

New Hampshire Sites

PHOTOCOPY
PRESERVATION



**U.S. Department of Education
Office of the Deputy Secretary
600 Independence Avenue, S.W.
Washington, D.C. 20202**

DATE : _____ Patrick Steele (Scheduling Officer)
TO: Jonathan Sallet / cc: Mike Schmidt / Tim Kolenberger /
Henry Kelley
ORGANIZATION: D.O.C.
PHONE : _____ **FAX :** _____
FROM : Linda Roberts
PHONE : _____ **FAX :** _____

MESSAGE : 15 pages

Jonathan: Per your request for a Presidential visit/
 technology event in New Hampshire. My first choice
 would be Souhegan H.S. (about 20 minutes from
 Nashua). Point of contact is Robert Mackin, Principal
 603-673-9940. FAX 603-673-0318.
 High School Address: 412 Boston Post Road, Amherst
 N.H. 030301.

This is a school that has implemented an integrated
comprehensive plan for technology (what the NY Times
 critics call for) and can be a model of the vision
 we have for schools across the country. Look at
 the use of technology across the curriculum, and in
 the humanities, math, science and technology.

I visited with students and faculty in November. This place
 is for real --- and they have already invited the VP
 to see what they are doing. (They received NO response).

Another possibility is the consortium of districts in the Challenge Grant Project, "The Manchester Challenge," involving the Manchester School District. See information provided separately.

Key Business Partners in NH. Technology Efforts: NYNEX, Cabletron, Continental Cablevision, Apple Computer, IBM, MCI, Center for Resource Management, & DESKTEK.

Attachments:

Souhegan H.S. Information, description of technology in the curriculum (up & running) and contacts. Letters to Roberts & Gore attached. Roberts visited in November.

Manchester School District - Challenge Grant Project. One page description -- contact provided.

State Networking Activities --- as a state, N.H. is not as organized as other states.

Betty Twomey is the Chief - very pro technology and GOALS 2000 / School Reform. Governor is opposed - refused GOALS funding.

N.H. Electronic Networking Project - 2 pages - Small networking project funded by the Dept.

Let me know what else you need. Roberts

Souhegan High School Technology Proposal 1996-97

PROGRAMS

Souhegan High School is widely respected for the integration of technology instruction into all areas of a student's educational experience. Beginning with ninth grade, all students work with word processing, spreadsheets, databases, telecommunications, multimedia, and video production. Some significant uses of technology at Souhegan High School include:

General

- Schoolwide access to network for internal e-mail, sharing of resources, printing, information storage
- Required expectation that all major assignments be word processed using appropriate formatting
- Extensive integration in appropriate disciplines of word processing, database, spreadsheet, desktop publishing, and presentation software use
- 9th and 10th grade Integrated Studies program employing options in multimedia, video production, internet usage, technology education, and computer applications
- Student and staff internal communications via e-mail
- Student and staff access to internet via e-mail school-wide, online interactive access at one station
- Computerized grade books, attendance, handouts, e-mail for assignments
- Computerized grade reporting, progress reports, scheduling
- Online access for staff to student information
- Computer Search software for College and Career Planning
- Online computerized college application process
- School store use of student created computerized inventory and cash register software
- Teacher professional support via e-mail for exchange of information, ideas, and curriculum around the world with other educators and experts

Humanities

- Online and e-mail for research of projects and teaming of students with students from other schools to exchange information about local social and economic issues
- Facilitation of writing skills through extensive word processing in all courses
- Simulation software for major units on Immigration and the New World
- Research of topics via CD-ROM and internet online searches
- Database creation and query for units on world countries, US states, cultural diversity, population, and economics
- Extensive use of computerized maps and atlases for world geography units
- Internet e-mail and list serve access for exchange of ideas, student pen pals
- Computer enhanced imaging and demonstration in Photography/Art class
- Use of scanning and multimedia presentations for class exhibitions
- Computerized music composition and recording using MIDI keyboard and Macintosh computer in Computer Music elective

