

NEW HAMPSHIRE
STATEWIDE EDUCATIONAL
TECHNOLOGY PLAN
October 1998

If you have questions, comments, or suggestions for additions regarding the information contained within this document, please contact:

New Hampshire State Department of Education
Office of Educational Technology
State Office Park South
101 Pleasant Street
Concord NH 03301
Main Number: (603) 271-3494
Fax: (603) 271-1953
<http://www.state.nh.us/doe>

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INTRODUCTION

USING TECHNOLOGY FOR EDUCATIONAL IMPROVEMENT

Technology holds great potential for enhancing the efforts of students, schools, and communities to achieve high educational standards. Planning for the integration of technology into a state's educational system is essential to ensure that the potential of technology tools directly supports the efforts of schools and students to achieve high educational standards. As states across the country, and organizations that support them, have engaged in technology planning, a body of knowledge and resources has emerged about planning approaches that work. These include important plan elements, best practices for integrating technology within the educational system, and essential structures and supports for continuous improvement.

New Hampshire's Statewide Educational Technology Plan was developed through an extensive planning process that drew upon this knowledge and resources. The initial plan was developed in 1997 by the New Hampshire Educational Technology Council (Tech Council), representing the New Hampshire Department of Education, local school districts, professional associations, educational service organizations, public television, higher education, telecommunications providers, and the New Hampshire State Library. Membership has expanded to include representatives from the New Hampshire House / Senate School Technology Plan Oversight Committee (RSA 192:1-6), the State Board of Education, the Governor's office, and business and industry.

The Tech Council views its role as the initiators of a process for articulating a vision of effective technology integration within the state's education system at all levels. The planning process was designed to build that vision together, and thus create a foundation for collaborating to pursue, refine, and expand the vision over time.

The first New Hampshire Statewide Educational Technology Plan (Tech Plan) was approved in March 1997 by the Tech Council, the State Board of Education, and the U.S. Department of Education. This first Technology Plan development took place in conjunction with other related planning efforts that resulted in the development of New Hampshire's Consolidated State Plan, Technology Literacy Planning Fund Application, and Goals 2000 Application. Each of these documents reflects strong support for New Hampshire's long-term educational improvement initiative, which is embodied in state legislation as the New Hampshire Educational Improvement and Assessment Program (NHEIAP), RSA 193(c).

In March 1998 the Tech Council convened a group of stakeholders for an all day session to conduct an annual review of the plan's goals, strategies, progress, and current and emerging conditions. This meeting began the revision process. This resultant plan is both a progress report and a guide for the next year of implementation.

HOW VARIOUS STAKEHOLDER GROUPS CAN USE THE PLAN

The Tech Council's goal is that this plan will help others understand and contribute to the vision of effective technology integration within all segments of New Hampshire's educational system. The plan is intended to serve as a guide for developing policy, pursuing funding opportunities, designing infrastructure, enlisting private sector support, and evaluating progress toward the vision of effective technology integration. Therefore, stakeholders are invited to use this document as a reference, as well as a basis for stimulating discussion where educational technology is being explored. Some ways in which various stakeholders can use the plan are outlined in the "Stakeholder Steps to Implementation" section.

1. USING THE PLAN AT THE LOCAL LEVEL

Local stakeholders include:

- a) Students
- b) Local Educational Technology Planning Committees
- c) Education Practitioners
- d) School Boards
- e) Parents and Community Members
- f) Local Government Officials
- a) Business and Industry (See also: Using the Plan at the State Level)

2. USING THE PLAN AT THE STATE LEVEL

Paralleling the use of the plan by local-level stakeholders are many state-level entities, including:

- g) State-Level Policy Makers
- h) Educational Organizations and Service Providers
- i) Business and Industry
- j) Cultural and Scientific Institutions
- k) Higher Education Institutions

In order to remain a dynamic document, this Statewide Educational Technology Plan will undergo extensive review and revision. This document is a "call to action" to all stakeholders in our educational system to tap the enormous potential of technology for achieving our educational mission of ensuring that all children achieve their full potential.

VISION

THE VISION OF TECHNOLOGY INTEGRATION: VITAL CONTRIBUTIONS TO ALL ASPECTS OF OUR EDUCATION SYSTEM

“We now know -- based on decades of use in schools, on findings of hundreds of research studies, and on the everyday experiences of educators, students, and their families -- that, properly used, technology can enhance the achievement of all students, increase families' involvement in their children's schooling, improve teachers' skills and knowledge, and improve school administration and management.” (Rand Corporation Report)

New Hampshire schools, like schools all across the country, are undertaking major changes to align their education program with recently adopted standards. These standards, reflected in the New Hampshire Curriculum Frameworks, require a fundamental shift in focus from what is covered by teachers to what is learned by students – all students. Accountability for results and for continuous educational improvement is now expected and demanded.

As New Hampshire communities pursue their educational improvement goals, educational technology will make many important contributions. Properly used, technology will:

1. IMPROVE TEACHING AND ENRICH LEARNING

Teachers use the Internet and other technology based materials, such as software, video-based resources, and calculators. They access lesson plans and instructional resources, communicate with other teachers on-line, examine research and practice findings, and integrate subject areas to address diverse learning needs.

Students can access reference material, take electronic field trips, and participate in multi-site learning opportunities. On-line projects connect students to the world beyond their classrooms and communities. Using word processors, making presentations, performing mathematical calculations, developing databases, conducting science experiments, enriching basic skills, and graphing data helps students gain hands-on experience with technology.

2. SUPPORT PROFESSIONAL DEVELOPMENT

Teachers, administrators, specialists, and other educators must be lifelong learners to continuously improve programs, practices, and results. Technology provides access to professional development information and resources for developing and implementing individual, district, and statewide professional development plans. Through email, on-line discussion groups, and videoconferences, teachers can communicate with colleagues and experts, and participate in professional development programs. Local and state professional development plans will increasingly be integrated with educational improvement and technology plans.

3. INCREASE MANAGEMENT AND ADMINISTRATIVE PRODUCTIVITY

School and community offices can increase productivity and efficiency through automated record keeping, data management, and reporting. Information can be transmitted and accessed within and between local and wide area networks. Administrative software manages information on students, schedules, administrative actions, report cards, etc. Communication technology (from telephones to web pages) provides parents with information and facilitates interaction with schools and other stakeholders.

4. INCREASE EQUITY

Technology can overcome geographic isolation and limited local resources (e.g., libraries, textbooks, learning opportunities). It can provide all students with opportunities to develop core knowledge and skills, including technology literacy. Distance learning opportunities are growing, allowing students to pursue educational opportunities not available in their local district.

5. STRENGTHEN ADULT LEARNING

Parents, community members, local policy makers, employers, and others can take courses through distance learning, participate in on-line seminars, access information, participate in networks, communicate with experts, and observe colleagues through the use of technology. Community members can use information and communication technologies to pursue formal learning, individual interests (e.g., hobbies, investments, current events, etc.), and communicate with others.

6. INCREASE COMMUNICATION BETWEEN SCHOOLS AND COMMUNITIES

Telephones for teachers facilitate communication with parents; schools produce attractive newsletters, reports, and presentations; e-mail facilitates communication with individuals and groups; on-line discussion groups and on-line discussions allow dialogue to occur at convenient times. Community-based efforts encourage creative approaches to funding and ongoing support, and foster technology literacy among all citizens.

7. PROVIDE ACCESS TO VAST INFORMATION RESOURCES

Increasingly, any type of information one needs is available electronically, from huge databases to news, teaching resources, shareware, products, "real-time" information (weather, news, stock market), multi-site learning activities, funding opportunities, entertainment, consumer information, etc.

As federal, state, and local reform initiatives have taken hold, attention to the important roles of technology has grown. All of the technologies referenced above (and many others) exist today; most are already being utilized in New Hampshire's businesses, and to a lesser extent in school districts, classrooms, and communities. As these technologies are increasingly integrated, they will make vital contributions to educational programs focused on high standards, success for all

students, technology literacy, and global awareness. Achieving these goals is fundamental to ensuring an adequate and quality education for all New Hampshire children in every community.

TECHNOLOGY LITERACY: A NEW BASIC SKILL

Our economy is characterized by rapidly changing technologies and increasing international economic competition. And, our society is complex, diverse, and mobile. Success as a nation will depend substantially on our students' ability to acquire the skills and knowledge necessary for high-technology work and informed citizenship. (Getting America's Students Ready for the 21st Century)

Computers and other digital and information technologies have changed how we work, communicate, travel, access services, and learn. There is no doubt that the impact of technology on all aspects of daily life will continue to grow. Indeed, technology is transforming our society because it makes possible what was unimaginable before.

Because of the unprecedented impact and potential of technology on our lives and our world, we must ensure that our young people acquire the knowledge and skills necessary to succeed in technology-based environments. New Hampshire's students, like their counterparts around the world, need to understand current and emerging technologies, including historical perspectives of the relationship between technology and political, social, ethical, and economic issues. Increasingly referred to as "technology literacy", these skills and understandings will be increasingly important to the achievement of career and personal goals in a world where technology is pervasive. There is now widespread agreement that technology literacy has become a new basic skill, and therefore a new basic for American education.

But this important new basic does not just apply to students. In order to meet the complex challenges of helping our students gain the knowledge, skills, and orientations they need, we all must become more literate with technology. Policy makers at the state and local levels, charged with making decisions about integrating technology, need to understand both the technological and educational issues involved. Taxpayers who will be asked to fund local technology implementation, and others who are committed to educational excellence in New Hampshire will also need to become technologically literate in order to make informed decisions and support implementation. Teachers and other "front line" educators need extensive training and support to gain the technology literacy and related professional development to effectively integrate technology to enhance teaching and learning.

THE ROLE OF EDUCATIONAL TECHNOLOGY IN SYSTEMIC REFORM

1. NHEIAP AND THE NATIONAL MOVEMENT TOWARD STANDARDS-BASED EDUCATION

The nationwide movement toward establishing standards for student performance and achievement is reflected in the New Hampshire Educational Improvement and Assessment Program (NHEIAP) authorized as RSA 193-C in 1993. Through NHEIAP, curriculum frameworks that define what students should know and be able to do have been established, a statewide assessment system based on the frameworks has been implemented, and school districts have developed local improvement plans aimed at helping all students achieve high standards.

