

# NASH

NATIONAL ASSOCIATION OF SYSTEM HEADS

## **Using Technology to Enhance Teacher Quality and Increase Student Access K-16:**

*Examples from the Spring 2001 NASH Technology Survey*

**Draft, July 2001**

*Survey led by Robert Tad Perry, Executive Director and Paul Gough,  
Director of Policy and Planning, South Dakota Board of Regents*

*Selected examples compiled by NASH*

## Introduction:

In Spring 2001, the South Dakota Board of Regents in collaboration with NASH developed a K-16 online survey to examine how higher education systems are using technology to enhance teacher quality and increase student access to rigorous coursework. Specifically, the survey focused on ways in which NASH college and university systems are using technology to increase access for both students and teachers to academic courses and professional development activities.

The survey includes only system-level collaborative work, some of which may be hosted by a particular campus. It does not include the many individual campus initiatives.

The survey was distributed to the CEOs of all 51 university systems in 38 states and Puerto Rico. Over half the systems completed and returned the survey. Complete results are available at: <http://www.sdbor.edu/nash/>.

Selected examples from each of the six sections in which data was collected follow in this summary report [note: a few initiatives are listed under more than one section].

- I. High School Courses On-line
- II. K-12 Student Access to College Courses On-line
- III. Teacher Preparation: Undergraduate Teacher Education
- IV. Teacher Preparation: Alternative Certification Pathways
- V. Continuing Professional Development for K-12 Personnel
- VI. Information Management and Data Analysis

## **I. High School Courses On-line**

### **CALIFORNIA - University of California**

<http://uccp.org>

The University of California systemwide UC College Preparation Initiative (UCCP), based on the UC Santa Cruz campus, provides online college preparatory and Advanced Placement courses to high school students who otherwise would not have the opportunity to become eligible or competitively eligible for admission to college. UCCP broadens the equity of access to UC admission. UCCP was funded as a pilot in late 1998 by UC President, Richard Atkinson for initial implementation in January 1999. The Initiative is now more fully funded through the Governor's AP Challenge Grant funds, is operational Statewide, and has reached approximately 2000 students.

<http://explore.berkeley.edu>

University Extension programs on some UC campuses provide high school courses and give high school students AP credit for college level courses. One example is UC Berkeley's Center for Media and Independent Learning's UC Extension Online program. The center's website lists high school courses offered through the program; courses include physics, trigonometry and English at various grade levels. Students can order books online and print assignments online. They email, fax or mail in assignments.

### **CONNECTICUT - Connecticut State University System**

<http://ctstate.redirect2.ecollege.com>

CSU is engaged in a pilot project (2000-2001) in cooperation with the State Education Department to offer AP courses online and/or allow AP students to take CSU general education courses through OnlineCSU. OnlineCSU provides students with access to the university library, bookstore, registration and course offerings online.

### **FLORIDA - State University System of Florida/ Florida Online High School**

<http://www.fhs.net>

The State University System (SUS) of Florida does not, in and of itself, offer a large array of high school level courses for general distribution throughout the state. This function is more appropriately handled by Florida's statewide on-line high school called The Florida Online High School. The SUS has representative membership on the High School's Board of Trustees. The Florida High School was started by two school boards, Orange and Alachua Districts, in 1997. It became available statewide in September 1998 and has affiliation with 47 districts. Both Orange and Alachua districts provide financial, administrative, and in-kind services and support for the Florida High School. The state of Florida provides support for the high school through funding; in 1999, it appropriated \$3.8 million.

The mission of The Florida Online High School is to provide students with high quality technology-based educational opportunities to gain the knowledge and skills necessary to succeed in the 21st Century. It provides curriculum and instructional services over the Internet at no charge to Florida students. Students are able to access course information and communicate with their teachers and other students anytime and anywhere online. For example, through the 1999-2000 school year, a professor at the Florida State University School developed and offered an on-line Latin I course for middle and high school students throughout Florida. Beginning with the 2000-2001 school year this course was integrated into the offerings of the Florida Online High School.

## **ILLINOIS - University of Illinois**

<http://netmath.math.uiuc.edu/home.html>

NetMath at the Univ. of Illinois Urbana-Champaign is a distance education program that uses technology to provide distance education calculus courses to rural K-12 students. It provides students with access to courses that would not otherwise be available to them. For example, high school students can get a "jump start" in college math requirements. High schools students can also receive college transfer credit so as long as the college accepts credit from the University of Illinois. NetMath is offered through other universities including: University of Iowa, Ohio State University, University of Pittsburg, University of Illinois Online and Illinois Virtual High School.

<http://www.ivhs.org>

The Illinois Virtual High School provides students and teachers with increased equity and access to high quality educational opportunities—courses that are aligned with the Illinois learning standards. It is being planned as an educational service managed by the Illinois State Board of Ed. to expand access to challenging curricula. A variety of courses are offered and students can receive AP credits for courses. The Virtual High School is governed and operated by the Illinois State Board of Education in collaboration with the Illinois Board of Higher Ed. and the Illinois Community College Board.

## **NEBRASKA - University of Nebraska**

<http://www.class.com>

The University of Nebraska has a long tradition of offering an independent study high school that has recently been "spun-off" as a distinct private venture, "Class.com" that offers a high school diploma program to students around the world. Class.com is the nation's first fully accredited virtual school based on an independent study high school program. It offers core courses in math, science, social studies and business and career planning. There is direct interaction between students and teachers online. Students can access course materials online. It is especially beneficial for students who are in need of specialized courses that do not have access them such as homebound, gifted/talented, summer school, nontraditional, etc. In addition to Nebraska, districts with rural communities in Kentucky and Kansas, which also have teacher shortages, are participating. Over 6,000 students are currently enrolled in Class.com from every state and 135 countries.