Souhegan High School Technology Proposal 1996-97

Math, Science, and
Technology

- Conservation Biology ozone monitoring project using UNG land satellite photos downloaded and Geographical Information Systems data analysis for interpreting ecological systems
- Nature Senior Seminar extensive e-mail via University of Minnesota tracking migrations daily and sharing data worldwide; scientists in the field at sites throughout US exchange ideas and answer questions of students via e-mail; data gathered and monitored for Monarch Watch and sent to entomologists who find our tagged butterflies in Mexico to track migrations
- Presentation software, multimedia tools, and HyperCard used extensively for exhibitions in all units, notably Cell unit in 10th grade, 9th grade Math projects, Senior Seminars, Senior Projects
- Database and Spreadsheet use for analyzing data and charting experiments in all science classes, including habitat mapping of specie populations, chemistry and physics experiments in motion, heat, forces, electricity, magnetism, etc.
- Technology and Computer Science electives in Technology Education, Video Production, Multimedia Production, Communications Technology, CAD/CAM, Robotics, Computer Programming, AP Computer Science, Systems Management, Desktop Publishing and Advertising
- Extensive use of calculators and computer graphing software in all courses
- Use of specialized software for Math units in probability, pre-calculus, and calculus throughout the year
- Experiments and discovery of concepts in geometry through use of the Geometric Supposer computer software
- Systems modeling software to describe relations over time among multiple factors

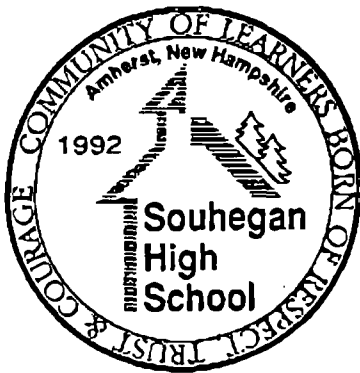
Math, Science and Technology

- Math skill improvement and remediation software used on as-needed basis for individuals and small groups
- Biotechnology experiments on spooling chromosomal DNA to obtain genetic thread of DNA, electrophoresis project using high tech gels to check DNA samples to match "crime scene" samples
- Bio Swat team to Mexico to assist government biodiversity project plotting deforestation, forest comparisons, and species diversity index with data sent back to SHS for student comparison work simultaneously; work to be published
- Biology projects on biomes exchanging information and identification indices with students around the country via e-mail
- Simulation software for frog dissection and cell reproduction in 10th grade
- Videomicroscopy used to determine interaction between two species
- Computer interface with probes to monitor, collect, and analyze experimental data in physics and chemistry
- Interactive Physics simulation for gravity, acceleration, motion, force experiments, many of which are not possible in school without simulation software
- World and local ecological hypothesis testing using simulation software (SimEarth, SimLife, EarthQuest) to answer "what if" questions and hypotheses, and determine effects of natural disasters, pollution, populations, etc.
- Special Computer Projects course with students' investigation of real world problems and/or working with teachers to develop specialized educational applications
- National and Regional award winning Computer Science Team

Souhegan High School Technology Proposal 1996-97

Information Center

- A significant range of cost-effective resources afford both students and teachers access to a wide range of information relative to the many and diverse curriculum initiatives occurring at SHS
- All students have access to media production equipment, including 35mm cameras, videocameras, video still cameras, tape recorders, for the purpose of communicating learning
- All 9th grade students instructed in video production and editing
- Online public access catalog accessible throughout school
- All students instructed in Boolean search techniques and the use of information technologies for research
- In-house production of video programs
- Ability to broadcast live in-house to virtually every area of school
- Use of video technologies to improve teacher effectiveness
- Use of video technologies to improve athletic performance
- Satellite downlink provides availability of wide range of programming
- Coaxial distribution of videotape programming provides cost-effective access to all classrooms



Souhegan High School
P. O. Box 1152
412 Boston Post Road
Amherst, New Hampshire 03031
Phone: (603) 673-9940
Fax: (603) 673-0318

Dr. Robert A. Mackin
Principal

November 22, 1995

Linda Roberts
U.S. Department of Education
600 Independence Ave, SW
Washington, DC 20202

Dear Linda,

I am looking forward to meeting you on November 30th. I will be attending your presentation at the Christa McAuliffe conference in Nashua and will hook up with you then. In anticipation of your visit to Souhegan, I am forwarding a copy of our 1996-97 Technology Proposal. This document initially presents a summary history, primarily financial (this was prepared for our School Board), of the development of technology within the initial development of the high school, followed by a series of bulleted snapshots of how technology is currently being used. The next section of the Proposal identifies current technology needs with rationale. A Financial Perspective is presented at the end of the Proposal.

