

Revision: 2013-2016

RSU73 Three Year Technology Plan

Acknowledgements

The Technology Committee of the RSU73 wishes to express its gratitude to the staff, students, parents, and School Board members for their assistance in crafting this plan.

Participants

The Technology Committee is a school-wide ad-hoc committee that meets once a periodically. It oversees district-wide technology and promotes the practical and ethical use of technology within the School Department.

Table of Contents

1. [Technology Plan](#)
2. [Acknowledgements](#)
3. [Table of Contents](#)
4. [Executive Summary](#)
5. [Community and Parental Involvement](#)
6. [Use technology effectively to promote community and parental involvement](#)
7. [Increase communication with parents](#)
8. [Inform parents about the technology and its proper use](#)
9. [Vision](#)
10. [Goals](#)
11. [I: Improve Access to computers for all members of the educational community](#)
12. [II: Optimize computer and communications networks](#)
13. [Infrastructure](#)
14. [Services](#)

15. [Support](#)
16. [Summary of network goals](#)
17. [III: Maintain a sustainable funding plan](#)
18. [IV: Establish a sustainable support/maintenance plan](#)
19. [V: Curriculum Integration](#)
20. [VI: Distance Learning](#)
21. [VII: Coordination/Assessment](#)
22. [VII: Staff Development](#)
23. [Identify Necessary Technology](#)
24. **[Benchmarks](#)**
 25. [By Grade level:](#)
26. **[Standard](#)**
 27. [Collaboration with Adult Literacy Service Providers](#)
 28. [Strategies for Improving Academic Achievement and Teacher Effectiveness](#)
 29. [Integration of Technology with Curricula, Instruction, and Assessment](#)
 30. [Technology Type and Costs, and Coordination with Funding Resources](#)
31. **[Technology Type, Cost, and Funding Source](#)**
 32. [Per year costs](#)
 33. [Funding Source](#)
 34. [Goals](#)
 35. [Activities](#)
 36. [Hardware & Software](#)
 37. [Supporting Resources](#)
 38. [Steps to Increase Accessibility](#)
39. **[Promotion of Various Curricula and Teaching Strategies that Integrate Technology](#)**
 40. [Professional Development](#)
 41. [Innovative Delivery Strategies](#)
42. **[Accountability Measures](#)**

43. [Evaluation](#)
44. [Key Areas of Self-Assessment](#)
45. [Teaching and Learning](#)
46. [Educator Preparation and Development](#)
47. [Administration and Support Services](#)
48. [Infrastructure for Technology](#)

Contact Information

Tech Dept: Craig Suttie, Tech Director 207-491-1736; Randy Easter, Tech Coordinator 207-897-6722

Executive Summary

The RSU73 Technology Committee has revised this technology plan in January 2013 to bring systemic coordination to the initiatives involving technology use for Spruce Mountain Middle School, Livermore Elementary School, Jay Elementary School, Jay High School or Spruce Mt. High School while remaining focused on our primary objective of supporting learning in this community. The plan continues our work in seven goal areas we see as critical to achieving that objective. These areas include access to technology, network optimization (performance,) funding,safety, maintaining current resources, curriculum integration, evaluating technology activities, and staff development. The action steps in this revised plan are the result of significant self assessment, combined with broad discussion about future needs related to one-one and wireless computing, curriculum review, special needs, etc. In using

planning and evaluation as an ongoing, deliberate process for addressing our goals, we feel certain we will have the capacity to assess and ensure learning impacts for all students.

Community and Parental Involvement

- Meeting agendas and minutes will be posted to the district Web site and distributed via e-mail.
- RSU73 students will have substantive input on technology decisions through surveys, focus groups, interviews and invitation to Technology Committee meetings.
- Public Technology Training Nights will exist one time per quarter

Use technology effectively to promote parental and community involvement

- The district Website will continue as a robust source of school information.
- Distance Education facilities and technology will be staffed, supported, and made available.
- Media technology will be used to enhance the quality and effectiveness of publicly attended events.