<http://www.adec.edu/nsf/nsfindex.html>

Recent grants have supported an A\*DEC/NSF partnership with Tachyon Corporation to establish satellite delivery of educational content to remote areas of the country, including native American lands, rural communities, remote K-12 school districts, and the growing numbers of home-schooled children throughout America.

## **NEVADA - University and Community College System of Nevada**

<http://www.scs.nevada.edu/nevadanet>

The UCCSN system institutions do not offer high school courses: this is the province of the school districts. However, Nevada school districts are increasingly interested in using interactive video to increase the number and variety of courses available in rural high schools. Two districts (of 17) have or will install interactive video equipment in high schools to do this. In the one district (Lyon) where this has been occurring, results are very positive. The interactive video network in Nevada (called NevadaNet) is operated by the UCCSN and thus the system has been instrumental in helping districts: a) design, b) install, and c) fund raise. It will continue to route and schedule high school courses that use NevadaNet to connect interactive video courses in the high schools. (Two Nevada school districts - White Pine and Clark County - have virtual high schools and legislation is being proposed to expand virtual high schools into additional school districts.)

## **NEW YORK - City University of New York**

<http://academic.brooklyn.cu>

The Brooklyn College Library installed a "Learning Café" in four Brooklyn High Schools: Edward R. Murrow; Samuel J. Tilden; Midwood and the Brooklyn College Academy. The Learning Cafes are partnerships among the high schools, CUNY and the College Board. The Cafes consist of 30 computer workstations with Internet access. They were created to teach students to use technology, explore career options and get a head start on college. Students who successfully become part of the program can take one Brooklyn College core course for credit at no charge. Students who complete the entire curriculum are guaranteed a place in the next Brooklyn College freshmen class.

Two online, multimedia junior level courses were developed and delivered in each high school. The sequence of study begins in the fall with an information literacy course. This entails learning the process of recognizing a need for, and then gathering and using information. The students then progress to an online critical thinking and writing course in the spring semester. A custom browser was developed for delivering the courses as well as online quizzes. In addition, software was developed to protect the systems and gather information about student performance.

## **NORTH CAROLINA - University of North Carolina**

<http://www.ncssm.edu>

The North Carolina School of Science and Mathematics (NCSSM) is a free residential magnet school for students with a strong aptitude and interest in math and science. It is an affiliate school of the University of North Carolina. In 1994, the NCSSM became a state-funded provider of educational programming to teachers and students using the NC Information Highway. For example, the NCSSM uses two-way video and audio system support to provide full interactivity between school sites and teachers and among school sites with one another. Many schools are in rural areas and need courses and professional development for their students and teachers. The NC Information Highway provides NCSSM the opportunity to share its resources and curriculum.

The NCSSM offers yearlong and semester long high school courses over the North Carolina Information Highway. The following courses are available for K-12 students; AP U.S. History: Critical Issues, Art of Science and Mathematics, Psychology, and Science of the Mind. The NCSSM offers a variety of special programs for high school, middle school and elementary school K-12 students. These distance-learning programs are available to all North Carolina Schools. Enrichment programs for High School Students: Algebra II / Pre-calculus, Geometry, Statistics, Calculus, AP Statistics, AP Calculus, Chemistry, Physics, Special Science Sessions, Astronomy Mini-Collaboration for Earth Science. Enrichment programs for Middle School Students: Pre-algebra, Algebra, Chemistry, Physics, Special Science Sessions, Astronomy Mini-Collaboration for Earth Science, Enrichment programs for Elementary School Students: Special Science Sessions.

## **WISCONSIN - University of Wisconsin System**

<http://www.dpi.state.wi.us/disis/edop/youthop1.html>

The University of Wisconsin System encourages institutions to provide courses to high school students using technology through established system policy. The policy states: "UW System institutions should, where possible, provide services to high school students wishing to obtain college credit while enrolled in high school. These programs should be funded on 104-2 (a fund specifically designed for innovative start-up programs, experimental programs, high school students obtaining college credit and individual, periodic courses including professional development for teachers). Using this system policy, institutions can provide Advance Placement and other courses under a state policy known as Youth Options.

The Youth Options Program allows public high school juniors and seniors who meet certain requirements to take postsecondary courses at a UW institution, a Wisconsin Technical College, participating private institution, or tribally controlled college. Courses count toward high school graduation and college credit. The courses are free if the school board determines that it qualifies for high school credit and is not comparable to a course already offered in the school district.

<http://learn.wisconsin.edu/>

The UW System's Learning Innovations' department of Independent Learning offers over 500 print-based and web-based university, high school, vocational ed. and continuing education courses. Motivated high school students can take university courses for university credit. These credits are transferable to other institutions of higher education throughout the country. High school students may also take certain Wisconsin Technical College System credit courses, applicable toward a WTCS degree/diploma programs. Independent Learning also offers a full program of high school courses which may be applied towards a high school diploma or used in a home-school setting. Independent Learning does not grant high school diplomas. Learning Innovations also makes university courses available to high school students through the web-based courses offered by the UW Colleges (two-year institutions).

## **II. K-12 Student Access to College Courses On-line**

### **CONNECTICUT - Connecticut State University System**

<http://www.ctstate.redirect2.ecollege.com>

CSU is engaged in a pilot project (2000-2001) in cooperation with State Education Department to offer AP courses online and/or allow AP students to take CSU general education courses through OnlineCSU. OnlineCSU provides access to the library, bookstore, registration and course offerings online. One online degree is currently offered: master of library science. OnlineCSU is the online classroom of the four Connecticut State Universities. Begun in 1998, OnlineCSU is a comprehensive and fully accredited university system that makes education available anytime and anywhere for students.

### **FLORIDA - State University System of Florida**

<http://www.borfl.org/asa/dlflorida.asp>

The Florida Board of Regents maintains a web-site with links to each of the distance learning web-sites for the ten universities in the State University System. Florida's public universities offer a wide range of courses and programs that enable a student to learn at a distance. High school students eligible for dual enrollment may take some of these courses.