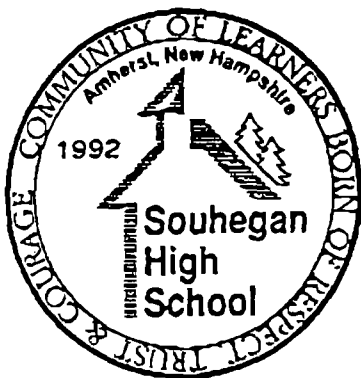
For information purposes, I am also enclosing a copy of a letter we recently sent to Vice President Gore.

See you soon!

Sincerely,

Kim Carter
Director of Information Services
& Technology

enc.



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Dr. Robert A. Mackin
Principal

October 27, 1995

Dear Vice President Gore,

Rick Katzenberg, a member of the Souhegan School Board, suggested we take this opportunity to share with you an excerpt from our recent Technology Proposal. This particular section highlights some of the diverse programs and applications of technology within the Souhegan High School, a public 9 - 12 secondary school.

We are very proud of the way our school community has embraced technology as a means of preparing for the 21st century. Both students and staff are active consumers and producers of information and knowledge. We would welcome the opportunity to share some of this excitement with you and invite you to visit Souhegan High School on one of your future visits to New Hampshire.

Sincerely,

Dr. Robert Mackin
Principal

Kim Carter
Director, Information Services
and Technology

enc.

cc: Linda Roberts

Manchester School District

Manchester, New Hampshire

The Manchester Challenge

The Manchester Challenge is a large-scale education reform effort that is integrating instructional technologies into the curricula of elementary, middle, and high schools in the greater Manchester, New Hampshire area. The project is being implemented in collaboration with the Manchester municipal government, nearby school districts, colleges, businesses, industries and technology vendors. Project technologies include instructional television, satellite broadcasts, multimedia telecomputing, and administrative applications. The program addresses recommendations of the Goals 2000 Act, and has strong school-community and school-work components. Over 28,000 students benefit from project activities.

The program is designed to provide all students equitable access to information technology, facilities and training. All participating educators are provided the equipment, training, time and on-going support to enable them to use information technology effectively. All schools throughout the district are being interconnected with a state-of-the-art network for voice, video, and data. Educators and students enhance the learning process with two-way video and audio distance learning classrooms, workstations in all classrooms, instructional television via cable, video production/reception via building institutional loops connected to media centers, multimedia workstations, high speed telecomputing, and a variety of other learning technologies. There are four major program elements:

1) Professional Development

The first year of professional development activities is directed at the high school level, and the remaining years are directed at both middle and elementary school levels. The program offers teachers a series of sequential professional development programs leading to the successful operation of multi-media workstations for classroom instruction. Teachers form learning teams in which more proficient teachers provide instruction and support for the less experienced. Training activities include instruction in the use of the Internet, the World Wide Web, and other technologies.

2) Curriculum Development

University faculty and education consultants assist Manchester teachers with curriculum development. Teams of teachers work independently to carry out curriculum development needed for interdisciplinary, thematic student projects. Teams are developed around common planning time and common student course enrollments. Curriculum units and projects are shared among teacher teams in all participating schools.

3) Technology Implementation

Utilizing the Manchester Challenge telecommunication network, students at all project schools may participate in distance learning classes that would not otherwise be offered due to low enrollment. Each distance learning classroom is equipped with multiple cameras, video displays, and a teacher control station. These classes are augmented by data networks through which faculty and students can share text materials and access relevant databases.

4) Partnership Activities

Consortium members contribute to the Manchester Challenge in a number of ways. The Manchester School District and the municipal government have made a strong commitment to the purchase of new hardware and software. All the other project partners contribute funding and/or in-kind services.

Goals of the project include better teaching, increased learning, organizational efficiency, enhanced communications, improved accountability, and reporting, improved community development, support for life-long learning, access to learning programs by citizens, sustained partnerships between educational and business

organizations, the exchange of information with other educational organizations, shared resources with business and public institutions, and an improved economic viability for the community.