Increase communication with parents

- The student handbook and computer acceptable use form will be available on-line.
- An e-mail notification service for each school will be made available and updated to meet changing communication advancements.
- A web based student information system (SIS) for each school will be kept current, give access

to parents and students, and have daily bulletins of school information posted

Inform parents about technology and its proper use

- Articles on technology use will be made available on the district and school Web sites.
- An Acceptable Use Policy for parents will be included in the handbook.
- Public events will feature the Maine Learning Technology Initiative.

Vision

Computer-based technology is an essential component of an educational program that prepares individuals for becoming responsible citizens in a modern, mobile, information-based world. This resource needs to support engaged learning and be seamlessly integrated into all areas of inquiry and made equitably available to all citizens of our learning community. When this occurs...

- Students actively help *adults and each other* to use technology.
- Students *use* technology easily for school tasks and activities.
- Students *create, archive and present* works in a variety of electronic media.
- Students take *specific courses* in advanced technologies being offered by RSU73 and elsewhere.
- Students have *extended learning experiences* using advanced technologies including distance learning.
- Students with special needs receive *coordinated assisted technology services*.
- Examples of *high quality student work, aligned with the district technology curriculum* are

visible and accessible in a variety of electronic media.

- Teachers actively *support* and *enhance curriculum* and *instruction* using multiple technologies.
- Staff members *communicate* with each other and with outside information sources using multiple technologies including, but not limited to, video projectors, interactive whiteboards, and other forms of digital media.
- Staff members *actively seek opportunities to enhance their skills and knowledge* using a variety of technologies, including distance learning and courses offered by the School Department Staff Development Committee.
- Parents and community members *are aware of, and support* the use of technology in the schools.
- Administrators *use* a variety of technologies to support their leadership and management tasks.
- Administrators *advocate, plan for and provide* educational technologies.
- Administrators *know* what their staff members are supposed to be doing with computer technology, and *hold them formally accountable*.

Goals

I: Improve access to computers for all members of the educational community

In addition to the Maine Learning Technology Initiative for grades 7-12, the RSU73 School District currently supports technology for students in grades 4,5,6, with at least one adequate computer for every instructional space, lab access in every school for support, training and testing, and a variety of “clusters” of older equipment in classrooms. Each teacher and educational technician has a laptop, and all buildings have wireless coverage. The total number of client units is approximately 1000. The goal

for this plan is to maintain an appropriate level of access consistent with a final objective of ubiquitous on-demand access.

Costs: Local/Maine Learning Technology Initiative

II: Optimize Ethernet Internet Protocol and private telephone network

RSU73 has a switched, Ethernet Internet Protocol network (CSMA/CD) where a 1GB and 10Gb fiber backbone connects all school buildings on campus. Virtual local area network technology is utilized for speed and security between nodes. Virtual Private Network technology is used to facilitate connectivity with the Bus Garage. Security cameras, biometric time clocks, copiers, laser printers, servers, and workstations are all nodes that utilize the network. Access to the Internet is provided by the Maine School and Library Network. Each school has a Private Branch Exchange telephone system (some VOIP) that routes telephone calls within the school and to the publicly switched telephone networks.

At the high school nearly all megabit and gigabit capable patch panels, switches, and Wireless Access Points have been replaced with gigabit capable hardware. Uninterruptible power supply has been improved in the high school. At the middle school all megabit capable Wireless Access Points have been replaced with gigabit capable devices but still have some megabit switches and patch panels that

need replacement. The elementary and middle school networks have gigabit hardware. The copiers and printers have been standardized and are monitored for service. All school locations on campus will achieve a telephone system replacement.

III: Maintain a sustainable funding plan

- Educational technology will have an operating budget at or near the national average
- Grant writing will continue to be a supplemental component of funding activity.
- E-Rate discounts will be an annual component of technology budgeting.

Costs: Local (technology staff)

IV: Establish a sustainable support/maintenance plan

Ongoing service, maintenance and user support for technology will be provided in the School Department *Technology Budget*, as a component of the percentage above. Integration and application support will be a regular part of the *instructional* budget. Service benchmarks^[2] will be used to establish a continual improvement model, with regular meetings to analyze performance data, and make adjustments.