<http://www.floridavirtualcampus.org>

The Florida Virtual Campus (FVC) is a cooperative activity of the State University System of Florida and the Florida Community College System to assist Florida's public postsecondary institutions in providing affordable access to quality learning opportunities and services by creating a cooperative atmosphere that leads to a seamless distance learning experience for students. The FVC provides access for students to on-line undergraduate courses in multiple disciplines and access for students to on-line bachelor's degrees in multiple disciplines.

### **KANSAS - Kansas Board of Regents**

<http://www.kansasregents.org>

The Kansas Board of Regents has a web page for distance education courses, some of which may be taken by secondary students for college or university credit while still in high school.

### **MAINE - University of Maine System**

<http://www.usm.maine.edu/eap/distanceeducation>

Through the use of ITV and the internet, the University of Southern Maine offers undergraduate courses to all students, including those in high school, throughout the State of Maine.

### **NEBRASKA - University of Nebraska**

<http://www.uneb.edu/distance.ed>

A University of Nebraska/IBM joint study agreement, currently in its sixth year, fosters close relationships with Nebraska students at all levels. The initial target for this system level project included connecting the Lincoln High School system directly to the University network systems for video on demand. The network now includes the entire University with aspirations of enveloping the LINUX world of offerings to the point where it can potentially provide computing services to K-12 partners.

## **NEW YORK - City University of New York**

<http://www.blackboard.com/courses/VE2933V>

The Brooklyn College Library installed a "Learning Café" in four Brooklyn High Schools: Edward R. Murrow; Samuel J. Tilden; Midwood and the Brooklyn College Academy. The Learning Cafes are partnerships between the high schools, CUNY and the College Board. The Cafes consist of 30 computer workstations with Internet access. They were created to teach students to use technology, explore career options and get a head start on college. Students who successfully become part of the program can take one Brooklyn College core course for credit at no charge. Students who complete the entire curriculum are guaranteed a place in the next Brooklyn College freshmen class.

The senior year curriculum for the Learning Café project begins in the fall semester with students learning the College Board's ExPan software for choosing, applying to, and paying for college. Seniors also learned to build their own Web pages as part of their college application process. Seniors who were eligible are then able to take for credit one of three Internet-delivered Brooklyn College courses in English, Biology or History. During the third year of the grant, English and Biology courses were offered at eleven city high schools.

## **NORTH DAKOTA - North Dakota University System**

<http://www.dpi.state.nd.us/dpi/finance/college.htm>

North Dakota high school juniors and seniors can earn both high school and college credits. Students now can arrange for the dual credit courses at nationally and regionally accredited post-secondary institutions. Those schools can be a vocational, two-year, or four-year campus and need not be in North Dakota. Students also may take college courses over distance learning networks such as the Interactive Video Network.

## **OREGON - Oregon University System**

<http://OregonONE.org>

High school students can enroll in college/university courses while in high school. They can search the website to locate courses. Under discussion in Oregon at the current time is an Extended Options program for high school students to access college-level courses with some school district support toward tuition/fees. Distance education (technology) would be part of the opportunity.

## **SOUTH DAKOTA - South Dakota Board of Regents**

<http://www.worldclasseducation.org>

<http://www.ddnnet.net>

The Electronic University Consortium (EUC) coordinates university courses and programs delivered by distance technologies. While the EUC's scope is much broader than university courses for high school students, it does promote and coordinate university course offerings that allow high school students to get a head start on their college degree. Districts are permitted to award credit toward the high school diploma for postsecondary courses. The number of lower division courses offered by distance is expected to increase. The universities are able to offer courses in each high school using the State's Digital Dakota Network.

## **TEXAS - University of Texas System**

<http://www.telecampus.utsystem.edu>

The UT TeleCampus currently offers 17 lower level undergraduate general education courses online. These Web-based courses are now being piloted as part of a UT System Dual Credit Program. Two high schools are participating in the pilot with students enrolled in Government and English Composition. The TeleCampus plans to make the program available statewide by Fall 2001. High school students involved in this program have several advantages. They are receiving instruction from UT professors, they participate in the courses with college level students, and they have the convenience of accessing the course at their convenience.

## **UTAH - Utah System of Higher Education**

<http://www.utah-ecc.org>

Utah's public institutions provide first and second year general education courses, some electronically, to high schools across the state. The Concurrent Enrollment Program, which provides high school students with college lower-division, general education courses, had over 19,000 enrollments during 1999-2000. In addition, the Utah Electronic College, a collaborative effort among Utah's community colleges, provides approximately 76 online general education courses and two Associate Degrees, one in Aviation Science and the other in Business Management. The New Century Scholarship Program allows students to graduate from high school and, at the same time, graduate with an Associate Degree. Students who do both simultaneously are likely to be taking Concurrent Enrollment classes electronically and in traditional settings.

## **VERMONT - Vermont State Colleges**

<http://online.ccv.vsc.edu>

Online Community College of Vermont courses are open to high school students.

## **WEST VIRGINIA - West Virginia Higher Education Policy Commission**

<http://www.hepc.wvnet.edu>

The WVHEPC is currently working on the development of an on-line college algebra course to be used by secondary students.

## **WISCONSIN - University of Wisconsin System**

<http://learn.wisconsin.edu/>

The UW System's Learning Innovations' department of Independent Learning offers over 500 print-based and web-based university, high school, vocational ed. and continuing education courses. Motivated high school students can take university courses for university credit. These credits are transferable to other institutions of higher education throughout the country. High school students may also take certain Wisconsin Technical College System credit courses, applicable toward a WTCS degree/diploma programs. Independent Learning also offers a full program of high school courses which may be applied towards a high school diploma or used in a home-school setting. Independent Learning does not grant high school diplomas. Learning Innovations also makes university courses available to high school students through the web-based courses offered by the UW Colleges (two-year institutions).