NHEIAP has become the substantive foundation for educational reform and accountability in New Hampshire. Support for NHEIAP has grown and is now widespread among educators, local school boards, business groups, and legislators. In December 1996, an Economic Opportunity Summit sponsored by the Business and Industry Association and 11 New Hampshire corporations was held with then-Governor-elect Jeanne Shaheen. One of the goals of this coalition of 29 public and private sector leaders is to "develop an education system that sets high standards and holds schools, students, parents, and communities accountable." The first action item listed for this goal is "to continue the commitment to the New Hampshire Educational Improvement and Assessment Program and work to enhance the adoption of it in all schools." (NH Economic Opportunity Coalition, 1997)

Virtually all other initiatives aimed at strengthening New Hampshire schools are built on the foundation of NHEIAP and its mission of raising standards and improving schools based on sound data about educational results. Among the most significant are the Consolidated State Plan, District Consolidated Plans, district Educational Improvement Plans, the New Hampshire School-to-Work initiative, local Goals 2000 projects funded over the past two years and the state's Goals 2000 application for 1997-98, and numerous statewide and local school improvement initiatives.

At the local level, districts will be encouraged to integrate their planning efforts and planning documents — District Educational Improvement Plan, Technology Plan, and Professional Development Plan — into a single, comprehensive plan that will be the basis for their Consolidated Application and other grant applications.

2. TECHNOLOGY LITERACY AND THE CURRICULUM FRAMEWORKS

References to using technology are woven throughout the New Hampshire Curriculum Frameworks. For example, the Science framework contains a section on Science Technology, and Society, which includes as a Curriculum Standard, "Students will demonstrate an increasing ability to use technology to observe nature," and "Students will demonstrate an increasing ability to understand how technology is used to synthesize new products." The standards that reference technology have been compiled as a separate document and are included here as an Appendix.

Many school districts have opted to develop an additional technology literacy curriculum framework of their own to explicitly define what their students should know and be able to do in the area of technology. Frameworks developed by national groups and other school districts have been helpful references, and examples are included in the Appendix. The Technology Council is examining the possibility of a statewide computer technology framework. Several underlying assumptions were formulated, including:

- a) Students need to be able to function in a technology-rich environment.
- b) Students should be viewed as lifelong learners for job skills and personal enrichment.
- c) Technology is a powerful tool for achieving #1 and #2 above.
- d) Professional development to help teachers integrate technology, using the “just in time” approach, must be a priority.
- e) Technology literacy should be embedded throughout teaching and learning.
- f) The field of technology moves so fast that a separate framework may not be valid.
- g) Since many New Hampshire students go to higher education institutions that require the use of computers, our students must be prepared.

3. THE ADEQUACY DEBATE AND THE ROLE OF TECHNOLOGY

The most significant education policy issue facing New Hampshire is how to provide for an adequate education for all New Hampshire children. In the wake of a court decision upholding the constitutional requirement for the state to ensure an adequate education for all students enrolled in NH public schools, several proposals have been put forth.

Generally accepted definitions of adequacy establish the knowledge and skills that students are expected to acquire. They are:

- a) Skills in reading, writing, and speaking English
- b) Knowledge of math, science, and technology
- c) Knowledge of civics, government, economics, geography, and history
- d) Grounding in arts and literature
- e) Problem-solving, reasoning, and critical thinking skills
- f) Career development skills
- g) Knowledge and skills for successful post-secondary education and employment.

Meeting a standard of adequacy will be greatly enhanced by the effective integration of technology within our schools and classrooms. Perhaps no other development has as great a potential for overcoming inequities of economics, geography, rural location, and cultural diversity. However, this potential has a serious downside: if technology is inequitably available,

gaps in educational opportunities and technology literacy will widen, as districts, communities, and homes with computers and Internet access surpass those that do not.

4. THE ROLE OF NEW HAMPSHIRE GOVERNMENT

State-level leadership, planning, and coordination of effort is critical to achieving the vision of effective technology integration in schools. Technology integration in schools is a priority of the Governor, the State Board of Education, the NH Department of Education (NHDOE), and the Legislature. If the role of educational technology in systemic reform is to be successfully developed, it will be due to effective coordination of efforts between all of these governmental entities.

- The NHDOE Information Technology Plan outlines strategies to align school data with NHDOE data.
- The NH Consolidated State Plan, which serves as the umbrella for all major planning initiatives related to standards-based improvement has technology as a major focus area.
- The NHDOE Professional Development Plan outlines strategies for technology related professional development activities.
- The Tech Council recommended:
 - a) Establishing statewide listservs for better communication of best practices, tech support, and the dissemination of information and resources, including technology project results.
 - b) Developing the NHDOE web site to contain more resources, information, and data.
 - c) Reviewing criteria for awarding Technology Literacy Challenge Fund grants to earmark more of these funds to the neediest districts.
- The Distance Learning Commission (RSA 70:1) recently outlined goals and objectives for achieving effective distance learning throughout New Hampshire.

GOALS AND OBJECTIVES

For the March 1997 Technology Plan, the Tech Council adopted the four national pillars of the President's Educational Technology Initiative and then added two more goals. One called for all districts to develop Technology Plans, while the other formalized the statewide leadership role of the Technology Council. These six original goals have been restated in this plan as the objectives within two overarching goals -- one focused on *local capacity-building* and one focused on *regional and statewide educational technology infrastructure*. These goals and objectives are presented below followed by success indicators and a description of the current status and strategies for each. The QED 1997 Technology Survey data serves as a baseline for much of the current status of these objectives. We will administer some form of a technology survey each year, as well as use other appropriate methods to determine progress toward achieving our objectives.

GOAL 1: EXPANDING LOCAL CAPACITY

OBJECTIVE 1.1 -- LOCAL EDUCATIONAL TECHNOLOGY PLANS

All NH public school districts will develop an educational technology plan that addresses the educational improvement goals stated in their Local Educational Improvement Plan. Over time, the district's technology plan should be integrated within the educational improvement plan to form a coherent overall plan.

Success Indicators for Objective 1.1

- a) By October 1998, the Technology Plan Approval Rubric will be completed and disseminated to all schools. This rubric, containing clear and concise criteria, is the revised version of the Technology Plan Crosswalk Form.
- b) By November 1998, a district planning toolkit which correlates all district-wide plans will be completed.
- c) By November 1998, the district planning toolkit will be disseminated to all school districts.
- d) By June 1999, all New Hampshire districts will have an approved technology plan conforming to the rubric criteria.

Current Status Related to Objective 1.1

Approved technology plans are required for districts to be considered for funding under the Technology Literacy Challenge Fund program. The 1997 Technology Survey indicates that 58% of NH public schools responding had developed technology plans. In 1998 this percent increased to 85%. At present, technical assistance to districts, other than by paid consultants, is limited.

Survey Year	Percent of Public Schools with Technology Plan	Number of Public Schools with Technology Plan
1997	58%	185 out of 320
1998	85%	295 out of 347

Strategies for Achieving Objective 1.1

The Department's planning toolkit will contain resource material related to developing a technology plan, sample plans regarded as exemplary, and the Technology Plan Approval Rubric. The Department's educational technology staff is developing a technology database from which they can build regional and school district technology profiles. These profiles will be used to target technical assistance.

Some of the critical sets of resource material that will be contained within the toolkit include information about:

- the Year 2000 Problem,
- administrative management of information, and
- adult literacy and lifelong learning.

OBJECTIVE 1.2 -- MODERN TECHNOLOGY FOR CLASSROOMS

All New Hampshire teachers and students should have modern computers and other educational technology in their classrooms. Modern computers are defined here as 486 PC or better, or Mac LCIII or better. A variety of configurations and student/computer ratios can be effective, and it is important for other learning centers in the school to also have computers (e.g., library/media center, computer lab, and administrative offices).

Success Indicators for Objective 1.2

- a) By November 2000, more than 80% of classrooms in each NH public school will have at least one modern computer, as indicated by the annual technology survey.
- b) By November 2000, all New Hampshire public schools will have a student to modern computer ratio of 10:1, as indicated by the annual technology survey.

- c) By November 2000, at least 1,000 upgraded computers will have been donated to NH public schools through the Computer in the Schools Program.

Current Status Related to Objective 1.2

As indicated previously, the New Hampshire Curriculum Frameworks contain numerous standards and proficiencies related to technology (see Appendix.) The New Hampshire Consolidated State Plan also stresses the importance of using computers and software to support the achievement of high standards for all students and has technology as one of five focus areas. These programmatic emphases support the achievement of this objective.

The Technology Survey data from 1997 showed that there were nearly 20,000 computers in the 320 public schools reporting, or an average of 62 per building. The 1998 survey data showed nearly 22,000 computers in the 347 public schools reporting. In 1997, over half of the computers were not capable of using current software, connecting to the Internet or performing multi-media tasks. In 1998, however, the majority of computers reported are upgrade-able and capable of these tasks.

On the average, in 1997 there were 47 computers per school being used for instructional purposes versus 7 computers for administrative use. In 1998, the number of computers for instruction increased to 57, while the average number of administrative computers decreased to 6 per school. Sixty-one percent (61%) of the average school's budget is devoted to hardware, while only 10% is directed towards staff training.

The table below shows the total number of computers by type in both years.

	1997 Apple/Mac	1997 PC	1998 Apple/Mac	1998 PC
Low-End	8,177	2,242	5,711	2,252
Mid-Range	3,085	2,577	2,328	3,487
High-End	1,447	1,784	3,073	4,337
EP Group	208	201	283	262
	12,917	6,804	11,395	10,338
TOTALS	19,721		21,733	

Definition of Ranges of Computer Types

Capabilities	Apple-Mac Types	PC Types	Survey Questions
Low-End	Apple II/Ile/GS, Mac LCII, Mac 20/30 series	386 and earlier	16. A,B,G
Mid-Range	Mac LCIII, Mac 40 series	486	16. C,H
High-End	PowerMac	Pentium 586 and up	16. D,I,J
Extended processors (EP Group)	Mac Powerbook	PC Laptop	16. E,K

There are a number of current initiatives in place related to this objective. Manchester School District, the state's largest, was awarded a **Technology Innovation Challenge Grant** in 1995 for three years, and through this project, Manchester is creating a multi-mode instructional technology network for audio, video, and data communications among nine school districts serving 25% of the state's population. The Manchester Challenge will involve all schools, community resource centers, libraries and colleges in professional development, curriculum development, administrative applications, and improved lifelong learning opportunities for all community members. More than forty partners are participating in this program, including several major high tech firms; Continental Cablevision (now MediaOne); Cyber-Space; NH Public TV; Multimedia Systems, Inc; several Parent Teacher Organizations; eleven school districts and colleges; and the NH Department of Education.