Consortium Partners

Audubon Society of New Hampshire
Bedford School District
Cabletron
Central Paper Products
CHAMPS-Parent Group
Coca Cola
Community Improvement Program
Computer Learning Center
Continental Cablevision
Cyber-Space
Goffstown School District
Gossler Park Parent Teacher Group
Granite State Credit Union
Hallsville Parent Teacher Group
Lavalley/Brensinger Professional Associates
Manchester Chamber of Commerce
Manchester School of Technology
McLanc, Graf, Raulerson & Middleton
Memorial High Booster Club
Morgan Press
Multimedia Systems Inc.
New Hampshire College
New Hampshire Department of Education
New Hampshire Public Television
Northwest Parent Teacher Group
Notre Dame College
NYNEX
Optima Health, Inc.
Parkey-Varney Parent Teacher Group
Public Service of New Hampshire
Queen City Sound
State Department of Education
Tech PC
Telephone Network Technologies
Town of Bedford
U.S. Army
U.S. First
University of New Hampshire

Project Director: Terry Bullard

Information Technology Coordinator
Manchester School District
196 Bridge Street
Manchester, NH 03104

Telephone: (603) 624-6300

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THE INTERNET & WORLD WIDE WEB . . .

are gateways to vast networks of knowledge, resources, learning experiences, and forums for sharing ideas. The possibilities for K-12 education are enormous, and growing every day. There are already more than 50,000 "sites" on the Internet that relate to education, including scores of schools and classrooms.

Yet many educators have not had the opportunity to explore the "Information Superhighway," and discover how it can enrich teaching, professional development, and communication.

The Electronic Learning Network helps educators and their community stakeholders learn about the Internet and access its resources. We offer "guided tours," training, information and materials, linkages to other users and service providers, and technology planning assistance. We can help districts explore important educational issues related to making the Internet accessible to students.

We also help schools and districts establish local and regional partnerships to leverage resources.

By working with existing regional and statewide networks, ELN helps expand and support other initiatives that enrich teaching and learning.



ELECTRONIC LEARNING NETWORK SERVICES

ELN services are designed to help schools access and use the unprecedented technology and resources of the Internet. ELN services are available to all New Hampshire schools and districts, education associations, and networks. We work in collaboration with these groups to build telecommunications capacity and partnerships, and to bring new teaching and learning resources to New Hampshire schools and classrooms. Many services are free; fees are charged for others.

INFORMATION SERVICES AND RESOURCES

We'll try to answer your questions, find good resources, connect you with others, and keep you up-to-date on what's happening in telecommunications and Internet use here in New Hampshire and around the U.S.

We publish resource guides and fact sheets on many topics related to the Internet, including access options, a "sampler" of K-12 sites and resources on the World Wide Web, instructional shareware and freeware, sample home pages, etc.

You don't need to be connected to the Internet to receive information and resources – an ELN Information Specialist will talk with you! We connect to the major databases and clearinghouses through the Internet, so we can also respond to your education questions.

INTERNET TRAINING

We can design a training program that is tailored to your needs and interests. The training can be hands-on at your school, and can cover topics including:

- *Getting Connected to the Internet*
- *Surfing, Browsing, and Using Internet Search Engines*
- *How to Develop Your Own Home Page*
- *Teaching Kids About the Internet*
- *Professional Development via the Internet: Resources, Forums, and Networks*

"GUIDED TOURS" OF THE INTERNET

Attend a regional training session or organize one in your school. Invite parents and students, too! We'll set up a guided tour of interesting sites, and add whatever technical information you need.

LINQ SERVICE

ELN is partnering with Scantron Quality Computers, Inc., developers of the LINQ service for schools. LINQ gives schools "virtual Internet" access to sites and resources you select. The service allows schools to control what students can access, and keeps connection costs low because a dedicated hard drive or computer in the school operates the LINQ software. ELN staff can provide NH schools with LINQ information, materials, and demo disks, and can help schools form purchasing consortia to gain volume discounts.

TECHNOLOGY PLANNING ASSISTANCE

We can provide you with sample technology plans as well as specific options related to your school or district objectives. We can help you explore how telecommunications capacity can strengthen your educational and professional development programs. We can also help you explore innovative ways to locate equipment, establish partnerships, generate income, operate community bulletin boards and newsgroups, host web sites, and develop local capacity. We can link you with successful programs and partnerships.