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The Youth Options Program allows public high school juniors and seniors who meet certain requirements to take postsecondary courses at a UW institution, a Wisconsin Technical College, participating private institution, or tribally controlled college. Courses count toward high school graduation and college credit. The courses are free if the school board determines that it qualifies for high school credit and is not comparable to a course already offered in the school district. *[also listed in section 1]*

### **III. Teacher Preparation: Undergraduate Teacher Education**

#### **FLORIDA - State University System of Florida**

<http://fcit.coedu.usf.edu>

The Florida Center for Instructional Technology (FCIT) provides statewide leadership and support services to educational institutions with regard to the appropriate integration of technology in education. The FCIT conducts workshops and research into technology issues, provides software preview services, and produces print and electronic books, web-sites, CDs, data bases, tutorials, simulations and other technology training tools. The FCIT extends existing departmental instruction, research, and service programs by providing graduate assistantships, securing hardware and software that can be used for undergraduate and graduate classes, funding research assistants, and offering mechanisms for students to participate in real-world products and projects. The technology capabilities described above plus other technological resources are designed to encourage teacher education faculty to develop instructional strategies that incorporate the use of technology. By modeling the integration of technology with instruction, faculty provide examples for their students in the application of technology to the K-12 environment

<http://www.floridavirtualcampus.org>

The Florida Virtual Campus (FVC) is a cooperative activity of the State University System of Florida and the Florida Community College System to assist Florida's public postsecondary institutions in providing affordable access to quality learning opportunities and services by creating a cooperative atmosphere that leads to a seamless distance learning experience for students. The FVC provides: Access for students to on-line undergraduate and graduate courses in multiple disciplines including a wide range of subject area content and pedagogy for undergraduate teacher education students. Access for students to on-line bachelor's degrees including a bachelor's degree in vocational education. Access for higher education faculty to distance learning resources (e.g., publications, informational sites, courseware databases, statewide site licenses (e.g., Blackboard/Academic.com, WebCT), statewide memberships (e.g., MERLOT, including Teacher Education), and institutional contacts at the participating institutions.

#### **MAINE - University of Maine System**

<http://www.ume.maine.edu/~cofed/pt3/pt3>

Professionals Fluent in Technology - A U.S. Department of Education Preparing Tomorrow's Teachers to Use Technology grant is enabling the College to build the capacity of its faculty to better teach the use of technology to pre-service teachers. Teams of educators representing K-12 teachers from four of the university's public school partners, the College and other UMaine faculty are working to develop instructional units that integrate the latest technology in materials preparation and instruction. To support this effort, a classroom in Shibles has been equipped with technology equipment that represents and demonstrates future classroom use of computers and wireless technology.

PREP-Bank - A second U.S. Department of Education Preparing Tomorrow's Teachers to Use Technology grant is enabling the collaborative development of technologically enhanced instruction units with schools in the Penobscot River Educational Partnership: A Professional Development Network. These exemplary learning activities and authentic assessments will be shared through a web-based repository and data management system.

## **MARYLAND - University System of Maryland**

<http://www.usmd.edu>

The University System of Maryland has supported a Technology Task Force, composed of two- and four-year colleges and universities, school districts, and agency personnel, aimed at assuring that all undergraduate and initial certification candidates meet the outcomes and achieve the performance assessments developed by this group. A web site has been developed to link this Task Force with other efforts and to provide information and best practices to the State teacher preparation community. In 1999, the Technology Task Force was transformed into the Technology Consortium when it received a \$1.2 million grant from the Department of Education's Preparing Tomorrow's Teachers for Technology (PT3) grant. The system has used the grant funds to support the development and piloting of the outcomes and assessments, provide for meetings among the constituent groups, and provide resources as necessary. Not only will the System have a consistent measure of the technological fluency of its undergraduate and initial teacher education candidates, it will also make available the technology to have candidates transform their portfolios to e-portfolios. This endeavor will greatly facilitate the hiring process for candidates as well as for school systems.

## **NEBRASKA - University of Nebraska**

<http://www.tc.unl.edu/dept/online/>

The education programs on three campuses have developed a collaborative effort to offer three "added endorsement" programs for teaching education majors much of which uses distance education technology. These three programs involve ones that have small enrollments so no single campus could justify supporting such program endorsements in instructional media, education for severe and profoundly disabled, and education of gifted students. The collaboration is made possible by IT technologies supported by the NU system.

The system has a Council of Information Officers that provides advice and programmatic support for use of technology within the system. This effort interfaces with the Nebraska Information Technology Commission (NITC). The University CIO chairs NITC's Technology Panel that reviews any technology project, develops statewide technical standards, etc. Over half of the items with which NITC deals involve K-12 educational use of emerging technologies and networking of all Nebraska educational entities.

## **NEVADA - University and Community College System of Nevada**

<http://www.scsr.nevada.edu/disted>

The colleges of education at both universities (UNLV, UNR) have PT3 grants to greatly expand the use of technology in teacher preparation programs, train faculty to model effective technology use, and expand collaborations with school districts. All four community colleges provide the first two years of teacher preparation curricula, all four offer coursework on the use of technology in the classroom, and all four offer a portion of the teacher preparation curriculum via distance education (interactive video, web). By Fall 2001, the Community College of Southern Nevada will have its entire teacher preparation curricula (first two years) on the web. UNR offers a post-baccalaureate series of courses in early childhood special education via interactive video. In the Spring 2001 distance education, system institutions offers 29 education courses that are appropriate for teacher preparation candidates via web, interactive video, and videotape.

## **NEW YORK - State University of New York**

<http://SLN.suny.edu>

The SUNY Learning Network, developed by the System Administration in collaboration with the campuses and in which 47 campuses participate, is used by five campuses to offer online courses in baccalaureate degree programs in education.