Through the state's first two rounds of **Technology Literacy Challenge Fund** (TLCF) subgrants, a large number of computers have been purchased for use in schools. (Exact numbers were not available for this plan revision.) The first two rounds of awards were made in August 1997 and January 1998. (See Appendix: Technology Literacy Challenge Fund.)

With the proactive support of the Governor's office, the **Computers in the Schools** (CITS) program was launched in spring 1998. Tyco Corporation has donated \$300,000 (\$100,000 per year for three years). At an estimated cost of \$300 per computer upgraded, more than 330 computers will be donated to the neediest NH public schools each year. These computers will be distributed to the neediest districts, as they become available, most likely in sets of 16 – 20 computers at a time. Thus, an anticipated 20 schools per year will receive donations.

Several corporations have donated computers, software, and technical assistance to this effort. (See Appendix: Business & Industry Donations.)

Strategies for Achieving Objective 1.2

We will continue to build upon the important efforts described above to substantially expand the number and quality of computers and other technological equipment in schools. These strategies include:

- a) The NH DOE will encourage districts to use Title VI funds, foundation aid, and building aid funds to buy computers and other technology.
- b) The Technology Literacy Challenge Fund will continue to support the acquisition of computers for schools and the integration of technology.
- c) Goals 2000 grants to LEAs will include support for local technology planning and professional development around technology integration.

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- d) To stress the importance of technology integration, the utilization of technology will be considered in reviewing the Consolidated Applications from school districts.
 - e) The NHDOE will provide technical assistance to districts to facilitate planning around the acquisition of computers and other technology and grant writing to assist those districts lacking the capacity to develop effective grant proposals.
 - f) Working with partner organizations (NHSTE, NCEF, SERESC, etc.) the Department will develop a means to connect districts that have been successful at developing community partnerships with those who have not. Successful districts will be encouraged to pair with others seeking assistance, and the Department's web site will facilitate these partnerships as well as highlight strategies that have been successful.
 - g) Communication with districts will be enhanced through the use of listservs, regional field service teams, workshops, conferences, and mailings.

OBJECTIVE 1.3 -- INTERNET ACCESS FOR CLASSROOMS

All New Hampshire classrooms will have medium to high-speed access to the Internet and World Wide Web. This access can be obtained through a telephone line and modem (28.8 kbps/sec or better) or a dedicated frame relay line (56kbps/sec or better). This direct line can then provide access to all computers that are linked to the school's Local Area Network.

Success Indicators for Objective 1.3

- a) Each year until 2001, the technology survey will indicate a 20% increase in the number of public schools and classrooms that are connected to the Internet.
- b) By November 2000, all New Hampshire public schools will have access to the Internet, as indicated by the annual technology survey.
- c) By November 2001, 50% of the classrooms in each public school will have Internet access, as indicated by the annual technology survey.
- d) By November 2001, 100% of all public schools will have at least 56K access to the Internet.

Current Status Related to Objective 1.3

The 1997 **Technology Survey** results showed that 75% (241) of the public schools reporting have Internet access, while the 1998 survey indicates 91% (314) of the schools have Internet access. Of these, in 1997, 67% were connected by dial-up service and in 1998, 54% had dial-up, while only 21% had a direct (56k or better) connection in 1997, and in 1998, 37% had direct connection. Of the 143 schools that had Internet access in the classroom (45% of respondents), an average of 6.43 classrooms per school were connected. The largest concentration of Internet-connected computers in school buildings was situated within the classrooms and Library/Media Center.

INTERNET ACCESS	1997 (241 responding)	1998 (315 responding)
Dial-up	163 (67%)	166 (53%)
56K or better	50 (21%)	116 (37%)
Both connection types	N/A	26 (8%)
School doesn't know type	N	7

Of the 95 districts that responded to the New Hampshire Technology Survey, 25 public school districts (26%) indicate that they will have all schools connected to the Internet with 56k or better connection by the end of this school year. However, almost half of the districts will still have no schools connected.

As with other areas of educational resources, there are wide disparities among districts. Known as the **Education Connection Project**, Bell Atlantic and Cabletron Systems have partnered to offer all New Hampshire schools and libraries a free 56kb direct Internet connection (an Internet Service Provider, or ISP, and some equipment are needed).

A major ISP, Destek, offers a substantial discount to schools through the **SchoolHouse OnRamp** service, which can be combined with the Bell Atlantic-Cabletron donation. To date, this service has provided nearly 100 schools with discounted Internet service, including several in rural remote "North Country" locations that previously were not able to obtain direct connections.

MediaOne (formerly Continental Cablevision) offers another source of free access through its **School Connections** project. They will provide each public school in its franchise area with a free connection to the Internet, a free cable modem, and free access to the company's on-line service.

In 1994, legislation was enacted establishing a **Telecommunications Study Committee** of the New Hampshire Legislature to examine the feasibility and development of an interactive telecommunications system for New Hampshire schools. Data gathering activities commissioned by the study committee indicated that although several telecommunications networks were already in place, the need for planning, collaboration, and funding was evident. The study committee recommended that schools receive reduced telecommunications rates.

Since the enactment of Section 254(h) of the **Telecommunications Act of 1996** related to discounted rates for telecommunications services to schools and libraries (commonly known as the **E-Rate**), there have been significant changes to the program. A number of schools in New Hampshire submitted applications for E-Rate discounts. The NHDOE will continue to disseminate information on this program through various means. (See Appendix: E-Rate Program.)

In response to the widespread need for resources and support for establishing Internet connectivity, several statewide initiatives have been implemented. The New Hampshire **WINGS** project (Wide-Area Information Networking for the Granite State) was originally funded by the Telecommunications and Information Infrastructure Assistance Program (TIIAP). The grantee for the WINGS project was the Southeast Region Education Service Collaborative (**SERESC**), which continues to sponsor SERESCnet, a dial-up service for member districts.

Although the WINGS project was not refunded through TIIAP, the partners have continued to collaborate to develop a plan for linking every New Hampshire school, administrative office, the State Department of Education, other education-related entities, and communities through affordable access to advanced telecommunications capabilities. (See Appendix: Education Connection Project)

Several of the local **Goals 2000 and Technology Literacy Challenge Fund** projects in 1997 included activities for Internet connectivity and networking.

New Hampshire **NetDay**, a volunteer program, has involved business partners and community members in wiring schools for networking and Internet connectivity, while helping to build community awareness, support, and involvement around technology integration and its contribution to educational improvement. Although there is no data available from the 1997 survey, the 1998 survey indicated 26 out of 347 schools (13%) participated in NetDay97, and 53 out of 347 schools (21%) plan to participate in an upcoming NetDay.

Strategies for Achieving Objective 1.3

The Department of Education will continue to collaborate with other agencies and organizations to increase the affordability and availability of Internet access. The Department will continue to inform districts of these options and encourage them to take advantage of the education programs offered by business partners. The Department will also encourage the use of Building Aid funding to pay for wiring and other capital improvements to support technology integration. Additional federal, state, local, foundation, and private sector funding will be explored and opportunities developed and publicized.

OBJECTIVE 1.4 -- SOFTWARE AND ON-LINE CURRICULUM RESOURCES

Effective and engaging software and on-line resources will be an integral part of every school's curriculum.

Success Indicators for Objective 1.4

- a) Each year, the technology survey results will report an increase in the extent to which computers and other technology are used in the classroom.
- b) By June 1999, all components of the NH Educator's Web Site will be fully operational.
- c) By November 1999, at least 50% of all NH public schools will report an increase in regular classroom use of a variety of effective, engaging software and on-line resources.

Current Status Related to Objective 1.4

The 1997 **Technology Survey** data showed that in 82 of the 320 public schools reporting, less than 10% of the students used the Internet as part of their instructional program. Only 18 schools of the 320 respondents reported that more than 50% of their students use the Internet as part of their instructional program. Ten schools (3%) reported that more than 50% of the teachers in their building use the Internet as part of their instructional program. The 1998 survey did not contain questions to determine any changes in these figures, however the Department anticipates comparable queries in the next technology survey. One may conclude from the 1997 data that there is much work to be done to effectively integrate Internet use in the classroom.

In 1997, forty-one percent (41%) of the schools (132 out of 320) had computers networked within the Library Media Center. Also in 1997, there were 253 schools (79%) reporting cable television access for instruction; 34% reporting access to such material from computer technology; and 19% from satellite transmissions. The data for 1998 indicates only 112 schools out of 347 responded to a comparable question about distance learning availability, indicating data inconsistencies which will need to be addressed in the 1998-99 survey.

There was a significant increase from 1997 to 1998 in the number of schools reporting computers connected within their school through a LAN (local area network), from 33% to 61%. There was also an increase from 1997 to 1998 in the number of schools reporting connections to other schools through a WAN, from 23% to 27%.

In 1997, "technology" was used most in the area of Language Arts, while the Internet was used most in Social Science and Biological and Physical Science. Still, about two thirds of the respondents indicate that "None" or "Some" educational technology is used in all of the major subject areas. Again, there was no comparable information available from the 1998 survey.

The **New Hampshire State Library** contributes substantially to the use of information technologies in the development and provision of information services for New Hampshire libraries, including school libraries. Middle and high school libraries that are registered with the New Hampshire Automated Information System (NH AIS) participate in a network of libraries that work cooperatively to include their holdings in the statewide database of library resources, and participate in interlibrary loan and other forms of collaborative activity. The State Library also provides electronic access to periodical articles via Articles Express, a CDROM database of general periodicals, to both public and school libraries. Statewide licenses for access to additional databases are currently being explored.

The State Library provides access to New Hampshire state and government information through its World Wide Web site, Webster (named after New Hampshire native, Daniel Webster). This site is continually being expanded to include a wide variety of resources.