Costs: Local

V: Curriculum Integration

- Technology will be used in the implementation of learning standards and Common Core to facilitate the complex logistics of the change process, new data recording, etc.
- Technology will be used to increase students' knowledge and skills in the content areas, in particular literacy, numeracy and technology.
- Student technology proficiencies will be identified and incorporated into the district curriculum matrix.

Costs: Local

VI: Distance Learning

- Regional Learning Network (school-school)
- Distance Learning (Institutional/ commercial providers)
- International teleconferencing/video conferencing partners (school-school)
- Staff development
- Virtual School
- Virtual Field Trips (institutional and commercial providers)
- Virtual Field Trips (self designed remote learning)
- Virtual Field Trips (International/cultural)
- Virtual Field trips (dangerous occupations/environments)
- Foreign Language (contracted tutors in other countries, currently a growing phenomenon on Skype)

-
- Costs:

VII: Coordination/Assessment

- The Technology Committee and I.T. Director will maintain a *continual improvement planning model*, and report annually to the School Board on the progress of this plan.
- A technology self-assessment tool will be developed and employed.[\[3\]](#)
- An annual revision of the Technology Plan will be conducted.

Costs: Local

VII: Staff Development

- Quality staff development opportunities for educational professionals on the instructional and administrative applications of technology will be provided enabling staff to move beyond basic competencies toward integration
- In-service offerings will be coordinated with identified student proficiencies and curricular needs

Costs: Local

Identify Necessary Technology

After a formal needs assessment and technology audit, it was determined that the following *capabilities* at the following *service levels* would be needed to bring reality to the vision as expressed by

stakeholders:

Benchmarks

- Any student or staff person who requires help using approved information tools can expect to receive it during the same class period or work session.
- All staff members and students can print documents reliably 99% of the time.
- One-to-one computing for all students grades 6-12 with the capability to use an Internet browser and an approved suite of computer tools.
- All staff have functioning, easy to use, accessible voice and e-mail.
- All staff have immediate access to a voice phone, and a reasonable expectation of making calls beyond the building.
- All staff have immediate access to pertinent student data.
- All classrooms have access to Projection/presentation capabilities.
- All staff and students have access to multimedia/video editing capabilities.
- All staff have access to and training on publishing content to the school Web site.

By Grade level:

All students in grades 7-12 have immediate access to a personal computing device with internet connectivity.

Standard

District-wide Information Technology Services that are approved and expected to function, do so at least 99% of the time.

Collaboration with Adult Literacy Service Providers

Up-to-date technology facilities will continue to be made available for community and adult literacy service providers.

Strategies for Improving Academic Achievement and Teacher Effectiveness

The primary evaluation target for the technology program is *improved academic achievement*, as measured by the NWEA, NECAP, S.A.T., course completion rates, etc. Technology Literacy will be established through ISTE/NETS standards. In addition to direct measurement of student learning, staff members will be surveyed on technology knowledge and competency. Staff requests will also be analyzed for *type* (I.E. basic vs. advanced) to assess staff capacity. Funds will be used to support equitable access (shared equipment and supplies as requested through the Technology Committee) improved staff knowledge and competency (training/conferences/seminars) and will be matched with local support.

Integration of Technology with Curricula, Instruction, and Assessment

During the next three years, *literacy, numeracy and technology* will be a particular focus of curriculum integration planning. Goals will be tied to student performance, and specific technologies will be evaluated and implemented to improve curriculum, instruction, and assessment. Staff and students will be involved in piloting, selecting and deploying these new capabilities. Key leaders will be: Technology Coordinator/Technology Director, integrators, classroom teachers and building principals.

Technology Type and Costs, and Coordination with Funding Resources

Develop a step-by-step action plan, with time line, that includes goals, activities, required hardware and software, costs, and funding sources. Describe the type and costs of technology to be acquired and how it fits within the current structure (use the list developed in the technology assessment in # 4, above.). Designate sources of funding, specifically Ed Tech funds, E-Rate funds, and funds from other Federal programs, and state and local sources that support technology acquisition and integration.

