Maine School Administrative District #61

Technology Plan for July 2005 to June 2008

Contact Information

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MSAD 61 Technology Plan

1. Community and Parental Involvement

Planners

Name	Role	School(s)	Town
Laura G Mozie	K-6 Tech Integrator	SES, Stevens Brook	Sebago, Bridgton
Gwen Christman	K-6 Tech Integrator	CRES, SLS	Casco, Naples
Michael Arsenault	7/8 Tech Integrator	Lake Region Middle School	All
Josh Sturk	9-12 Tech Integrator	Lake Region High School	All
Joe McMahon	Parent	LRHS	Sebago
Ed Cooper	Parent	LRMS, LRHS	Sebago
Jerry Holt	District Tech Coord.	All	All
Frank Gorham	Superintendent	All	All
Bruce Hancock	Community	All	Bridgton
Andy Madura	Transportation, Food Services	All	All
Georgie Forney	K Teacher	Stevens Brook	Bridgton

Technology uses:

Inform students and parents of academic achievement, progress, and responsibilities.

Inform students and parents of behavioral expectations and responsibilities.

Inform the community at large of overall academic needs, achievement and progress toward achievement, including but not limited to Maine Learning Results (MLR), No Child Left Behind Act (NCLB) and Local Common Assessments.

Inform the community at large about district policy and procedure.

Inform the community about bus routes, lunch menu, school calendar, special events, school closings, and special projects.

Inform voters regarding budget process including state funding formula – Essential Programs and Services (EPS) and other state and federal mandates (NCLB).

Inform all stakeholders of the importance of technology literate students.

Prepare students to fully participate in a world where technology literacy is an essential skill.

Prepare students to embrace multiple ways to accomplish tasks.

Prepare students to embrace change and be life-long learners.

Proper Use:

Technology tools are a little different from most other tools we use in school. Except for a few unique situations, most general rules that cover proper use of any tool also cover proper use of technology tools. For example: hacking a computer is the same as breaking into a secure file cabinet. Both are acts of vandalism and a breach of privacy and should be dealt with accordingly.

Unique technology rules are subject to a fast changing environment and need to be regularly monitored and updated. Technology rules that exist for safety reasons should not be so restrictive as to stifle instructional needs and opportunities.

The district will post, discuss, distribute, and disseminate information regarding proper technology use by students, staff and community use of district technology assets. When or if appropriate, parents, students, staff and community members will be required to sign the acceptable use policy.

2. Vision

- Strategy 9 of the District Strategic Plan

To provide technology integration, human resources to each school
To engage professional staff in continuous technology integration instruction
To seek technology integration grants, which support district initiatives
To design a technology integration assessment program

The Strategic Plan is under revision and this vision is expected to be updated.

3. Goals –Aligned with Maine Learning Results

1. Improve Access to Assessment Information

The Maine Learning Results, Local Common Assessments, and the No Child Left Behind Act all require increased accountability and data management. Our Student Information System (SIS) has been updated and we have one integrated system K12. We have an SIS Manager whose role includes the management of the SIS database and the coordination of assessment data for reporting purposes. We are using a web based secure server to store and retrieve data specific to MLR and the Local Common Assessments.

The future will require us to merge these two functions into a single secure web based portal that will:

Provide access to all stakeholders regardless of computer hardware, operating system, or location.
Provide access to secure student records for staff, students, and parents.
Provide access for the community to district and school level reports on student performance.

- Improved assessment supports all the MLR Guiding Principals

2. Improve Student Access to Electronic Library Media Services.

This past year all the elementary library servers were replaced with a single web based server and the software was updated to current standards. All students K-12 now have access to their library via a web based catalog.

Future needs:
Obtain the ability to search all school library catalogs simultaneously.
Create a single portal for students to access all the online tools available to them.

- Access to these services addresses the following MLR Guiding Principals:

A Clear and Effective Communicator
A Self Directed Life Long Learner
A Creative and Practical Problem Solver
An Integrative and Informed Thinker

3. Improve Integration of Technology and Instruction

We have made a clear commitment to integrating technology and instruction by continuing to fund four Technology Integration positions and by creating a technology integration plan. In addition, the Director of Instruction and the Technology Coordinator collaborate on many district initiatives. All high school staff received laptops and training this past year.