Many businesses have contributed software to schools. These donations are referenced in the Appendices.

The **New Hampshire Distance Learning Commission**, created by the Legislature and composed of representatives from various stakeholders is studying ways to expand distance learning opportunities statewide. (See Appendix: NH Distance Learning Commission)

Schools participating in the state's **School-to-Work** initiative (STW) provide learning experiences that include exposure to the use of information technologies and the development of skills in using these technologies to locate and apply information to solve "real life" problems. STW communities utilize telecommunication to promote new partnerships through on-line access and electronic linkages between schools and industry and by linking teachers and faculty with employers. STW electronic bulletin boards and home pages on the World Wide Web serve to make information readily available. The STW staff works closely with business and industry, as well as public and private telecommunication service providers to make relevant information and resources available to STW communities. They focus on curriculum development and alignment, innovative and best practices, professional development opportunities, research and technical assistance resources, local and regional labor market information, listings of businesses, curriculum models, and state agency activities.

Project Scholar, funded through the NH Department of Education, was developed as an online tool that will allow local districts, parents, and others to access educational material related to the NH Curriculum Frameworks. The Scholar database contains all of the State of New Hampshire frameworks and national standards data, and provides school districts with a method for linking proficiency outcomes. In addition, resources can be linked to each of the proficiencies. Finally every student can be linked to proficiencies by his or her enrollment in classes. As students are assessed in each of the student outcome proficiencies the database keeps track of their mastery. The application provides a method for accessing the data, a view for parents, another for teachers, and another for curriculum specialists.

Several New Hampshire organizations have established sites on the World Wide Web that link schools to a wealth of resources within the state and nationwide. (A list of these sites is included in the Appendix.) New Hampshire Public Television education sites on the web (NHPTV Virtual School, NHDOE, ELN, SERESC, school sites, etc.) include links from each of these pages to the larger resources of the Internet, including software, learning activities, resources, etc.

Strategies for Achieving Objective 1.4

Emphasis will be placed on asking schools to continually review specific technology uses within the classroom, to share how technology is being used to address their educational improvement goals, and how learning has been improved.

Technical assistance will be provided to districts in evaluating educational software and web sites, and links to effective web sites will be added to the Department's page and those of partner organizations (NHPTV, SERESC, NHSTE, CRM, etc.).

- a) Vendors of educational software products will be invited to statewide technology conferences (Christa McAuliffe Conference, etc.) and encouraged to make donations.
- b) Schools that have successfully implemented technology will be networked with schools that are not as far along through statewide conference activities and other means.
- c) The Educational Technology Council will partner with NHEMA and NHSTE to support teachers in identifying excellent software.
- d) The Educational Technology Resource System will include resources related to educational software and online resources. (See description in Appendix)
- e) Selected NHDOE liaisons serving on Regional Field Service Teams will offer in-school training and technical assistance.
- f) Department staff will investigate the possibility of replicating the strategies used by the Regional Alliance for providing assistance to schools.

OBJECTIVE 1.5 -- TRAINING AND SUPPORT FOR TEACHERS

All teachers will have the training and support they need to help all students learn through computers, the information superhighway, and other technologies.

Success Indicators for Objective 1.5

- a) Each year until November 2001, professional development participation in local, regional, and statewide technology-related activities will increase by 25%, as indicated by the annual technology survey.
- b) By July 2001, teacher competencies related to the use of technology for teaching and learning will be included in all teacher certification areas.
- c) By July 1999, a Computer/Technology Educator teacher certification area will be established

Current Status Related to Objective 1.5

One of the greatest challenges of effective technology integration is the training and support needed by teachers. Many groups, including the Association for Supervision and Curriculum Development (ASCD) and other professional associations foresee that the movement toward incorporating technology education into the general education core curriculum at all grade levels will create a major professional development and teacher education need. While there will be an increased demand for teacher education programs to meet the need for technology education teachers and technical specialists, current practitioners in all subject areas and grade levels will also need substantial training and support to integrate technology into teaching and learning.

The 1997 **Technology Survey** data showed that only 10% of the average school's technology budget is devoted towards staff training. Although there are other local and state sources for supporting professional development, this area in general is chronically under-funded.

Half of the schools reporting have an Instructional Technology Coordinator, 37% of whom are full time. In 77% of the schools, the Technology Coordinator is responsible for integrating instruction and technology. 80% of schools have a Library Media Specialist, 51% of whom are full time. More than half of the Library Media Specialists are responsible for providing leadership to the staff for using technology in teaching and learning.

Addressing the professional development needs of practitioners related to educational technology requires several integrated components: policy, programs and content resources, delivery systems, access, and technical assistance. All of these components are being addressed by various parties. For example:

- a) New Hampshire regulations that govern teacher certification requirements have been revised to define what teachers should know and be able to do related to technology literacy and integration within the educational program. Since teachers must have 5 technology hours every 3 years for re-certification, they are motivated to include technology in their individual professional development plans.
- b) The NHSTE organization has identified technology related professional development as a major focus for its 1998 – 2000 activities. Several new technology workshops and quarterly seminars have been planned. (See Appendix: New Hampshire Society for Technology in Education.)
- c) The Annual Christa McAuliffe Technology Conference, co-sponsored by NHSTE and the NH School Administrators Association, offers dozens of sessions aimed at helping teachers use technology effectively in the classroom, along with more than 100 exhibits. Attendance at this three-day statewide conference exceeds 1500.
- d) Internet and other technology training for teachers, administrators, librarians, volunteers, and others is provided by several state agencies, public and private institutions, and business partners. (See Appendix: Resources for Training and Technical Assistance for Educators.)
- e) Several New Hampshire based web sites offer valuable Internet resources for the classroom teacher. The Knowledge Network staff at NHPTV has developed the "Virtual School House" web site with links to numerous educational technology sites. The NH State Library, the Audubon Society and other entities provide additional resources, while the "New Hampshire Educator's Web Site" is under development and expected to be online in the fall of 1998. (See Appendix: New Hampshire Educators' Web Site.)
- f) NHPTV also participates in the National Teacher Training Institute for Math, Science, & Technology, which sponsors a two-day workshop that provides teachers with hands-on, interactive methods for using television and technology, including instructional video, on-line networks and other new technologies in math and science instruction. This is an opportunity for educators to observe master teachers, chosen for their math and science expertise, creativity, and imagination, as well as their proficiency in the active use of instructional video and other technologies in the classroom. Since 1995, NTTI has trained over 200 New Hampshire teachers.

In February 1998, on the request of the State Board of Education, a committee of educators was assembled to develop recommended teacher competencies related to technology. This committee began by using the competencies set forth by the International Society for Technology in Education (ISTE) and adapting them to fit the diverse needs of New Hampshire. In June 1998, recommendations were made to the Professional Standards Board to create a regular teacher certification area for a Computer/Technology Educator. Additional recommendations were made to include general technology competencies in other teacher certification areas. These recommendations were then submitted to the State Board of Education and approved in August 1998. The regular process of holding public hearings and proceeding through the legislative rulemaking is now taking place. The Professional Standards Board is in the process of revising the General Education and Professional Education Standards for the certification of all educators. Included in these revisions will be expanded technology competencies.

Strategies for Achieving Objective 1.5

The Department's Bureau of Professional Standards Development has set as its overriding objective the development of a long-range Professional Development Plan for New Hampshire with the help of a statewide advisory committee. It is anticipated that this plan will support schools in coordinating pre-service preparation (certification) and local staff development master plans (re-certification) with goals of Local Educational Improvement Plans (LEIPs) and will include guidance related to technology.

Goals 2000, ESEA Title VI, Title II (Eisenhower Professional Development Program), the Carl Perkins Vocational and Technical Education Act, and the Individuals with Disabilities Education Act (IDEA) all address professional development. Districts will be encouraged to earmark a portion of their titled funds for technology professional development, and to include technology in other professional development programs.

Districts seeking Technology Literacy Challenge grants can use these funds for locally-sponsored professional development, and can form consortia to create multi-district professional development programs.

The Department's liaisons to the school districts, organized into five Regional Field Service Teams, will disseminate technology related professional development resources and refer districts to the Department's Educational Technology staff for further assistance.

The Educational Technology staff will help connect districts that have effective staff development strategies with others that need assistance and mentoring.

Effective use of technology will be modeled in all professional development that the Department conducts.

Department staff, working with the Educational Technology Council, will plan professional development and technical assistance activities and seek funding to address these needs. As stated in the Consolidated State Plan, "all of the Department of Education's professional development activities [funded under IASA and LEA Eisenhower programs] will support successful implementation of the Department's five focus areas."

As a strategy related to the goal of assisting districts to create coherence among state, district, school, and individual professional development plans, the Department will encourage districts to infuse effective uses of technology for teaching, learning, and communication in their local professional development, educational improvement, and technology plans.

The Department will work with institutions of higher education to infuse the effective use of technology for teaching, learning, and communication into teacher pre-service programs.

An Educational Technology Resource System is envisioned that can provide a clearinghouse of information and resources related to technology integration, including materials, programs, people, research and practice knowledge, and information about initiatives. The core of this system is the New Hampshire Educator's Web Site (NHEWS), which is slated to go online in fall 1998. This web site, along with those maintained by several education technology groups in New Hampshire, will post information, resources, and funding sources for professional development.

Members of the Educational Technology Council, working with the professional development committees of statewide associations, will explore how their offerings can help address the technology-related needs of their members, and strategies for enabling more people to access these opportunities.

GOAL 2: EXPANDING STATEWIDE CAPACITY

"That's how visions become reality -- when each of us fits the pieces together ourselves, borrowing here and there, innovating, modifying, arguing, persuading, questioning, and finally finding the time, the money, the people, to make it happen." (Deputy Secretary of Education Madeleine Kunin at the Secretary's Conference on Educational Technology, March 1995)

OBJECTIVE 2.1 -- STATEWIDE LEADERSHIP STRUCTURE

The New Hampshire Department of Education will formalize and sustain a state-level process and structure, with representation from key stakeholder groups, to provide leadership for ongoing planning, coordination, communication, and promotion of effective technology integration in our education system. This process and structure will address the objectives in this plan as well as long-term financing, infrastructure design, acquisition, utilization, and ongoing technical support.

