (Not IT-Fee Funded)**

The following IT-related projects represent major ongoing research and development efforts in the College of Education. Because these projects do not directly involve students in the College and are thus not eligible for IT fee funding, each project is supported by grant funding. For brevity, only efforts of particular significance are listed, although other, similar projects which are not IT fee fundable, exist within the College.

**Project: Texas Regional Collaboratives for Excellence in Science Teaching**

A major 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. An additional 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: 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 has developed a series of products, many of which are technology-based, aimed at communicating state reading standards and best instructional practices to educators across the state,

and furthering 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: 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: 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 (TeachNet).

### **Project: 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 database 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.

### **Project: Systemic Research 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 Project in Math and Science Education. The goal of the project 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 project 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. Research data obtained by the project is expected to provide significant contributions to the knowledge base on systemic reform and effective school practices in science and mathematics.

## **Project: Dean's Faculty Technology Integration Awards**

As an incentive for faculty technology integration, the College of Education Dean's Office annually presents a financial stipend to faculty members who have demonstrated exemplary and innovative efforts to incorporate technology-based resources and methods into their curriculum plans. Each award consists of \$5,000 for project expenses, \$1,000 travel budget, and \$2,000 in TA support funding. Proposed recipients are nominated by faculty peers in each CoE department, with a final candidate being selected by each department chair. One recipient is selected from each department.

## **Project: A Collaborative Effort by UT and Dell Computer to Design and Produce Multimedia Training Materials**

The UT Austin College of Education and Dell Computer Corporation are partnering to produce multimedia training materials for use at Dell in training customer technical support personnel. The MACSD Training, Development & Communications department at Dell, which provides technical support to large companies, government organizations, and educational institutions, has the need to produce CD and internet/intranet based training materials for its technicians to increase technical support productivity and efficiency. However, designing and developing such multimedia materials requires expertise in instructional design, product management, use of state-of-art tools and a significant amount of time investment. Research shows that although students at universities may gain a solid foundation in theories and some technical skills in using technologies, the actual development processes for successfully producing multimedia materials are not always readily apparent or accessible to students (Liu, Jones & Hemstreet, 1998). There is often a gap between what is taught in an academic setting and what is practiced in the real world. Students often lack the competence in professional practice that requires practical knowledge involving know-how and insight learned through practice. Therefore, multimedia courses in IT have been redesigned to place more emphasis on simulating real-life environments and encouraging collaborative learning. Students taking such courses design and develop interactive multimedia projects in teams for a real audience. While students gain substantial amount of knowledge as well as practical experience in taking such courses, the learning experience is still classroom based and is only a "one-shot" deal. Students need more opportunities to practice what they have learned in the classroom, and to extend their knowledge. Working with Dell on this project will provide such a real world experience.

## **Project: Effects of Computerized Mentoring on the Achievement of Girls and Minorities**

Nearly every indicator of academic achievement points to a disturbing crisis in the educational welfare of black and Latino Americans. From grade school through high school and beyond, these students, compared to white and Asian Americans, receive lower grades, have higher dropout rates and obtain lower scores on statewide standardized tests. Indicators of mathematics, science, and computer skills, paint a similarly troubling picture for girls and young women. The observed underperformance of girls in mathematics and minorities in all areas of achievement is referred to as 'stereotype threat'. A consequence of stereotype threat is that situations that remind people of well-known stereotypes that impugn intellectual ability (e.g. "girls can't do math," "black people are unintelligent") can arouse enough anxiety in a testing situation to seriously interfere with performance on such tests as the SAT and the GRE. Recent studies, however, have shown how the pernicious effects of stereotype threat can be minimized with mentoring in technology skills and increased access to computers, greatly boosting the test and school performance of girls and disadvantaged minorities. The proposed research examines the potential for computer mentoring to address the problems faced by the most at-risk students in a cost-effective and sustainable way.

## **Project: Development of Web-Based Course on Instructional Planning**

Through a grant from the UT System Telecampus (\$39,000) Dr. Paul Resta has developed a Web-based course on Instructional Planning and Management. The course emphasizes an authentic context and authentic activities for the students and involves the use of state-of-the-art Web-based tools for planning and management. The course is offered in the Fall of 1999 and involves the online

collaboration of both on-campus and off-campus students working as technology planning teams. The course incorporates instructions, mini-lectures, and supplemental information from planning experts through video streaming over the Web. The purpose of the project is to apply current research-based learning strategies into a Web-based learning environment. The course will be offered once each academic year both on-campus and through the UT Telecampus.

### **Project: Technology Leadership Institute**

This project, funded by the US Department of Education's *Preparing Tomorrow's Teachers to Use Technology* (PT3) Catalyst grant program, will provide support for the College of Education's leadership role in establishing a Technology Leadership Academy to address the needs of teacher preparation institutions in the states of Texas, Oklahoma, and New Mexico. The Academy will provide Web-based resources, a Summer Institute, and serve as a clearinghouse for resources and expertise to assist colleges of education in infusing technology into their teacher preparation programs. Special services will also be provided to the colleges of education who have received capacity-building or implementation grants from the Department of Education. The catalyst grant is one of the few awarded nationally and the partners include the Texas Education Agency, State Board for Educator Certification, the Higher Education Coordinating Board and the University of North Texas. The other components of the project include the development of technology integration modules in the content areas (University of North Texas) and the development of teacher technology standards and assessments (TEA and SBEC).

### **Project: Participatory Simulations**

The Participatory Simulation Project is a 1.8 million-dollar project funded by the National Science Foundation (Uri Wilensky, PI; Walter Stroup, CO-PI) that has as its goal the introduction of systems thinking as a kind of literacy for all students. Students engaged in participatory simulations will use a very new networked technology to act out the roles of individual system elements and then see how the behavior of the system as whole can emerge from the interaction of these individual behaviors. Participatory simulations of everything from controlling traffic flow (each student controls a stoplight in a simulated city's traffic grid) to simulations of an ideal gas (each student straps on a motion detector and moves about the classroom as data about their motion is recorded) have been implemented or are being developed.

## **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

1998-99

#### Total IT Summary Expenditures

	Information Technology Fee	Learning Technology Center Usage Fee •
Staff	\$0	\$534,329
Equipment	\$254,086	\$46,157
Facilities	\$0	\$2,000
Network	\$14,866	\$13,652
Other (services)	\$1,544	\$5,000
<b>Total</b>	<b>\$270,495</b>	<b>\$601,138</b>

Notes:

- 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

# Networking Infrastructure Summary

## Network Access 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 Belmont 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, 24 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, 20 stations, PC
7. **SZB 518E:** Assistive Technology Laboratory, 7 stations, Macintosh and PC
8. **SZB 536AA:** Multimedia Research Laboratory, 11 stations, Macintosh and PC
9. **BEL 844:** Kinematics Laboratory, 13 stations, Macintosh and PC