## **NORTH CAROLINA - University of North Carolina**

<http://21stCenturySchools.NorthCarolina.edu>

NC institutions responsible for teacher preparation collaborated in the development of a "teacher technology preparation portal" to promote the coordination and cross-fertilization of teacher technology preparation efforts across NC during and beyond. The Teacher Education portal, known across the state as the 21<sup>st</sup> Century Schools web site, is being developed and coordinated out of the University-School Programs Division, UNC Office of the President. The portal and portions of its database will be available nationally, including data as well as architectural components that other states can adapt for their own teacher preparation tracking. Another goal is aimed at disseminating project results to all NC stakeholders, as well as to professionals involved in teacher preparation around the country.

<http://21stCenturySchools.NorthCarolina.edu>

The NC General Assembly allocated two and a quarter million dollars in 1996-97 to the University of North Carolina to begin implementation of a large state-wide initiative entitled, the "Spangler Technology Initiative" (the initiative was spearheaded by the University's former system President, C.D. Spangler, Jr.). Each of the fifteen constituent institutions in the University with a school/college/department of education received ongoing funding to employ an instructional technology specialist to provide professional development for education faculty on better utilizing technology in the teaching and learning process. The initiative was aimed as ensuring faculty and future graduates of UNC Schools of Education have knowledge of computer systems and other technology used to enhance learning in public schools. In addition to funding for technology positions, UNC institutions also received a one-time allocation to significantly upgrade the technology infrastructure for education faculty and students. Each institution received a continuing base allocation plus additional one-time funding based on the enrollment in the school/college/department of education. The instructional technology specialist in the University teacher education programs have formed a council to address technology issues and concerns that surround teacher education and teacher licensure in North Carolina. The council, referred to as the UNC Teacher Education Technology Council, meets monthly.

## **NORTH DAKOTA - North Dakota University System**

<http://www.cii.k12.nd.us>

The Center for Innovation (C.I.I.) in Instruction is a learning technologies education and service center established in 1993 to meet the needs of education in North Dakota. Located on the campus of Valley City State University, C.I.I. offers services to schools throughout the state and is supported by the North Dakota Department of Public Instruction, Valley City State University, the North Dakota University System, and North Dakota Schools.

## **TEXAS - Texas A&M University System**

<http://texasteach.tamu.edu>

TexasTEACH is an extension website supported by The Texas A&M University System's Institute for School-University Partnerships. It will provide new teachers with retention resources and information regarding New Teacher Induction courses at system universities and support material for new teachers.

## **UTAH - Utah System of Higher Education**

<http://www.utahsbr.edu>

Utah's Education Technology Initiative provides funding for the use of technology, including web-based instruction, in preparing students in teacher preparation programs in the public colleges and universities. The funds are distributed according to the number of graduates from teacher preparation programs and supports purchases of computers and multimedia equipment, software, upgrades for labs, technology assistants, and training for both students and teacher-preparation faculty in using and teaching with technology.

## **IV. Teacher Preparation: Alternative Certification Pathways**

### **FLORIDA - State University System of Florida**

<http://www.floridavirtualcampus.org>

The Florida Virtual Campus (FVC) is a cooperative activity of the State University System of Florida and the Florida Community College System. The FVC provides: 1) Access for students to on-line undergraduate and graduate courses in multiple disciplines including a wide range of subject area content and pedagogy for undergraduate teacher education students, 2) Access for students to on-line bachelor's and master's degrees, and 3) Access for higher education faculty to distance learning resources (e.g., publications, informational sites, courseware databases, MERLOT), statewide site licenses (e.g., Blackboard/Academic.com, WebCT), statewide memberships (e.g., MERLOT, including Teacher Education), and institutional contacts at the participating institutions.

### **MAINE - University of Maine System**

<http://www.ume.maine.edu/cofed>

M.Ed. in Instructional Technology—This program was designed in 1999 to meet a critical need for graduate-level training in effective, innovative use of current and emerging technology in Maine's K-12 schools. Designed in collaboration with other University of Maine System education and computer science faculty and with public school educators, the evolving program is directed at producing educational leaders who can build school capacity to continually assess and upgrade the use of technology available to teachers and students. With the addition of a full-time faculty member in fall 2000, this program will be actively marketed with courses available statewide, both on-line and through instruction at various sites around Maine.

### **NEVADA - University and Community College System of Nevada**

<http://www.unlv.edu>

UNLV is initiating in Fall 2001 a distance-delivered program to prepare military personnel for careers as teachers called "emarch". This will be a fully integrated, competency-based program that has been developed in collaboration with the Clark County School District. UNR has a post-baccalaureate program (and master's program) for persons with bachelor's in other fields and who want to prepare for teaching careers.

### **NORTH CAROLINA - University of North Carolina**

<http://NCTEACH.ga.unc.edu>

NC TEACH (Teachers of Excellence for All Children) is a comprehensive program, designed to recruit, train, support, and retain highly skilled mid-career professionals with at least an undergraduate degree, who seek to enter the teaching profession. The program is administered by the UNC General Administration in collaboration with the Department of Public Instruction. NC TEACH introduces and encourages the use of instructional technologies to its program participants through specific program and curricular instruction, assessment, and support. NC TEACH addresses as a curricular component of the lateral entry program, a course module specifically on technology (Module V -Technology). The online course module includes all of the NC Technology Competencies for Educators and Inclusion of technology instructional strategies in all course modules. All course modules require web-based research and frequently require demonstrated proficiency in using technology in instructional design. Self-administered pre and posttests are used to determine skill level based on the NC technology competencies. The assessments are available on-line. A portfolio development for the North Carolina Performance Based Licensure videography is a requirement. Preliminary assignments are posted on the host web site. Discussion forums are available for site coordinators, mentors, master teachers and enrolled NC TEACHERs.