Future:
Increase the technology integration efforts at Lake Region High School by reassigning some of the time given to elementary instruction and support.

Increase student access to mobile computing in order to support technology integration with content area instruction in the classroom.

- Integrating technology and instruction supports all the MLR Guiding Principals.

4. Improve Distance Learning Opportunities

We had planned to seek funding for a single point extremely high-speed video conferencing system (ATM) at Lake Region High School. Closer examination of existing school systems with ATM service showed that the inconsistency of statewide high school schedules limited the benefits of ATM.

The Future:

We have chosen put video conferencing equipment in all our schools using existing internet connections. We have used a combination of grant and local money to purchase this equipment, and we are installing it with our own staff.

This plan allows all students and staff to benefit from our investment. Since we control the schedules of all district schools we can better coordinate student and staff schedules Thus making better use of the equipment. Also, this equipment can connect to the state ATM broadcasts giving all district schools access to state wide distance learning opportunities.

The Superintendent's Office conference room does not have video conferencing equipment. This location should also be equipped so that

Teachers and/or students could present an activity to the board curriculum committee without having to travel.
Administrators could meet for informational meetings without leaving their buildings.
Demonstrations or presentations held at the office could be "broadcast" to all schools.
Budget informational meetings could be broadcast to all community schools simultaneously for public viewing and comment.

Video conferencing does not replace the need for face-to-face meetings but can increase the opportunity for informational meetings that otherwise might not take place.

- Distance Learning Opportunities support all the MLR Guiding Principals.

4. Identify Necessary Technology

Assessment of Current Technology:

T1 Access	K-12 all schools	
Computers	K-12	1060 networked computers
	Desktops -	408
	Laptops	592 (415 MLTI)
	Linux	60
OS	Windows ’98, 2000 and XP	
	Mac OS9 and OSX	
	Linux Fedora LTSP v3	
Word Processors	K-12 130 AlphaSmarts	
Servers	K-12	14
	K-8	5 OSX for student and staff file backup
	LRHS	9 – District -SIS, Library, Grades, LTSP, email/web
	Business	1 – win 2000
Printers	K-12	103 Total reduced fr 132
		Most inkjet eliminated
		High volume areas have high-speed networked laser
		Low volume / confidential have local laser printers
Digital Projectors	K-12	60
Digital Cameras	K-12	19
Digital Video Cam	K-12	13
Software	K-12	SIS Software, Gradequick, FirstClass email/web MSOffice, OpenOffice, AppleWorks, misc teacher applications.
	K-12	OpenSource applications for all operating systems
	K-12	Virus protection, email / web traffic scanning
	K-12 Lib	Winnebago Spectrum all schools, online library data bases

K-12 Hosted	Brain Pop, Atomic Learning, Zoomerang , MLR Tracker
LRHS Lab	15 users, Photoshop and C++, Gimp
LRHS/MS	NoteTaker
K- 6	100 user Kidspiration
OS apps	iPhoto, iMovie, Garage Band, Windows Media,

Needed Technology:

K-12	All schools connected via a dedicated WAN	$0-20,000 yr
	SIS software and server and training	$90,000
	Update classroom computers	$ 60,000
	Classroom software ($5000 per school)	$ 30,000
LRHS/LRMS	increased bandwidth to this campus. Current bonded T1s are overworked. Add two additional T1 lines or upgrade to DS3	
9-12	1-1 student computer ratio	900,000
7-8	update 1-1 computing access	500,000
K-6	Increased computer access Mobile Labs or in class pods	$120,000

5. Adult Literacy Services

Adult literacy services are currently supported in this plan by Internet access and email/web services provided to the Bridgton Learning Center. Access to ATM broadcasts can be available when the district obtains ATM services via our video conferencing equipment now being installed. This Center provides adult and community education programs to residents of MSAD 61.

6. Improving Academic Achievement

Ed Tech Funds are currently being used to update computer hardware in preparation for new student information software. Ed Tech Funds are being sought to test a staff development model that will move technology integration training from the individual teacher to the department or district level. Moving integration efforts to a more systemic

model increases the chance of positively influencing all students in the district.