Success Indicators for Objective 2.1

- a) The Tech Council will be formally recognized by all policy groups as the group responsible for planning, coordinating, communicating, and evaluating efforts to effectively integrate technology within the public education system.
- b) The Tech Council will advise the NHDOE Educational Technology staff on essential technology matters, such as the Statewide Educational Technology Plan, the Technology Survey, and the Technology Literacy Challenge Fund.
- c) The Tech Council will retain active representation from key stakeholders. These include NHDOE, State Board, Schools, Governor's Office, and Legislature.

Current Status Related to Objective 2.1

The Technology Council has been established and supported by the NHDOE, the State Board of Education, and the Governor's office. There is broad representation of educational stakeholders. The Technology Council advised Department staff regarding the process and product of this Technology Plan, participated in the revision process, and approved this revision. NHDOE staff are assigned to facilitate and support the work of the Council.

Strategies for Achieving Objective 2.1

The role, authority, and activities of the Tech Council are communicated through this document to broaden awareness and expand input from stakeholders. At each of its regular monthly meetings, the Council will include discussion of effective ways to accomplish the goals of this plan.

OBJECTIVE 2.2 -- EDUCATIONAL TECHNOLOGY RESOURCE SYSTEM

The NHDOE will work collaboratively with the Technology Council to develop an educational technology resource system for supporting districts as they plan, implement, and evaluate technology integration.

Success Indicators for Objective 2.2

- a) By December 1998, the New Hampshire Educators' Web Site (see Appendix) will be launched and available to the educational community.
- b) By November 1999, the NHEWS project will have received at least 200 lesson plan submissions for potential posting to the web site.
- c) By November 1998, the Technology Planning Toolkit, including the Approval Rubric will be completed and made available to school districts.
- d) By June 1999, the Tech Council will evaluate the possibility of expanding the Educational Technology Resource System to include on-line and off-line resources. (See Appendix.)

Current Status Related to Objective 2.2

This resource system is essential to supporting educational technology at the state, regional, and local levels. Current components of the resource system include:

- a) The New Hampshire Statewide Educational Technology Plan
- b) The New Hampshire Educators' Web Site
- c) The Technology Planning Toolkit
- d) NHSTE/NHEMA Internet Policy Toolkit
- e) Videos, catalogues, demonstration software, and other educational technology resources housed at the NHDOE

The New Hampshire Educators' Web Site (NHEWS) will be the primary access point for users. This web site will allow extensive linking to the resources of many types of organizations, including schools and classrooms around the world. A search tool will be placed on the site to allow users to search the collection. Documents can be downloaded or printed from the web, and if users do not have easy access, they can receive materials from one of the system partners.

Strategies for Achieving Objective 2.2

The Technology Council will advise and support the Department's efforts to accomplish this resource system. NetTech, the regional technology assistance center for the northeast, funded through a federal grant, has offered to host and maintain the initial web site materials. The components of the web site have already been articulated in the project "white paper" (see Appendix).

OBJECTIVE 2.3 -- TECHNICAL ASSISTANCE

A range of assistance will be provided by NHDOE to districts to plan, implement, and evaluate technology integration. These needs include infrastructure, hardware, networking, software, and other technical issues as well as educational issues related to curriculum, instruction, and assessment.

Success Indicators for Objective 2.3

- a) By November 1998, a set of resource materials regarding Year 2000 Problem will be disseminated by the NHDOE to school district technology contacts.
- b) By December 1998, each of the Department's Regional Field Service Teams will receive updated information from its technology profile database regarding technology needs and strategies to address these needs.
- c) By December 1998, the NHDOE Educational Technology staff will initiate e-mail distribution of technology communications to all NH public schools and will continue these e-mails on a regular basis. Those few schools without e-mail access will be sent hard copy.

Current Status Related to Objective 2.3

Department staff members have been assigned as liaisons to districts to serve as a primary contact and resource person for identifying needs and coordinating technical assistance in all educational improvement areas, including technology. Liaisons will redirect specific technology questions from districts to the Department's Educational Technology staff for technical assistance.

Strategies for Achieving Objective 2.3

As part of its role of providing support to local education agencies, the NH Department of Education will build its capacity to provide direct technical assistance to districts related to technology planning, integration, financing, and management. In addition, Department staff will link districts with resource people from other districts and organizations to work with local Technology Committees to develop, implement, and evaluate technology plans so that they support achieving educational improvement goals.

NHDOE technology staff will utilize a variety of resources on the Year 2000 Problem to develop an awareness and strategy guide for school districts. (See Appendices.)

OBJECTIVE 2.4 -- LONG TERM FINANCING FOR EDUCATIONAL TECHNOLOGY

Local technology planning and local decisions about resources are consistent with New Hampshire's strong tradition of local control. We have accomplished a great deal — in education and in other areas related to quality of life — without broad-based taxes. Funds from outside a community, whether they come from state resources or federal programs, are deployed according to locally-determined priorities. Even in cases where mandates (e.g., IDEA) have not been fully funded at the state or federal level, New Hampshire communities have risen to the challenge of providing quality education services.

For the vision and plan of action described in this plan to be achieved, leaders from all sectors must develop and pursue long-term commitments for financing educational technology.

Success Indicators for Objective 2.4

- a) By July 2000, increased commitments by all major educational stakeholder groups to long-term financing of educational technology will be evident.
- b) By July 1999, the Tech Council will form a finance subcommittee to explore and articulate long term strategies.

Current Status Related to Objective 2.4

Long-term decisions relative to school finance reform are in process.

Strategies for Achieving Objective 2.4

Initially, efforts must focus on developing wide-spread commitment to the development and on-going support of a statewide educational technology infrastructure. Other strategies include:

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- a) Effectively integrate and manage federal resources from numerous sources that contribute to the administrative coordination of programs, including all IASA title programs included in the NH Consolidated State Plan, the Technology Literacy Challenge Fund, Goals 2000, and IDEA;
 - b) Encourage districts to access and use federal funds from ESEA/IASA Titles I, II, III, IV, and VI; Perkins Act, School-to-Work, Goals 2000, TIIAP, IDEA, Technology Literacy Challenge Fund, discretionary grant programs, and other sources to support technology integration;
 - c) Review the results of the DOE25 data submitted by districts, in order to comparably identify technology expenditures. This will enable LEAs (and potentially the state) to budget for and manage technology programs;
 - d) Promote collaborative processes that yield common goals and effective partnerships (e.g.; Education Connection Project, Distance Learning);
 - e) Target resources toward communities with the greatest needs, as has been done with the TLCF grants;
 - f) Encourage and support grass-roots initiatives that have mobilized the energies of citizens to meet local needs (e.g., NetDay);
 - g) Promote the unifying focus of NHEIAP and its emphasis on modernizing schools to meet the challenges of the 21st century (e.g., local Education Improvement Plans that target technology);
 - h) Challenge stakeholders in the public and private sector to come forward to assist (e.g., the Business and Industry Association, the Educational Technology Council);
 - i) Encourage New Hampshire-based technology companies to contribute to local and statewide technology integration efforts.
 - j) Produce educational results that demonstrate the value of technology itself.

OBJECTIVE 2.5 -- PROMOTE DISTANCE LEARNING

A variety of organizations are working to promote distance learning opportunities in New Hampshire. Distance learning can serve the technology needs of all communities in New Hampshire, from our many geographically isolated small rural communities to our rapidly expanding urban communities attracting a diverse population, and our wealthy versus poor school districts.

Several organizations and state agencies are making efforts toward a collaborative solution to address the distance learning needs of the state. These include:

- Roundtable discussions facilitated by the Public Utilities Commission
- Ongoing activities of the Distance Learning Commission

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- A distance learning pilot to connect all New Hampshire schools, libraries and communities with affordable access, initiated by Bell Atlantic

Success Indicators for Objective 2.5

- a) The number of distance learning programs offered within NH will increase.
- b) The number of distance learning sites within NH communities will increase.
- c) The Distance Learning Commission and State Educational Technology Council will collaborate and coordinate distance learning efforts to achieve their goals.

IMPLEMENTATION TIMELINE

YEAR:	Dec 98	Jun 99	Dec 99	Jun 00	Dec 00	Jun 01	Dec 01
GOAL 1: SCHOOL CAPACITY BUILDING							
Objective 1.1: Local Technology Planning							
1.1.a	Tech Plan Rubric disseminated ----->						
1.1.b	Planning toolkit completed ----->						
1.1.c	Planning toolkit disseminated ----->						
1.1.d	Approved tech plans in all districts -----> ----->						
Objective 1.2: Modern technology for classrooms							
1.2.a	One+ modern computer for >80% classrms -----> -----> -----> -----> ----->						
1.2.b	10:1 ratio for all NH schools -----> -----> -----> -----> ----->						
1.2.c	1000+ cmptrs to schools (CITS) -----> -----> -----> -----> ----->						
Objective 1.3: Internet access for classrooms							
1.3.a	20% increase in schools/clsrms connected -----> -----> -----> -----> -----> ----->						
1.3.b	Internet access for all NH schools -----> -----> -----> -----> ----->						
1.3.c	50% classrms/school w/ access -----> -----> -----> -----> -----> -----> ----->						
1.3.d	100% NH schools have 56K or + -----> -----> -----> -----> -----> -----> ----->						
Objective 1.4: Effective & engaging software/resources							
1.4.a	Increased classroom tech use -----> -----> -----> -----> -----> -----> ----->						
1.4.b	NHed Web Site fully operational -----> ----->						
1.4.c	50% + NH schools report increased regular use of software and online resources -----> -----> ----->						
Objective 1.5: Training & support for teachers							
1.5.a	25% PD participation increase -----> -----> -----> -----> -----> -----> ----->						
1.5.b	Ed tech competencies/all tchr cert. -----> -----> -----> -----> -----> -----> ----->						
1.5.c	Cmptr/Tech Educator cert. establ. -----> ----->						
GOAL 2: STATEWIDE CAPACITY BUILDING							
Objective 2.1: Statewide leadership structure							
2.1.a	Tech Council responsibility recognized -----> -----> -----> -----> -----> -----> ----->						
2.1.b	Tech Council advise NHDOE staff regarding essential ed tech matters -----> -----> -----> -----> -----> -----> ----->						
2.1.c	Retain active representation on Tech Council from key stakehldrs -----> -----> -----> -----> -----> -----> ----->						
Objective 2.2: Ed Tech Resource System							
2.2.a	NHEWS (web site) launched ----->						
2.2.b	200+ lesson plans submitted -----> -----> ----->						
2.2.c	Tech Plan Toolkit & rubric available ----->						
2.2.d	Possible expansion of Ed Tech Resource System evaluated by Tech Council -----> ----->						
Objective 2.3: Technical Assistance							
2.3.a	Y2K resource materials to schools ----->						
2.3.b	Updated ed tech info on needs to NHDOE regional team members ----->						
2.3.c	Begin regular ed tech email distrib. to all NH school tech contacts ----->						
Objective 2.4: Long term ed tech financing							
2.4.a	Increased commitment from all major stakeholders -----> -----> -----> ----->						
2.4.b	Finance subcommittee formed ----->						
Objective 2.5: Promote distance learning							
2.5.a	Increase in DL programs offered -----> -----> -----> -----> -----> -----> ----->						
2.5.b	Increase in DL sites in NH -----> -----> -----> -----> -----> -----> ----->						
2.5.c	DLC and Tech Council coordination -----> -----> -----> -----> -----> -----> ----->						

STAKEHOLDERS

USING THE PLAN AT THE LOCAL LEVEL

Local stakeholders include students, planning committees, educators, school board members, government officials, parents, community members and business partners.