## **TEXAS - Texas A&M University System**

<http://www.tamu.edu>

The Electronic Teachers College (ETC) project focuses on a delivery system by which a teacher holding a transitional permit could be prepared to pass the content test within one year of the permit issue date. Teachers will enter the site and take a diagnostic test based on the competencies that will appear on the Certification of Educators in Texas (ExCET) test. Test results will then determine the modules that teachers will need to work through in an effort to master the competencies. Individualized curriculum tracking will provide the opportunity for the teacher to efficiently prepare to take the content test within year one of their permit. The ETC Taskforce members proposed that math and special education modules would be appropriate for the pilot project that is being planned. Other teacher shortage areas including science, special education, bilingual education, foreign language and technology will be developed to further support broad-based teacher certification at a later date. Eventually, professional development modules, and mentoring modules for school district personnel will be made available.

## **WISCONSIN - University of Wisconsin System**

<http://www.vital.wisconsin.edu>

The UW System coordinates the PK-16 Initiative, a competitive grant program that provides funds for its institutions to provide professional development activities for PK-12 teachers on the integration of technology into the curriculum. The System has also begun special programs under the auspices of this initiative to target the digital divide and its impact on teacher professional development in technology, and to provide fellowships to UW and PK-12 faculty to conduct research on technology in the schools. All activities must be developed collaboratively with PK-12 schools or regional service agencies. The full text of the requests for proposals, as well as a searchable database of all projects funded under this initiative, are available at the website.

## V. Continuing Professional Development for K-12 Personnel

### **CALIFORNIA - University of California**

<http://www.ucop.edu/teachered/matrices.htm>

Although there is no systemwide program, recent legislation has asked UC to make available online teacher professional development opportunities through several statewide teacher professional development efforts that UC administers for the state through the systemwide headquarters (the UC Office of the President). Planning is underway for this effort. In addition, the mathematics professional development institutes (a state initiative administered by UC) has begun a partnership with Lessonlab (a company founded by UCLA's Professor James Stigler, the director of the TIMMS study, and co-author of the renowned The Teaching Gap) to build a digital library of classroom teaching in mathematics and to develop a computer software tool that enables extensive navigation and analysis of those video-taped lessons. This video/computer technology work will soon be expanded to professional development institutes in other disciplines.

### **FLORIDA - State University System of Florida**

<http://www.floridavirtualcampus.org>

The Florida Virtual Campus (FVC), a cooperative activity of the State University System of Florida and the Florida Community College System, offers: 1) Access for students to on-line master's degrees including educational technology, school media specialist, and exceptional student education/varying exceptionalities and 2) Access for higher education faculty to distance learning resources and institutional contacts at the participating institutions.

<http://www.borfl.org/asa/dlflorida.asp>

The Florida Board of Regents maintains a web-site with links to each of the distance learning web-sites for the ten universities in the State University System. Florida's public universities offer a wide range of courses and programs than enable a student to learn at a distance, including coursework for teacher recertification, and for other continuing professional development opportunities such workshops, certificates of advanced study, and graduate degrees.

### **ILLINOIS - University of Illinois**

<http://mtl.uis.edu>

The Office of Assistant Vice President for Academic Affairs, University of Illinois Central Administration has coordinated the dissemination of information regarding on-line credit and non-credit professional development opportunities. For example, at University of Illinois at Springfield, Teacher Education and Educational Leadership are collaboratively offering an online option in Educational Leadership called Master Teacher Leadership. Students enrolled in this degree option can earn a Master's degree in Educational Leadership online. The Master Teacher Leadership option is specifically designed for teachers wishing to become leaders in their schools, but not necessarily as administrators.

<http://mtl.math.uiuc.edu/>

The Math Teacher Link Project (MTL) at Urbana-Champaign uses technology to provide professional development for K-12 mathematics teachers.

<http://ntsp.ed.uiuc.edu/>

Novice Teacher Support Project (NTSP) at Urbana-Champaign uses technology to provide professional support for beginning K-12 teachers.

## **KANSAS - Kansas Board of Regents**

<http://www.kansasregents.com>

The Board of Regents has a web page that provides access to information regarding credit courses that may be used for professional development. It is a recent addition to the Board's website and is a work in progress.

## **MAINE - University of Maine System**

<http://www.ume.maine.edu/cofed/technology.htm>

ATM (Asynchronous Transfer Mode) Technology—The College is a pilot site for delivery of professional development and graduate-level courses through this high-speed, broadband, interactive telecommunications network. With new equipment, more program opportunities, and stronger coordination of scheduling, the College anticipates using this highly effective system to offer courses and short-term professional development sessions to Maine teachers.

<http://www.ume.maine.edu/cofed>

M.Ed. in Instructional Technology—This program was designed in 1999 to meet a critical need for graduate-level training in effective, innovative use of current and emerging technology in Maine's K-12 schools. Designed in collaboration with other University of Maine System education and computer science faculty and with public school educators, the evolving program is directed at producing educational leaders who can build school capacity to continually assess and upgrade the use of technology available to teachers and students. With the addition of a full-time faculty member in fall 2000, this program will be actively marketed with courses available statewide, both on-line and through instruction at various sites around Maine.

## **MARYLAND - University System of Maryland**

<http://www.usmd.edu>

The University of Maryland University College is the system's long standing campus for adult and continuing education. One of its new ventures is developing an Online Academy for the Recertification of Teachers. These courses are offered completely on line. Although in its pilot stage, the Academy will eventually reach teachers throughout the State. Its first course in Reading in the Content Areas is now available.

## **NEBRASKA - University of Nebraska**

<http://uneb.edu>

A distance education strategic plan is currently under review at the system level that calls for a coordinated effort by the system campuses in the development of distance education programs. One of the important areas that distance education programs will serve includes advanced degree opportunities (M.S. and Ph.D. in education and educational administration) for K-12 teachers. The plan involves the use of technology to deliver these programs.

On behalf of the University of Nebraska, UNL has taken the lead in developing a set of courses on technology in education for the North Central Accreditation Association, which are web-based.

