Idaho Technology Initiative Status Report 1994 - 2002

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U N I V E R S I T Y

Background

- **Technological Revolution**: During the late 1980s and early 1990s, the technological revolution began to affect public education. Computer technology was rapidly being transformed into sophisticated tools that promised to significantly improve the teaching/learning process. And while there was little research documenting the effectiveness of technology in teaching, there was a growing belief that technology would help educators individualize instruction and would provide for interactive, personalized learning that promised to enhance student motivation. The hope, of course, was for more effective instruction and increased student achievement.

- **Education Policymakers**: In the early 1990s, few policymakers were aware of the critical importance of educational technology. Former State Superintendent of Public Instruction Jerry Evans began a campaign to inform Idaho policymakers of the importance of technology and began seeking increased technology appropriation for education. This effort culminated in a joint House/Senate Education Committee meeting in which former Secretary of Education Terrell Bell presented a strong case for the use of technology in teaching and learning.

- **The Challenge of Integrating Technology into Public Education**: Because technology was so new, there were a number of difficult challenges facing educational policymakers in the early 1990s.

  o **Educator Inadequacies**: The vast majority of Idaho educators had been prepared prior to the technological revolution. As a result, most Idaho educators did not possess basic technological skills.

  o **Educator Resistance**: Not only were educators lacking in skills and training, but technology threatened to intrude into and disrupt established teaching approaches that many teachers and administrators believed were effective and with which they were comfortable. As a result, there was considerable resistance from teachers and administrators. Many teachers opposed integrating technology into their classrooms.

  o **Lack of Research**: During the early 1990s, there was very little research available to evaluate the affect of technology on teaching and learning, or on best practices for integrating technology into the teaching/learning process. There was considerable controversy

regarding the best way to use technology, even questions about what educators needed to know in order to become effective users of technology. One of the early controversies centered on whether computers should be placed in laboratories or integrated into school classrooms.

- o **High Cost**: The high cost of technology also proved to be a major concern for policymakers. They questioned whether or not funds for technology might be better spent on other state and educational needs.
- o **Rapid Obsolescence**: Research, development, and competition during the 1990s contributed to remarkable changes in technology on a year-to-year basis. Some worried that skills needed one year might be obsolete by the next.

Legislative Action

- **Senate Bill 1229:** During the early 1990s, a few Idaho legislators were strong advocates of technology. Among others, these leaders included: Senator Pam Ahrens, Representative Fred Tilman, Senator Gary Schroeder, Senator Ron Black, and Senator Mel Richardson. In 1994, this group spearheaded an effort culminating in new legislation (Senate Bill 1229) that provided the first major funding for technology and education. The legislation provided:
- o $3.4 million base budget increase for public education;
- o $7 million annual appropriation for the years 1994-2001;
- o $1 million per year appropriation for Colleges of Education to provide technical assistance and curricular support for K-12 schools between 1994-1999. (This funding was reduced to $500,000 per year in 1999 and eliminated in the 2001 budget.)

Supplementary Efforts

Because of the high cost of technology, a number of creative efforts emerged to supplement computer technology in schools:

- **Supplementary Funding**: Many districts devised methods for obtaining supplementary funding for technology. The Boise School District proposed and passed a local bond for additional technology resources. Other districts re-directed money or included technology in requests for external grants. Many districts also received federal and private grant money (eRate, Technology Literacy Challenge Fund, etc.).
- **The J.A. and Kathryn Albertson Foundation**: The foundation has made a major contribution to Idaho public education in the area of

technology. The Foundation's contribution totaled more than $44 million. This included $250,000 per district during the 1999-2001 school years ($27 million). In addition, the Foundation provided more than $17 million during the past decade to assist school districts with professional development, the establishment of computer laboratories, a video network for schools, and the training of Technology Fellows.

- **Computer Recycling**: Before extensive, private grants became available, school districts in southwest Idaho also benefited from a computer-recycling effort. Between 1994 and 1997, over 3,000 computers from individuals and private companies were refurbished at Boise State University through a state-funded program and placed in K-12 classrooms.

Educator Accountability

Following the passage of legislation that provided significant increases in funding for educational technology, many legislators worried that they were "buying educators an automobile… that they might not know how to drive." As a result, legislators included in their actions an educator accountability measure that required all Idaho K-12 educators to receive training, as well as demonstrate their abilities by passing a Technology Competency Assessment.

- **Educators must Demonstrate Competency**: In 1997, the Idaho State Board of Education required that by July 2001, 90% of all K-12 teachers and administrators pass one of three technology assessments administered by state universities.
- **The Search for Technology Competencies**: Since there was no established curriculum for technology education and few practicing educators who had experience in integrating technology in teaching, one of the greatest early challenges was to identify the essential technological skills. Boise State University addressed this problem by conducting consensus-building sessions with educators who had been using computers in their classrooms. These sessions began in 1997 and continue to the present. A number of national organizations were also at work specifying essential technology skills needed by educators. In 1997, the State Board of Education required that Idaho educators and students be held accountable to standards developed by the International Society for Technology in Education (ISTE). These standards included acquisition of a strong set of basic skills in word processing, database, spreadsheet, Internet, and presentation software as well as the ability to use these tools to gather, analyze, and present data.