SCHOOLHOUSE ON-RAMP SERVICE

Through a partnership with The Destek Group, a statewide discount program offers schools direct access to the Internet over high-speed frame relay circuits. The "On-Ramp" service is a leased 56kb line that can be connected to either a LAN, WAN, or stand-alone computer. The "On-Ramp" service is available to every school, district, SAU, or other K-12 educational program in the state, including remote areas, for \$200-\$300/month.

DEMONSTRATION SITES

ELN Demonstration Sites will be developed through partnerships with school districts, businesses, Internet providers, and others.

These sites will receive extensive on-site assistance to develop local Internet capacity aimed at improving teaching, learning, and student achievement.

LET US HEAR FROM YOU. . .

Call us with your ideas, questions, and needs - we're eager to involve you in our planning.

Visit us on the **World Wide Web** at <http://www.crminc.com/elc.htm> where you can browse through resource listings, download items, link to other sites, and send us e-mail.



ELECTRONIC LEARNING NETWORK . . .

is operated by the Center for Resource Management, Inc. (CRM) through a grant from the U.S. Department of Education, Office of Educational Research and Innovation, under the Secretary's Fund for Innovation in Education, Teacher Networking Programs (Grant # R215C40293).

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THE NEW HAMPSHIRE ELECTRONIC LEARNING NETWORK

Helping educators,
students, and
communities
access learning
resources
and make
connections
on the
Internet



CRM CENTER FOR
RESOURCE
MANAGEMENT

State Networking Project



Additional Comments: -
(F. Roberts).

Summary by State: New

Hampshire

1. Goals 2000 planning committee

NH has not yet submitted a Goals 2000 application. We are in planning stage, and I am on a team which made recommendations for the Technology Planning component of the application. Telecommunications representative has not yet been identified.

Governor has refused GOALS 2000 funding. Teachers in state are furious. Chief State School Officer tried to move the Governor but could not. Chief is Betty Twomey.

2. Number of school districts in the state

176

3. Number of school buildings in the state

about 450

4. Number of K-12 teachers

11,200 full-time public

11,971 FTE public

5. Number of K-12 students

185,360 public

18,651 private

6. Number of students in district with largest student population

15,336 (fall enrollment)

7. Number of students in district with smallest student population

20 (fall enrollment)

8. Number of districts with fewer than 1000 students

100

9. Current status of state's computer networking efforts

Our plan does not include construction of a k12 network. We want to assist schools in connecting to Internet.

10. Information services provided by state network

11. State Gopher server or Mosaic home page

None

12. K-12 Gopher servers or Mosaic home pages

K-12+ Servers in New Hampshire

13. Community, or freenet, telecommunications efforts; collaboration with state departments of education

None

14. Programs established by major telecommunications provider to encourage infrastructure building within the state

None

15. Special telecommunication tariffs established for education by state PUC/PSC

None

16. Long-range planning for telecommunications incorporated into state K-12 education plans

Our k-12 plan is under development.

17. Long-range planning for telecommunications incorporated into state at large

None that I am aware of. PUC may have some sort of plan.

18. Intermediate educational units (e.g., regional education service centers, BOCES, etc.) assisting with training for telecommunications implementation

Intermediate structure consists of 67 School Administrative Units that are funded by the districts.

19. Funding sources available for computer networking efforts

Local districts: nearly 100%

State:\$80000 grant.

20. Person responsible for K-12 networking in state department of education**21. Major network service providers for K-12 education**

None

22. Major Internet service providers for K-12 education

Nearnet

23. Potential barriers to state's telecommunications networking efforts

Rated 1 (is a problem) to 5 (is not a problem):

f. Infusion into Goals 2000 and Educational Development

5

g. Developing Private Sector and Community Partners

4

h. Educational Systems and Policy Barriers

4

i. Other

24. Networking issues or obstacles related to regional location

25. Networking issues or obstacles related to population distribution

26. Other concerns about telecommunications

For further information, contact:

Contact Person: Sallie Fellows

Organization Name: NH State Department of Education

Mailing Address: 101 Pleasant St., Concord NH 03301

E-mail Address: sallie@ed.state.nh.us

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Fax Number: 603-271-1953

Return to State Networking Project