Other initiatives include:

- Campuses of the system share satellite links that support educational television distributed courses used extensively by K-12 teachers. As an example, the Board of Regents acting on advice from the NU system and its President has approved an "Educational Technology Certificate for Teachers and Administrators" for K-12 personnel for a 15 hour post-baccalaureate program initially developed through a collaboration between the University of Nebraska at Omaha and the public school districts of metropolitan Omaha. This certificate is delivered to Omaha K-12 personnel by a combination of video and web-delivered technologies.

- The University of Nebraska has been instrumental in the creation of NCITE, the National Center for Information Technology in Education. NCITE is intended to improve student learning and assessment by developing and adapting advanced information technology and by providing training and support for its effective application including research on effective use of technology in education, development of partnerships with education-technology and business, and training of teachers and others (students, parents, and consumers) to use educational technology optimally for reaching learning outcomes.
- UNL College of Education has provided the University of Nebraska system with special outreach programs related to technology that include a web-based certificate program, which allow teachers to meet the standards for endorsement required by the International Society of Technology in Education. UNL similarly offers advice and outreach training related to using technology to a network of teacher education faculty in the smaller state and private colleges in Nebraska.
- The University system is developing a common portal and on-line catalog for use by all students that will assist K-12 personnel in accessing university courses, cross-campus registration, maintaining compatible records for ease of transfer, and will support common data management, email systems, etc.

### **NEVADA - University and Community College System of Nevada**

<http://www.scsr.nevada.edu/disted>

The Spring 2001 Distance Education Catalog currently includes over 300 courses in 13 disciplines, of which 37 courses are specifically in education. Enrollment by K-12 teachers and other personnel in UCCSN distance education courses (across all 13 disciplines) climbs steadily; in Spring 2000, 324 K-12 personnel enrolled in distance education courses. UNLV also has a program whereby teachers can obtain an endorsement in computer literacy and computer applications that is fully available over the web.

### **NEW YORK - City University of New York**

<http://www.cuny.edu>

There is no system-wide technology-based delivery model for continuing professional development for K-12 personnel at this time. However, individual colleges do engage in such activities largely via video conferencing links with partner schools. Examples of taking professional development to the classroom via technology include: The City College of New York provides continuing professional education courses to Math and Science teachers in the Brooklyn High School via video link from the college to the Brooklyn High School Superintendent's Office in Edward R. Murrow High School. Lehman College also works with Math and Science teachers in I.S. 144 in the Bronx. Hunter College has recently installed videoconference equipment that allows it to link with its partner district in East Harlem.

### **NORTH CAROLINA - University of North Carolina**

[http://www.dlt.ncssm.edu/Distance\\_Learning/tour.cf](http://www.dlt.ncssm.edu/Distance_Learning/tour.cf)

North Carolina School of Science and Mathematics partners with high schools on the North Carolina Information Highway (NCIH), a two-way audio-video network, to create teacher collaborations. The collaboration provides teachers with an opportunity to integrate technology and new approaches into an existing course, adopt a new course, or develop an Advance Placement (AP) course. Teachers involved in the collaborations meet twice a week with the class and once a week to plan and discuss issues. Collaborations are effective for new teachers and teachers teaching out of the field. The teacher collaborations are in the areas of calculus, chemistry, and physics. The NCSSM offers a variety of special programs for high school, middle school and elementary school teachers. These distance-learning programs are available through the North Carolina Information Highway (NCIH) to all North Carolina Schools on the NCIH. Examples for high school teachers include Algebra II, Statistics, Calculus, TI-83 Calculator, Chemistry, Physics.

<http://21stCenturySchools.NorthCarolina.edu>

The University of North Carolina and the SAS Institute entered into a formal partnership in the Summer of 2000. The partnership is made of four major components (Software licenses, Decision support tools, SAS Certification, and SAS inSchool) and is coordinated out of the Information Resources Division in the UNC Office of the President. One of the four major activities associated with the partnership is a component that utilizes the instructional software (middle grades through high school) produced by the SAS inSchool Division of SAS Institute. The University-School Programs Division in the UNC Office of the President, coordinates the SAS inSchool component which has provided software products to all UNC schools, colleges, and departments of education including the professional development programs housed at the UNC Center for School Leadership Development. SAS inSchool software provides curriculum resources in English, science, mathematics, history, and foreign languages. In addition, the products offer access to lesson plans, teaching ideas, student-directed projects and web resources helping teachers find, assess, and integrate curriculum resources.

#### **NORTH DAKOTA - North Dakota University System**

<http://www.cii.k12.nd.us>

The Center for Innovation in Instruction is a learning technologies education and service center established in 1993 to meet the needs of education in North Dakota. Located on the campus of Valley City State University, C.I.I. offers services to schools throughout the state and is supported by the North Dakota Department of Public Instruction, Valley City State University, the North Dakota University System, and North Dakota Schools.

#### **SOUTH DAKOTA - South Dakota Board of Regents**

<http://www.hpcnet.org/euc>

The Electronic University Consortium (EUC) coordinates university courses and programs delivered by distance technologies. While the EUC's scope is much broader than continuing education for K-12 personnel, it does promote and coordinate university course offerings that provide opportunities for teachers who need to complete coursework in order to re-new certification, advance on salary schedules, or prepare for new responsibilities. The number of courses for educators offered by distance technology is expected to increase.

#### **TEXAS - University of Texas System**

<http://www.telecampus.utsystem.edu/tpdonline/index.html>

The U.T. System and the Texas Education Agency, working in a partnership with Region XIII Education Service Center, and the Charles A. Dana Center at U.T. Austin, have developed Texas Professional Development Online (TPD Online). TPD Online provides quality instruction for educators through web-based delivery of video and interactive instruction; online communities for teachers participating in both traditional and online professional development; the capability to disseminate updates, refreshers, and best practices; opportunities to strengthen skills for certified teachers as well as newly hired or newly assigned teachers; Continuing Professional Education credit for participants; and support for improved student performance. Ten TPD Online modules for Algebra I teachers are currently under development. They are being pilot tested by more than 430 teachers at seven Regional Service Centers around the state and will be fully implemented and in use statewide by Fall 2001.