1. STUDENTS

While few students will use the plan directly, all students are the primary intended beneficiaries of it. These benefits must be locally defined and evaluated in order to refine goals, strategies, and resources. As is the case with other areas of the education system, the intended benefits of technology planning and integration relate to helping all students achieve standards and acquire the knowledge and skills needed for success in the 21st century.

2. LOCAL EDUCATIONAL TECHNOLOGY PLANNING COMMITTEES

Local educational technology planning committees have been formed in many New Hampshire communities to develop a shared vision of effective technology integration and a long-term plan for achieving this vision. These committees reflect the same broad-based stakeholder participation that characterized the process at the state level. They draw upon knowledge resources from the education field nationally and here in New Hampshire. A major challenge for these local committees is to articulate the role and value of technology in education, and to build local support for investing in it. This document and the related resource material can help build this awareness, understanding, and support. Excerpts from these materials may be included in local plans or used as briefing materials for planning committee members. (See Appendix for a listing of these materials, many of which are accessible on the World Wide Web.)

One of the objectives included in this plan encourages communities to establish a collaborative process for local technology planning, implementation, evaluation, and ongoing integration. Such a process helps communities develop shared goals and a clear commitment to effectively integrating technology to support educational quality and equity. Local technology committees can use the plan to:

- a) Define their vision for educational technology integration and technology's role in achieving educational improvement goals;
- b) Identify within their discussions needs, strategies, and issues to be addressed;
- c) Incorporate elements of this document into their local plans; and
- d) Develop strategies to attract corporate funding and partnerships.

Local technology planning committees are encouraged to work closely with their colleagues who are engaged in developing the district's Local Educational Improvement Plan, Consolidated Application, Professional Development Plan, and other plans and funding proposals (e.g., Goals 2000 and Technology Literacy Challenge Fund). It is expected that representatives of local technology planning committees will participate in these and other efforts, such as special

education advisory groups, curriculum committees, and program evaluation committees. The Planning Toolkit developed by the New Hampshire Department of Education is a valuable resource to these efforts. (See Appendix B for information on how to obtain the toolkit.)

3. EDUCATION PRACTITIONERS

Teachers, administrators, specialists, and technology coordinators are the “front line” leaders when integrating technology in support of improved teaching, learning, student achievement, and operational efficiency. Educators can use this document to:

- a) Establish a shared vision of the role and importance of technology in helping all students achieve established standards;
- b) Seek support from local decision makers in planning and securing technology;
- c) Identify and use resources to support technology integration;
- d) Create an environment which nurtures creative exploration and innovation; and
- e) Create effective and engaging learning activities.

4. SCHOOL BOARDS

School boards in New Hampshire bear the primary responsibility for funding educational technology through local budgets. The Statewide Educational Technology Plan will serve as a resource to help school boards:

- a) Examine the issues and questions related to the potential benefits of educational technology, including costs and potential savings, essential conditions, equity, student achievement, etc.
- b) Access information resources and reference materials to guide decision-making;
- c) Communicate with the public to build support for local plans; and
- d) Document the vision, rationale, evaluative criteria, and ongoing planning process.

5. PARENTS AND COMMUNITY MEMBERS

Parents and community members not only support technology acquisition and integration, but should be encouraged to actively participate in the school by:

- a) Mentoring students;
- b) Providing technical support and training;
- c) Volunteering to help with technology initiatives (e.g., NetDay);
- d) Using the technology for their own learning (e.g., attending evening technology related courses offered at their local schools);
- e) Coordinating technology access with other community entities, including the local library, town offices, civic groups, human service agencies, and commissions; and
- f) Sharing the technology vision and supporting increased budgetary needs for technology funding.

6. LOCAL GOVERNMENT OFFICIALS

Selectmen, town councils, and other local government officials can use this plan as a reference document in considering the integration of technology within the community, including:

- a) Communicating within the community and to the world beyond;
- b) Supporting adult learning;
- c) Providing citizens and government officials with access to information resources;
- d) Coordinating technology access with other community entities all citizens; and
- e) Garnering business support for building technology capacity within the community.

7. BUSINESS AND INDUSTRY (SEE USING THE PLAN AT THE STATE LEVEL)

USING THE PLAN AT THE STATE LEVEL

Paralleling the use of the plan by local-level stakeholders are many state-level entities, including a variety of state-level policy makers, educational organizations and service providers, business and industry, cultural and scientific institutions, and higher education institutions.

1. STATE-LEVEL POLICY MAKERS

Policy makers from the New Hampshire State Board of Education, Legislature, Governor and Executive Council, and the NH Department of Education will be able to use the Plan and related reference materials to:

- a) Establish the vision for educational technology's role in New Hampshire;
- b) Create an environment which nurtures creative exploration and innovation;
- c) Increase their understanding of the role, benefits, and specific applications of educational technology in educational improvement, administration, and accountability;
- d) Better understand the needs of school districts, educators, and communities;
- e) Provide documented evidence related to the potential benefits of technology;
- f) Communicate with constituents on issues related to educational technology; and
- g) Provide mechanisms for measuring technology resources and their utilization in achieving the goals of NHEIAP.

2. EDUCATIONAL ORGANIZATIONS AND SERVICE PROVIDERS

Various organizations, such as public television, regional service centers, and private contracting firms, play a key role in educational improvement in New Hampshire. These groups can use the plan to:

- a) Guide the design and delivery of their programs and services;
- b) Communicate and substantiate the state's commitment to and direction for educational technology integration;
- c) Focus their efforts to support educational technology integration as a key component of educational improvement, professional development, and school capacity-building;
- d) Facilitate collaboration among various parties with specialized expertise and resources.

3. BUSINESS AND INDUSTRY

Individual corporations and business groups, including the Business and Industry Association and the New Hampshire Business Roundtable for Education, have played an important role in promoting educational improvement in general and technology integration specifically. High tech firms located in New Hampshire have made generous contributions of equipment and expertise to various projects; several of these are described later in this document. Business and industry groups are encouraged to use the plan to:

- a) Increase their understanding of how educational technology can contribute to educational improvement;
- b) Provide teachers, students, parents, school board members, and citizens with examples of and experience in how technology is used in the workplace;
- c) Engage with other educational stakeholders at the local, state, and national levels to map out a direction for supporting technology integration;
- d) Assist in building community support for funding educational technology; and
- e) Participate in technology support programs such as the Computers in the Schools Program (see Appendix).

4. CULTURAL AND SCIENTIFIC INSTITUTIONS

The state library, local libraries, museums, art galleries, science centers, public broadcasting, and other state and community institutions play an important role in educating both children and adults. Increasingly, these organizations will use and benefit from technology in pursuing their missions. These groups can use the plan to:

- a) Increase their understanding of technology's role in education;
- b) Align their programs and technology use with the statewide goals for technology integration (e.g., professional development);
- c) Learn about strategies, issues, and resources for integrating technology; and

-
- d) Forge partnerships with other educational stakeholder groups around technology acquisition and use.

5. HIGHER EDUCATION INSTITUTIONS

New Hampshire's higher education institutions prepare and offer a wealth of professional development programs for educators. The integration of technology literacy and experience within these programs is essential to long-term educational improvement and building our educational technology infrastructure. Teacher educators and others in these institutions can use this plan to:

- a) Set the direction of teacher technology training and coordinate the skills of New Hampshire teachers to these Tech Plan requirements;
- b) Enhance course content to incorporate key information about technology's role in teaching and learning and in continuous school improvement;
- c) Increase their understanding of the role of technology literacy in the context of lifelong learning; and
- d) Learn about and develop initiatives that can be accessed and enhanced to achieve common goals. These may include online communications and research.

APPENDICES

The appendices contain brief information about organizations, programs, initiatives, and resources related to the goals of this plan. The NH Department of Education will continue to expand and revise these pages over time.

If you have questions, comments, or revisions for these pages, please contact:

**New Hampshire State Department of Education
Office of Educational Technology
State Office Park South
101 Pleasant Street
Concord NH 03301
Main Number: (603) 271-3494
Fax: (603) 271-1953
<http://www.state.nh.us/doe>**

RESOURCES FOR TRAINING & TECHNICAL ASSISTANCE FOR EDUCATORS

NH Department of Education Office of Educational Technology 101 Pleasant Street, Concord NH 03301 Phone: 603-271-2453 Fax: 603-271-1953	http://www.state.nh.us/doe
NH State Library 20 Park Street, Concord NH 03301 603-271-2143	http://webster.state.nh.us
NH Public Television 268 Mast Rd, Durham NH 03824-4601 Phone: 603-868-4359	http://www.nhptv.org
NH Electronic Learning Network 2 Highland Road, South Hampton NH 03827 Phone: 603.394.7040 Fax: 603-394-7483	http://www.crminc.com/eln.htm
NH Educational Media Association (NHEMA)	http://www.nhptv.org/kn/nhema/
NH Society for Technology in Education (NHSTE)	http://www.nhste.org
Keene State College	http://www.keene.edu/

NEW HAMPSHIRE DISTANCE LEARNING COMMISSION

<http://webster.state.nh.us/dlc/>

The New Hampshire Distance Learning Commission was established by an act of the State Senate and House of Representatives in 1996. The members come from Education, Business, State Agencies, and Consumer Groups. We encourage the citizens of New Hampshire and all champions of Distance Learning world-wide to join us in this wonderful adventure.