The district continues to support four Technology Integration teachers. These are full professional teacher positions dedicated to training and supporting teachers in the classroom, K-12. These integrators provide hands-on in-class training with students and teachers, curriculum and lesson plan development, and website support and planning. Traditional staff development workshops are also available before and after school. The Technology Integration team (including the Technology Coordinator) has created a Technology Integration Guide that matches sample instructional objectives with the Maine Learning Results, Local Common Assessments and standards of The International Society for Technology Education.

7. Integration of Technology with Curricula, Instruction and Assessment

The Draft Technology Integration Guide will be modified with teacher input. Teachers will use the Technology Integration Guide to assist them in modifying Local Common Assessments to include a technology component when appropriate. The following is a sampling from our Technology Integration Guide. The complete guide is included in this packet.

31. *Evaluate technology-based options, including distance and distributed education for lifelong learning. (3, 4)*

Examples

a. Students explore an interactive Cornell University Biology website.

b. Students participate in Web-casts with NASA scientists.

c. Students utilize online courseware within their school to independently study the U.S. Constitution.

32. *Routinely and efficiently use online information resources to meet needs for collaboration, research, publications, communications, and productivity. (3, 4, 5)*

Examples

a. Students will take part in Stock Market simulation activities using daily stock information resources online.

b. Students in an Art class use email and/or file servers to share images and text to create a group multimedia presentation on how the Renaissance affected art of the time.

Students display qualities of being a **Creative & Practical Problem Solver** when they:

33. *Select and apply technology tools for research, information analysis, problem solving, and decision-making in content learning. (5, 6)*

Examples

a. Students reproduce a graph from their graphing calculator with a spreadsheet program.

b. Students will transfer skills learned or developed in Photoshop to another image editing application.

c. Students will use search engines effectively to research any given topic.

Students display qualities of being a **Responsible & Involved Citizen** when they:

34. *Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole. (2, 5)*

Examples

a. Students in Social Studies compare and contrast the impact of the printing press and the personal computer in their respective eras.

b. Students in an English class are exposed to sites that provide term papers for the purpose of plagiarizing.

35. *Model ethical behaviors regarding the use of technology and information. (2)*

Examples

a. Students follow the Acceptable Use Policy.

b. Students cite sources appropriately.

c. Students will not copy music, software, or other intellectual property on to hard drive, disk, or CD.

d. Students understand the limits of Fair Use in Education and abide by them.

Students display qualities of being a **Collaborative & Quality Worker** when they:

36. *Work effectively with peers, experts, and others using technology to investigate problems, issues, and information, and develop solutions or products for audiences inside and outside the classroom. (4, 5, 6)*

Examples:

a. Students will correspond electronically with students from other countries to discuss or debate a current issue in one of their respective countries.

b. Students in a chemistry class collaborate with LEA to create a documentary about the effects of milfoil on the area lakes.

Students display qualities of being an **Integrative & Informed Thinker** when they:

37. *Make informed choices among technology systems, resources, and services (1, 2)*

Examples:

a. Students in a Math class choose the most appropriate technology tools to solve a math formula for a given real-world problem.

38. *Investigate and apply simulations in real-world situations. (3, 6)*

Examples:

a. Students design and build a suspension bridge and test its strength using simulation software.

b. Students in a Math class use mathematical models to study the multiple factors that impact the deer population in a given area.

Technology Plan Timeline

Year '05 '06

Fall	Winter	Spring	Summer
Begin using video conferencing for staff development	Train all staff in use of video conferencing equipment	Report on usage of video conferencing equipment	Modify plan for using video conferencing equipment
Train LRHS staff in the use of the two new mobile computer labs	Assess use of mobile labs and modify use as needed	Assess use of mobile labs in supporting instruction	Modify protocol for use of mobile labs
Begin budget process	Recommend final budget to superintendent	Support budget presentations and information dissemination using the web, video conferencing, and presentations	Purchase equipment, supplies and services. Set up and install new equipment and software
Plan to purchase old MLTI equipment			Re-distribute old MLTI equipment
Install additional wireless access points at LRHS	Assess impact of additional WAPs on instruction and make budget recommendation		
Install LTSP server and equipment at Stevens Brook and train staff	Assess and modify use of LTSP at SBES	Assess impact of LTSP on instructional opportunities for students	
Increase bandwidth at LRHS	Assess impact of increased bandwidth and make budget rec.		
			Update technology plan when financial status has been clarified.