- **Development of Assessments**: Boise State University, Idaho State University, and the Lewis and Clark State College (in cooperation with the University of Idaho) each developed significantly different approaches to the Technology Competency Assessment.
  - o **Boise State University**: An online assessment was developed that could be delivered via the Internet.
    - ▪ The Boise State Educational Technology Assessment is a computer-delivered objective test available statewide. The BSU test has become an internationally recognized test used in 20 states and 10 foreign countries, and also has been favorably reviewed and endorsed by the United States Department of Education.
    - ▪ Total number of tests completed satisfactorily = almost 20,000 including pre-service educators.
  - o **Idaho State University**: Development of a portfolio under the guidance of a mentor;
    - ▪ Total number of assessments completed satisfactorily = 2,951.
  - o **Lewis and Clark State College/ University of Idaho**: A performance test that assessed basic skills was developed in collaboration with the University of Idaho;
    - ▪ Total number of tests completed satisfactorily= 3,713.
- **Competency Assessment Results**: When Boise State University tested its first group of 150 educators in 1997, only 40 percent passed the test. During a typical testing session in 2002, approximately 80 percent of Idaho educators are now successful the first time they attempt the examination.

Competency Testing (1998 – 2001)				
	1998	1999	2000	2001*
Total Certified Personnel	14,147	15,255	16,543	16,566
Total Certificated Personnel Demonstrating Technology Competency	8,638	9,277	9,836	14,353
Percent of Certificated Personnel Competency Percentage	61%	60.8%	59.5%	86.6%
				*2002 data not yet available

- **Competency Assessment Required for Initial Certification**: On September 1, 1999, the State Board of Education required all graduating pre-service educators to pass a technology competency examination in order to be recommended for certification. Policymakers are now considering whether or not to require experienced educators to pass an assessment prior to each new re-certification.

State Technology Governance

In 1994, the legislature created the Idaho Council for Technology in Learning (ICTL) with responsibility for coordinating and maintaining accountability for technology funding. ICTL reported to the State Board of Education. The Council's budget was approximately $170,000 per year between 1994 and 2001, but has now been eliminated. The Council's responsibilities included:

- **Distribution of the $10.4 million to school districts:** The Council established a distribution formula and distributed money to school districts. The Council required that each school district write and implement an approved technology plan that corresponded with the State technology plan. Regional Technology Advisors were appointed from the state universities and colleges to read and approve technology plans before money was distributed to the districts.

- **Evaluation and Best Practices:** Since its creation, the ICTL staff maintained records of school district technology activity including inventories of hardware and software in each district. In addition, the Council recently began to serve as a repository for baseline and longitudinal information on the effects of technology on learning. Because of yearly reporting requirements, districts submitted technology project plans with student achievement data. In 2000, data for a baseline standard was collected, and in 2001, data for a follow-up year was collected. BSU recently published a report entitled *A Study of Technology Use Plans in Idaho Public Schools: Best Practices* by Barbara Schroeder and Carolyn Thorsen, December, 2002. This report reviewed statewide technology/student achievement data and identified "best practices" for K-12 educators.

- **Distribution and Accountability for State Colleges and Universities**: Representatives of Idaho colleges and universities served as Regional Technology Advisors (RTA) to the school districts in their service areas and reports were submitted to the ICTL annually. Region 1 was served by the University of Idaho, Region 2 by Lewis and Clark State College, Region 3 by Boise State University, and Regions 4,5 and 6 by the Idaho State University. Regional Technology Advisors met regularly to share information and designed coordinated training programs for the educators in their regions.

Observations and Issues

- During the past 10 years, there has been a significant infusion of technology into Idaho public schools. More than $90 million in state funds has been invested in technology. In 2002, there was an average of one computer for every five students in Idaho public schools.

- The vast majority of Idaho educators have been trained in basic computer technology skills and over 80% have passed a skills test. Today, new educators are entering the teaching profession with technology skills unimagined a decade ago. Unfortunately, the continuing rapid changes in technology are rendering inadequate the training that educators received only a few short years ago. One of the challenges facing education policymakers is how to ensure that educators remain abreast of rapid changes in technology.

- More students are arriving at school technologically literate, and large numbers of students have computer access in their homes. Unfortunately, there is a significant "digital divide" between affluent students and low socio-economic students that needs to be addressed.

- During recent years, schools, school districts and universities have begun transforming courses and curricula into on-line, interactive learning experiences. Last year, two new virtual charter schools were established as well as the Idaho Digital Learning Academy. The academy has more than 750 students enrolled for Spring 2003. Overtime, virtual learning is likely to increase in a significant manner throughout the state and provide an important new resource especially for rural schools.

- While there is still much to be learned about the most effective ways of using technology, there is a growing body of research regarding the relationship between technology and teaching/learning. Research on the effectiveness of technology on the teaching/learning process has just begun in Idaho. Continuing research is needed to help Idaho policymakers monitor the effects of technology on teaching and learning. The Idaho Reading Initiative is using technology to provide educators with immediate diagnostic assessments of student reading skills. It is also being used to help K-12 students achieve reading proficiency. The implementation of Idaho Most Standards and Assessments will rely heavily on the use of technology for data analysis, diagnosis of learning difficulties and for more effective instruction.

- Technological obsolescence continues to pose problems for K-12 educators, administrators, policymakers and teacher education. Because equipment and software quickly becomes dated and must be replaced on a regular schedule, school districts are faced with enormous on-going costs. The legislature will likely need to revisit this area periodically to ensure that Idaho schools remain at the cutting edge of technology.

- In less than a decade, the Idaho Legislature and State Board of Education helped to significantly transform K-12 public education in the state through technology. This was accomplished through a balance of "support and accountability." The Legislature provided significant targeted funding for technology and established new requirements for practicing educators, administrators, teacher education, and teacher certification.

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*Note: this report is available at http://edtech.boisestate.edu/techtactics/default.htm