Mission Statement: Promote and advance state-of-the-art distance learning for all NH citizens.

Distance Learning Goals

1. Define and inventory distance learning current and best practices within and outside of the state.
 - 1.1. Define and provide supportive examples of distance learning.
 - 1.2. Identify and analyze components of existing planned distance learning programs within the state.
 - 1.3. Research evaluation criteria of distance learning programs.
 - 1.4. Look at existing survey data to determine needs.
 - 1.5. Look at out-of-state best practices re: DL programs.
 - 1.6. Monitor and document emerging delivery systems.
2. Increase awareness of importance of distance learning.
 - 2.1 Get information to all educators via conferences, conventions, listservs.
 - 2.2 Encourage and disseminate information about demos of Bell Atlantic, ITV, DL, other states, etc.
 - 2.3 Road show include information gathered in goal #1, brief the legislature
 - 2.4 Prepare and disseminate publications
 - 2.5 Connect with news media
 - 2.6 Promote collaborations
 - 2.7 Annual input into related state plans.
3. Increase access to affordable distance learning resources.
 - 3.1 Promote affordable bandwidth.
 - 3.2 Identify and disseminate information on other DL sources and resources.
 - 3.3 Analyze DOE survey.
 - 3.4 Identify and disseminate training opportunities
 - 3.5 Promote collaborative projects through aggregation
4. Seek support (e.g., financial and philosophical)
 - 4.1 Restate to legislature the commitment to Distance Learning and seek funded position.
 - 4.2 Seek financial support:
Private sector, business community for equipment and expertise, corporate sponsors, current sources, grant opportunities, sponsors, utilize existing bandwidths
 - 4.3 Get DL on agendas (i.e., school districts, legislature, business, rotary clubs, etc.)
 - 4.4 Encourage volunteer efforts that support DL goals
5. Develop collaborations with:
Public and private, education and business, DOE, NH National Guard, integrated community networks, annual input into related state plans

Contact: Art Hammon, Chair
Email: Art.Hammon@ConnRiver.net

NEW HAMPSHIRE PUBLIC TELEVISION KNOWLEDGE NETWORK

<http://www.nhptv.org>

The NHPTV Knowledge Network is a leading and innovative provider of technology and programming for a broad range of educational initiatives – from teacher training to advanced telecommunications. Whether on the World Wide Web, in schools, in the workplace, or at home, the NHPTV Knowledge Network provides educators and students with tools and resources to embrace new technologies and to expand the learning environment beyond traditional boundaries.

Instructional Television Programs: This powerful teaching tool can be integrated directly into the curriculum to enrich and enhance the learning experience. Programs are specifically developed and designed for classroom use by curriculum specialists and educators. The programs aired by the Knowledge Network are selected by New Hampshire educators to correlate to the New Hampshire Curriculum Frameworks.

Electronic Field Trips: This series of electronic field trips takes students beyond the classroom walls with live, interactive programs such as: Art Journeys, Passport to Knowledge: Live from Mars and Live from the Rainforest, Science Quest, and Wonders Under the Sea.

In the Know: This newsletter is distributed early each month by E-mail or fax, and can be accessed on The Virtual School web page. In the Know Extra is also sent electronically on an as-needed basis with schedule changes, Teacher's Choice requests, and other important supplemental information. A modified print version is sent monthly via regular mail to schools with no means for electronic access.

Ed Exchange: Produced by the NHPTV Knowledge Network, these one-hour, live, interactive programs are designed to provide cost-effective, timely, accessible professional development to all New Hampshire educators. Programs air the second Tuesday of the month, September to May, from 3:30 – 4:30 p.m. (unless otherwise noted), so they can be incorporated into school-based activities such as faculty meetings. Hosted by Tony Simone, principal of the Kenneth A. Brett School in Tamworth, Ed Exchange features New Hampshire educators as guest panelists and a call-in component for direct dialogue.

Teacher In-Service Training Workshops: The NHPTV Knowledge Network staff provides highly interactive workshops to help educators integrate television and technologies with existing lessons and instructional practices. Designed to provide teachers with the basics in using technology as an interactive tool in the instructional process, these workshops can enhance the effectiveness of television and technologies in the school's curriculum.

Satellite-Delivered Videoconferences: Videoconferences provide universal access to educational opportunities. Programs of interest and value to educators, businesses, and communities provide are taught by nationally identified experts using advanced technologies.

The Web: The Knowledge Network has developed an educational web site to provide New Hampshire teachers, administrators, and students with greater access to resources and information available on the web.

NEW HAMPSHIRE SOCIETY FOR TECHNOLOGY IN EDUCATION (NHSTE)

<http://www.nhste.org>

The New Hampshire Society for Technology in Education (NHSTE) is a non-profit organization formed by volunteers to improve education through the use of information technologies. NHSTE is also an organizational affiliate of the International Society for Technology in Education (ISTE).

The organization provides a structure for linking educators across the state, to help one another keep abreast of emerging technologies that have an impact on education.

NHSTE is dedicated to:

- serving in an advisory capacity to educators regarding information technology.
- supporting the concept of information technologies as tools for educators and students.
- communicating and collaborating with educational professionals about the use of information technologies in education.
- representing the needs of New Hampshire educators to appropriate government agencies and policy makers regarding information technologies.
- providing accurate, up-to-date, and relevant information and information technologies in education.
- fostering an active partnership between the private sector and educators in the field of information technologies in education.

GOVERNOR’S COMPUTERS IN THE SCHOOLS PROGRAM

<http://www.state.nh.us/cits>

What is the Goal of the Program?

The goal of *Computers in the Schools* is to put quality, up-to-date computers in the classrooms of those public schools that otherwise lack sufficient resources to access educational technology. Any business, community organization, government agency, or private individual is encouraged to donate to the program.

What kind of equipment can be donated?

- 1) Complete Desktop PC Systems (working or non-working) that have: 386, 486, 586 or Pentium processor; VGA or better monitor; 3.5" floppy disk drive; 4 MB RAM and/or 80+ MB Hard Drive
- 2) Macintosh computers if they are Mac LCII or better with RAM and Hard Drives intact.
- 3) Additional Peripherals (working only)

• VGA/SVGA Monitors	• Mice	• Floppy Drives
• Hard Drives	• RAM SIMMS	• CD-ROM Drives
• Monitor / power cables	• Keyboards	• 486+ Motherboards
• Network Cards	• Disk Controller Cards	• Modems
• Inkjet, B'jet, or Laser Printers	• New/Sealed Software	

What are the computers upgraded to?

The goal of the upgrades is to make them as modern and multimedia capable as possible. The simplest explanation of our minimum standards is that we want them to be *Pentium or Pentium class computers (233mhz or better) with at least 32mb RAM.*

What does it cost the school?

Nothing for the computer systems. The approximately \$300 cost per upgraded computer system is covered by the financial donations to the program. Of course, there are related costs to the schools, such as setup, technical support, staff development, educational software, which would normally be covered in some way in the school’s technology plan.

Who can apply?

An advisory group for the *Computers in the Schools* program has set up a simple list of criteria by which K-12 public schools in NH can be eligible to participate. (We encourage ALL interested NH public schools to apply.)

The intent of the program is that schools will be given top priority if they:

- are among those that have the highest Foundation Aid factor and
- have not yet received Technology Literacy Challenge monies.

To receive computers through this program, a school must also have:

- a DOE approved Technology Plan in place and
- must have completed the current NH Technology Survey.
-

If a school does not have a current Technology Plan in place, but falls high on the needy schools list, the Department of Education will assist that school to submit a complete plan for approval in a timely manner.

How Can We Apply?

The application process is simple. Ask your principal or technology coordinator to write a letter that includes the following information:

- 1) Your school name, address, voice, fax, and e-mail information
- 2) Your school student population
- 3) The number and types of modern computers your school has (please list only modern Macs and PCs (Mac Performa, Quadra, PowerMac or higher or PC 486, Pentium or higher)
- 4) Your current ratio of students per computer
- 5) Indicate whether you have a current approved Technology Plan
- 6) Indicate whether you have completed and submitted the current NH technology survey.

Or you can submit an online application through the web site.

- 1) Go to <http://www.state.nh.us/cits> .
- 2) Choose “School Application” from the pull-down menu and click “GO”.
- 3) Fill out every blank and click “send to NHDOE.”

Schools Application Contact:

Cathy Higgins
NH Department of Education
101 Pleasant Street
Concord, NH 03301
(603) 271-2453 (Voice)
(603) 271-1953 (Fax)
Web Site Application: <http://www.state.nh.us/cits>
E-mail: chiggins@ed.state.nh.us

Equipment Donations Contact: NH Governor’s Recycling Program

Office of State Planning
2 ½ Beacon Street
Concord, NH 03301-4497
(603) 271-1098
Web Site: <http://www.state.nh.us/cits>
E-mail: recycle@osp.state.nh.us

EDUCATION CONNECTION PROJECT

<http://www.nhptv.org/kn/edcon1.sht>

The Education Connection Project is an initiative designed to make Internet access and network connectivity available to every K-12 school and public library in New Hampshire – bringing the future of education to students, teachers, and entire communities statewide. This voluntary project will enable participating schools and libraries to enhance their technological capabilities by establishing new telecommunications connections for education and research. The ultimate goal is to build bridges that will help facilitate the free flow of information, knowledge, and resources throughout the state.

Several partners are involved in this project to provide access to the Internet and essential training on ways to integrate Internet use into the classroom.