#### **TEXAS - University of Houston System**

<http://www.coe.uh.edu/projects/sisd>

MultiMedia Masters is a partnership between the University of Houston and Spring Independent School District (Spring, Texas). The goal of the project is to develop a cadre of technologically and pedagogically skilled students who can assist the technology development of teachers. Presentation objectives include establishing the project design, technical issues, strategies, achievements, and future goals. MultiMedia Masters is a unique partnership of student "consultants," teacher "clients" and university "experts."

## **WISCONSIN - University of Wisconsin System**

<http://www.uwsa.edu>

The UW System works in partnership with all state agencies responsible for teacher professional development in technology. As members of the TEACH (Technology for Educational Achievement in Wisconsin) Collaboration Committee, the UW System works with the state education agency, the technical college system and the private colleges and universities to coordinate staff development in technology and to support web-based resources for teachers.

<http://www.uwex.edu/disted/home.html>

UW System institutions distance education programs and courses are all listed on the Distance Education Clearinghouse, a web site maintained by University of Wisconsin Extension. This provides a searchable database of all programs, including programs and courses specifically targeted toward PK-12 teachers and administrators.

## **VI. Information Management and Analysis**

### **ARIZONA – ARIZONA BOARD OF REGENTS**

<http://www.asu.edu/assist>

ASSIST- Arizona Statewide System for Information on Student Transfer: The public universities and community colleges have entered into a secure agreement to provide information regarding students who transfer from the community colleges to universities in an effort to track completion and graduation rates. Information is available to all institutions.

<http://az.transfer.org/cas>

Course Applicability System provides Arizona universities and community colleges the ability to publish Course Equivalency Guide, Academic Programs, Courses Offered, Transfer Evaluations, and Degree Audit Reporting in a web environment.

### **CALIFORNIA - University of California**

<http://ucop.edu>

The University of California has been actively developing data systems to assist both in program delivery and research and evaluation related to educational outreach and K-12 improvement programs. Data are collected in longitudinal systems to allow for the assessment of progress toward program goals. For example, as part of the School/University partnerships that have evolved since 1998, the University has engaged in data sharing agreements that facilitate both formative and summative evaluation work. Course-taking patterns of students in these schools are monitored annually to assess the likelihood that students will make progress toward meeting higher education entry requirements. In addition, UC has developed cooperative agreements with other higher education segments to collectively examine student persistence at the university level, as well as transfer patterns between the segments. In both examples, the data are used by program developers and managers to assess progress against benchmarks, as well as for program improvement purposes.

### **FLORIDA – State University System of Florida**

<http://www.firm.edu/doe/fetpip>

The Office of Information Resources Management (IRM) of the Board of Regents of the State University System of Florida routinely provides data to the Office of Strategy Planning of the Florida Department of Education for its annual studies of teacher supply and demand in the state and for determining areas of critical teacher shortage for the State's Critical Teacher Shortage Scholarship/Loan Program. IRM routinely provides data to the Bureau of Educator Recruitment and Professional Development regarding teacher education admission and completion and for use with the teacher education reporting requirements of Title II. IRM also routinely provides data on System graduates to the Florida Education and Training Placement Information Program (FETPIP) whose purpose it is to provide accurate, timely and comprehensive outcome information to Florida's education, workforce development, and social programs. FETPIP is a data collection system that obtains follow-up data on former students and others. The information includes employment, continuing postsecondary education, military, public assistance participation, and incarceration data.

### **NEW YORK – State University of New York**

<http://www.suny.edu>

Multiple research projects are underway to share data and collaborate with other systems on research in anticipation of formulating programs using the results. One project involves merging a twelve-year database of graduates from all SUNY institutions with the New York State Education Department's current database of all teachers now in service in the state. The objectives of this research are to assist in addressing teacher supply and demand in the state, and to examine the parameters of quality of preparation of teachers.

Another study currently underway is designed to determine the level of academic preparedness of incoming SUNY students to assist schools in influencing students to higher levels of performance, and to provide multiple mechanisms for bridging the transition from high school to college.

## **TEXAS – University of Texas**

<http://www.utsystem.edu>

The University of Texas System is working with the Texas Education Agency and the Texas Higher Ed. Coordinating Board to merge student data from K-12 and higher ed. This effort will allow the System to examine the relationship between student behaviors and success in secondary school (e.g. course taking, advanced coursework, standardized test scores) and subsequent attendance and performance in post-secondary education. Currently, the System has developed a data set on one high school graduating class that contains data related to 9<sup>th</sup> through 12<sup>th</sup> grade course taking behavior and performance, college attendance, college persistence, and college preparation and first year performance (including GPA, grade in first college-level Math and English classes). The ability to follow individual students as they progress through elementary, secondary and post secondary ed. will allow insights that have previously not been available at the individual student level.

The University of Texas System is working with the Texas Higher Education Coordinating Board to collect data on student flows into and out of the University of Texas universities. These data allow the System to track students who enter UT institutions, disaggregated on the number of variables (e.g. college prep, ethnicity), as they progress toward degrees. This data collection effort will allow the UT System to track all entering students and determine their success both within the system and within Texas public higher ed. as a whole.

## **UTAH – Utah System of Higher Education**

[www.utahsbr.edu](http://www.utahsbr.edu)

There have been efforts by individual colleges to report back to the high schools on the performance of their high school graduates. The system has made efforts to electronically track transfer students. A study is now underway to measure the performance of concurrent enrollment students and to assess how well they do once they start courses as a fully enrolled college student.

## **VERMONT – Vermont State Colleges**

<http://web.vsc.edu>

The Vermont State Colleges is working with the University of Vermont and the Dept. of Education to develop a longitudinal tracking system to assess Vermont high school graduates' performance in Vermont public colleges and universities.