**Techn
ology
Type,
Cost,
and
Fundi
ng
Sourc**

e

Goals	Activities	Hardware & Software	Per year costs	Funding Source
	As stated in....			
Improve Access	(Goal 1 above)	Replace/add new equipment to achieve improved access for grades 7-12, and adequate computers for K-6)		
Improve Local Area Networks	(Goal 2 above)	Replace/add new cabling, wireless network components, switching, etc. Improve LAN management, training, documentation	\$40,00 (local) 0	Local, E-Rate

Sustainable support, maintenance	(Staffing, \$150,000 per year) (Goal 4 above)	\$150,000 0	Local
----------------------------------	--	----------------	-------

Curriculum Integration, Assessment	S.I.S. upgrade, standards database, Northwest Evaluation Association, (Goal 5 above)	\$24,000 0	Local
------------------------------------	---	---------------	-------

Distance Education	Video Conferencing, Virtual High School, PLATO (Goal 6, above)	9,000	Local
--------------------	---	-------	-------

Staff Development	Goal 7, above Conferences, workshops, on-site training, on-line training	\$8,000	Local
-------------------	--	---------	-------

Improve
Access

E-rate items needed:

P.O.T.S.

Improve
Local
Area
Networks

(Goal 1,
above)

Long Distance Service

\$50,00

Cell Phone Service

0

E-rate, Local

Improve
Internet
Access
via

Internet connection
maintenance

Internet equipment
maintenance

Internet Server
maintenance

Local
Area
Networks

(Goal 1,
above)

\$40,00

Firewall services

0

E-rate, Local

Supporting Resources

Describe the supporting resources such as services, software, other electronically delivered learning materials, and print resources that will be acquired to ensure successful and effective uses of technology.

RSU73 will continue to deploy a number of supporting resources to ensure successful and effective uses of technology: Consultants will be employed, both for integration and for systems design and planning. A variety of software tools will be used, including new network management tools, web development tools, database and information systems, etc. Electronically delivered learning materials (in addition to the great number already in place) will be researched and evaluated, in the content areas, and through Maine Learning Technology Initiative. Print resources will be provided as needed through general distribution and by academic department.

Steps to Increase Accessibility

Describe the steps being taken to ensure that all students and teachers have increased access to technology. The description must include how Ed Tech funds, if applicable, will be used to help students in high-poverty and high-needs schools, or in schools identified for improvement or corrective action under Section 1116 of Title I; and how the steps taken will ensure that teachers are prepared to integrate technology effectively into curricula and instruction.

The district currently maintains better than a “2 students to one computer” ratio of devices. This includes some older equipment at the elementary school (IMAC/EMACS in good shape.) It also includes Ibooks -5 year old equipment, supplemented by additional RAM Grades 7 and 8 and 9-12 are at

one-one through the Maine Learning Technology Initiative. RSU73 has only one school per grade level and therefore equity from one school to another is achieved. Within schools, equity lies in the fairness of scheduling for shared equipment (lab space and laptops on carts.) Laptop access improved dramatically at grades 9-12, new purchases of many units to obtain a 1:1 ratio. This three year plan also includes the establishment of a “fair standard” for access to technologically enhanced classrooms, with electronic white boards, mounted projectors, subject-based technology, etc. Accessibility for all students achieved. The *special needs advocate* (a required member the federal programs advisory board) will help to ensure access is maintained and enhanced for special needs students. A specific vision point is regular evaluation of each IEP student for assisted technology needs.

Promotion of Various Curricula and Teaching Strategies that Integrate Technology

Describe how various curricula and teaching strategies that integrate technology effectively into the general curriculum and instruction will be identified based on a review of relevant research, and promoted to lead to improvements in student academic achievement:

In this three year plan, *Literacy, Numeracy, and Technology* will be emphasized for *technology integration*. This is in addition to ongoing efforts at many subjects and grade levels. Research, training, and further learning experiences will be used to plan and implement *new instructional practices*. These will include new standards-based curriculum, *new laptop based instruction* and new on-line and computer based resources. New instructional methods and best practices will be a formal part of the three year review process.