- Bell Atlantic is providing each participating K-12 school and library with a new high-capacity 56K Frame Relay circuit or new dial-tone connection. <http://www.bellatlantic.com>
- Cabletron Systems is providing networking equipment to enable schools and libraries to have the hardware they need. <http://www.cabletron.com>
- The New Hampshire Public Television Knowledge Network (<http://www.nhptv.org/kn/home.htm>), in collaboration with the New Hampshire State Department of Education (<http://www.state.nh.us/doe>) and the New Hampshire State Library (<http://webster.state.nh.us/nhsl>), is offering a comprehensive training program for teachers, librarians, and school media specialists. The training program is designed to help professional educators integrate computer-based Internet resources into the curriculum.
- The University of New Hampshire is providing NEATNet, an optional Internet Service Provider. <http://www.neat.unh.edu>

NH K12 Schools Contact: 888-584-8200

NH Libraries Contact: 800-499-1232

Email Contact: wings@seresc.net

DESTEK NETWORKING GROUP, INC.

<http://www.destek.net>

Destek is, a New Hampshire based, wide-area-networking provider that currently furnishes Internet Access and networking services to more than sixty schools in the state. One of their community service goals is to help provide all schools with reliable connections to the Internet at discounted prices. For more than three years Destek has worked closely with New Hampshire schools to establish dedicated connections to the Internet and configure school networks with Firewalls, Proxy Servers, E-mail Servers, and URL Filtering software. By the start of the 98/99 school year Destek will be supporting nearly one-hundred Frame-Relay circuits that connect NH Schools to the Information Super Highway.

Destek's commitment to working with education led to the development and hosting of New Hampshire's NetDay web site (<http://www.NetDay-NH.org>), a web site created to help link community volunteers with schools needing assistance in wiring their school buildings for Internet connections.

For the last four years, Destek has been selected to provide Internet Access and support for the annual Christa McAuliffe Technology Conference, held in Nashua, New Hampshire. In December 1998, Destek will again host the Cyber Café.

In September of 1998, the company introduced "The Destek Education Server". Dedicated to aiding the collaboration and professional development of New Hampshire's educators, the server hosts a free collaboration package that will allow Tech Coordinators, Librarians, Teachers and Administrators to conduct conferences, transfer files, chat, and share a common whiteboard via the Internet.

Contact: Brian Susnock
The Destek Networking Group
One Indian Head Plaza
Nashua, NH 03060
(603)594-9630, (800)656-9547
Fax: (603)598-8864
Brian@destek.net

YEAR 2000 PROBLEM: RESOURCES TO ADDRESS THE PROBLEM

The Year 2000 Problem (Y2K) refers to the impending crisis facing computer systems and software. When the year 2000 rolls around, systems and software may begin to malfunction, giving erroneous information, or in some cases, cease to work entirely.

Here are some **on-line resources** to help inform you of this grave problem:

USDOE Year 2000 Project Site -- <http://www.ed.gov/offices/OCIO/year/>

Government Accounting Office's "Year 2000 Computer Crisis: An Assessment Guide" – <http://www.gao.gov/special.pubs/y2kguide.pdf>

Year 2000 Information Center – <http://www.year2000.com/cgi-bin/y2k/NFyear2000.cgi>

Year 2000 Support Center – <http://www.support2000.com/indexcrp.htm>

Information Technology Association of America's Year 2000 home page – <http://www.ita.org/year2000.htm>

"The Year 2000 Problem: It's Not Just a Technical Issue" is a series of four 30-minute video programs produced by PBS Adult Learning Service. The program is scheduled to air on Thursday, November 5, 1998 from 11 a.m. 1 p.m. School districts may contact Chrys Bouvier at the NHDOE (603-271-8049) for more information.

The NH Department of Education has established a **Y2K Steering Committee** to promote awareness of solution steps that NH schools can take to address the Y2K problem.

Y2K Steering Committee for New Hampshire Schools Contact:

Cathy Higgins, Educational Technology Consultant
NH Department of Education
101 Pleasant Street
Concord NH 03301
Phone: 603-271-2453
Fax: 603-271-1953
chiggins@ed.state.nh.us

NEW HAMPSHIRE LEGISLATIVE COMMITTEES ASSOCIATED WITH TECHNOLOGY

New Hampshire State Technology Plan Oversight Committee
Established by HB 0262, Chapter 0191:1, Laws of 1997 (ext. by Chap 83, laws of 1998)
Representative William Belvin, Chair
231 Boston Post Road, Amherst, NH 03031-3015
603-673-5385

New Hampshire Council on Applied Technology and Innovation
Representative Naida L. Kaen, Chair
Council established by RSA 12-H:1 Chapter Law 0144:1 (HB1222), Laws of 1996
22 Toon Lane, Lee, NH 03824
603-659-220

LIST OF BUSINESS & INDUSTRY DONATIONS

In 1997, **Digital Equipment Corporation** donated sophisticated multi-media computer systems to seven schools in economically-deprived communities.

The **Sanders Corporation** has an active computer donation program.

In December 1996, **White Pines Software** donated copies of its CU-SeeMe software to each school.

Microsoft Corporation donated copies of Windows95 software for every school in the state.

NEW HAMPSHIRE EDUCATIONAL RESOURCE SYSTEM

This resource system will be coordinated by the Office of Educational Technology at the NH Department of Education. This system, previously outlined in the original NH State Technology Plan, is essential to supporting educational technology at the state, regional, and local levels.

The components of the proposed NH Educational Resource System include:

1. Vision Statement on the role of technology in education, in the context of current local, state, and national reform initiatives aimed at helping all students achieve at high levels.
2. The New Hampshire Educational Technology Plan.
3. A Resource Bank of relevant items cataloged in a searchable database. [Note: the intent is not to create a "repository" of all of these items, but to locate and reference them for broad access and continuous updating.] The types of items in the resource bank would include:
 - Local Technology Plans from New Hampshire and elsewhere
 - Planning Guides and Resource Materials on Planning
 - Descriptions of Learning Activities that Illustrate the Effective Use of Technology in Schools
 - Technology Tools (e.g., the NHSTE Tool Kit)
 - Videotapes (on Using the Internet, etc.)
 - Catalogs of Educational Technology Products
 - Names and Descriptions of Presenters, Consultants and Technical Support Providers
 - Sample Policies (e.g., Acceptable Use)
 - Descriptions of New Hampshire Technology-Related Projects
 - Sample Learning Activities and Resources
 - Networks and Newsgroups
 - Information on Organizations and Associations: Resource/Clearinghouses, Professional Groups, Agencies, etc.
 - The Planning Toolkit developed by the NH Department of Education. This toolkit assists districts in their efforts to engage educators, parents, school board members, and community members develop or refine their local technology plan and integrate it with their Education Improvement Plan, Consolidated Plan Application, professional development plan, and grant applications (e.g., Goals 2000, Eisenhower, TLCF).

The New Hampshire Educators' Web Site (NHEWS) will be the primary access point for users. This web site will allow extensive linking to the resources of many types of organizations, including schools and classrooms around the world. A search tool will be placed on the site to allow users to search the collection. Documents can be downloaded or printed from the web and, if users do not have easy access, they can receive materials from one of the system partners.

NEW HAMPSHIRE EDUCATORS' WEB SITE

This site is the core element of the New Hampshire Educational Resource System. The site is not intended to be yet another list of links to links, but rather a resource primarily for curriculum planning and development which supports the proficiencies outlined in the New Hampshire Education Improvement and Assessment Plan as documented in the Frameworks and addenda

To be effective, such a site must provide a place for the acquisition of professional development resources, publication and demonstration of models of best practice which meet the needs of New Hampshire educators, and provide a showcase for New Hampshire educators to share some of their models of excellence. It must also provide a short cut to the educator's fast lane on the information superhighway.

Components of the Web Site Model

- Framework/Appendix curriculum development resources and tools, Organized by thread in a descending hierarchy (see Yahoo for example)
- Lesson Plans
- Other Resources (cross links to video tapes, field trips, other organizations...)
- Search tool
- Communication (teacher exchange, listservs, suggestion box, submissions area...)
- Self assessment tools (Mankato/Bellingham or locally generated equivalent, links to online tutorials existing at other sites)
- Professional Development opportunities (index to organizations, PD calendar...)
- Hot Tips (what's new...)
- General Resources for Educators (Kathy Schrock's site, NCTM, PBS...)

COOPERATIVE EXTENSION, UNIVERSITY OF NEW HAMPSHIRE

<http://ceinfo.unh.edu>

Cooperative Extension uses new technologies and traditional delivery methods to provide New Hampshire citizens with research-based education and information, enhancing their ability to make informed decisions that strengthen youth and families, sustain natural resources, and improve the economy.

Wide Area Network: Cooperative Extension has a network of [offices](#) located throughout the state. Connected through frame relay technology, these offices house Extension Educators and a large inventory of [publications](#) and other educational resources.

Satellite Uplink Technology: Cooperative Extension, in conjunction with NHPTV, maintains a satellite uplink system at the University of New Hampshire capable of broadcasting programs throughout the state, region, nation and world.

Distance Education: Cooperative Extension is a member of [ADEC](#), an international consortium of state universities and land grant institutions which provide high quality and economic distance education programs and services via the latest and most appropriate information technologies. A comprehensive list of satellite and web-based [programs](#) can be found at the ADEC website (<http://adec.edu>).

Selected Programs: Cooperative Extension conducts educational programs in the areas of Agricultural Resources, 4-H Youth Development, Community Development, Family Development, Forest & Wildlife Resources, and Sea Grant & Water resources. Selected programs of interest to schools include:

[TAP \(Teen Assessment Program\)](#) – TAP’s primary goals are to increase community awareness and knowledge of teen issues and to help communities collaborate to address areas needing attention including: depression and suicide, alcohol and drug abuse, sexuality, interactions with peers, use of time, perceptions of school and community, and future aspirations.

[Great Beginnings](#) – A nutrition curriculum for pregnant and parenting teens which gives each teen the opportunity to realize the important role she plays in shaping her own health and her baby’s health and development.

[Marine Docents Program](#) - This nationally recognized program uses volunteers to deliver marine science education programs to help students become more scientifically literate participants in conservation and wise use of coastal marine and fresh water resources.

[Positive Youth Development](#) (4-H) This program helps youth develop positive physical and mental health practices, personal and social competence, cognitive and creative competence, vocational awareness, and citizenship and leadership skills.

Contact: David T. Foote, Computer/Information/Technology Manager
Taylor Hall, 59 College Rd.
University of New Hampshire
Durham, NH, 03824 email: david.foote@unh.edu