In addition to the literacy focus, there will be a continuing implementation of the *Common Core*, with

the *standards-based system* requiring technology and training to implement. The next three years will see a *significant training program and new tools* for standards-based (learning focused) system of education coupled with an improved Student Information System.

Professional Development

The professional development committee at RSU73 will share a portion of its membership with the Technology Committee and this shared membership will ensure coordination among planners, administrators' priorities, state and federally mandated enhancements, ongoing evaluations, etc. RSU73 will continue to expend significant resources on technology staff development, in every category, from required training for new tools, to conferences and coursework as requested by staff, to large group training sessions identified by a formal staff survey. Maine Learning Technology Initiative training will continue to support 7-12 staff. Online training is available 24-7.

Innovative Delivery Strategies

The RSU73 school district will continue to expand options in distance learning, through teleconferencing, web based courses, (both advanced secondary and college level,) remote services such as Northwest Evaluation Association, PLATO, ALEKS, etc., and enhanced classroom capabilities (tablet PC, electronic white boards, networked calculators, etc.)

Accountability Measures

Evaluation

The evaluation of technology at RSU73 rests on student performance, service delivery, user SAT Reasoning Test satisfaction, data, and learning goal achievement. NWE and/SAT Reasoning Test scores and a variety of other instruments will be compiled and reported in aggregate for the use of constituents, including students and the public. A major goal is to make (non-identifiable) performance data in the content areas as accessible and relevant as sports scores. This will include new archiving methods and new technology. In addition to these steps, an annual technology self-assessment will occur, based on ISTE standards.^[4] Like all departments at RSU73, the technology program will be evaluated in a continual improvement model, with meetings and planning sessions to analyze the data and make adjustments.

Categories for the annual report on the success of the technology plan include:

1. Are there desirable learning outcomes?
2. Are we delivering the services?
3. Are people SAT Reasoning Test satisfied with the services?
4. Are the services cost effective?

Data sets include:

1. **NECAP, NWEA**

2. Student, staff, and parent surveys
3. Technology staff's maintenance logs
4. Web usage logs
5. Focus groups, interviews, and anecdotal records

ISTE Standards self-evaluation:

Self assessment chart summary:

**Key
Areas
of Jay
Self-ass
essment
ISTE**

**Teaching
and
Learning**

(A)

(B)

(C)

(D)

(E)

	Patterns of	Design of	Curriculum	Patterns of
	Teacher	Instructional	Areas	Student
Impact of	Use	Setting		Use
Technology				
on Teacher				
Role				

**Educator
Preparation
and
Development**

(F)

(G)

(H)

(I)

(J)

(K)

Capabilities	Leadership	Models of	Levels of	Universities
--------------	------------	-----------	-----------	--------------

Content of	s of	and	Professional	Understanding	al
Training	Educators	Capabilities	Development	ing	Access:
		of Building	nt		
		Principals			Integrat
		and District			on of
		Administrat			Univers
		rs			al
					Design
					And
					Assistec
					Technol
					ogy

**Administr
ation and
Support
Services**

(L)	(M)	(N)	(O)	(P)
Vision and	Technical	Curriculum	Budget	Budget
Planning	Support	Integration	Levels	Allocated
	(hardware,	Staffing		for
	operating			Technolog

system,
network)

y (Total
Cost of
Ownership
p)

**Infrastru
cture for
Technolo
gy**

(Q)	(R)	(S)	(T)	(U)	(V)	(W)
Universal Design: Physical Access/Soft ware & Hardware Compatibilit	Students Per Instruction Computer	Internet Access Connectivity /Speed	E-Learni ng Environr ents	Local Area Network/ WAN	Other Technol ogies	Security

The Technology Committee will maintain a continuing systemic view of technology and report annually to the School Board on the progress of this plan.

Solmon,1998: on-line at <http://www.mff.org/pubs/ME110.pdf> page 24.

See section 4 above: *Identify Necessary Technology*