’06 ’07 and ’07 ‘08

Fall	Winter	Spring	Summer
Execute plan developed at end of ’05 ‘06 Financial impact of “necessary technology” in this plan is $1.896,000 above current budget of 800,000! EPS has reduced our district budget by $1.4 million and is expected to be further reduced The MLTI laptop project terminates at the end of ’05 ’06. State support is in question We have been asked to plan for a 1-1 laptop project at the HS in the same time frame we might be upgrading the 415 MLTI laptops at the MS The Possible HS and MS laptop projects could have us rolling out 415 to 1165 in this three year period with a minimum of 615 in year 1.			

8. Type Cost and Funding sources.

Goals	Activities	Hardware/Software	Costs	Funding source
All schools connected via a dedicated WAN	Negotiate with Time-Warner Cable after merger is complete	Router and support at each location	$20,000	Local Budget/Grant
SIS software and training	Create team to research and identify SIS software	Identified software and training	$90,000	Local Budget/Grant
Update K-12 classroom computers	Evaluate traditional desktops vs. terminal server experience	Traditional Desktops or LTSP terminals with OpenSource software	$60,000	Local Budget/Grants and useful donated equipment
Update K-12 classroom software	Determine value of district licenses vs. individual purchases. Evaluate Opensource options	Software	$0 - $30,000	Local Budget, Grants, Opensource
Increase bandwidth to HS/MS campus	Evaluate vendor options	Router	$5,500 - $2,600 yr.	Local Budget/Grants/MSLN
Expand opportunities for staff development	Tech Integrators will meet and create a plan that will be consistent at all schools			Local Budget

1-1 computing at HS	Determine funding source, setup and install equipment, train HS staff in 1-1 educational environment	800 laptops, 2 additional servers, server software	$900,000	Local/MLTI/Grants
1-1 Computing at LRMS	Update this current project with new equipment	415 laptops, 25 new higher speed access points, newer server	$450,000	Local/MLTI/Grants
Increase mobile computer lab access at the K-6 level	Install and setup equipment, train staff	6 mobile labs of 20 laptops per cart	$120,000	Local Budget/Grants
	Create a team from all departments	All above new initiatives		
Increased support for new technology	Hire additional support staff. Install setup, maintain and train instructional staff, additional supply and repair costs		$150,000 to $200,00 yr	Local Budget/Grants
Total of “needed” technology			$1,896,000	Local/MLTI/Grants

9. Supporting Resources

Tech Support:

Current team consists of three Technicians, Tech Coordinator, SIS Manager, Network Administrator and limited vendor support.

Future needs include 1 or 2 additional Technicians and additional vendor and repair money.

Instructional Support:

The current Technology Integration team consists of 4 Integrators and the Tech Coordinator. An additional Integrator would be needed to properly train staff and support instruction.

Director of Instruction and Technology Coordinator work cooperatively to promote integration of technology across disciplines and grade levels.

Distance Learning:

Currently we use our FirstClass groupware program to offer some online educational experiences. We are exploring the use of the OpenSource online courseware called Moodle. This, along with our emerging videoconferencing efforts, creates exciting possibilities.

Email/web server:

Currently the district supports an email/web server that provides access to all employees and students. This system is heavily used and allows for an easy collaboration among students and teachers.

Transportation/Buildings and Grounds:

This staff makes heavy use of our email and web services. We have completed the installation of transportation and routing software and will be moving into the training and support phase.

Food Services:

Hungry children do not make great learners. We have installed point of sale software and equipment that allows high school and middle school students to purchase meals using a swipe card. Initial reports are that students who qualify for free and reduced lunch are now participating at higher rates. We will continue to monitor this program and consider the feasibility of expanding into the elementary schools.

10. Steps to Increase Accessibility:

Historically we have used Ed Tech funds to support broad initiatives that impact the largest number of students possible.

This past year we used Ed Tech funds to continue support for all our 5th grade classes to collaborate in real time using video conferencing equipment. This process allows our most isolated students to participate with other students in the district and receive a broader range of instructional feedback and interaction that otherwise would be unavailable.

Our new application for Ed Tech funds increases wireless access at Lake Region High School and purchases a Linux terminal server for Stevens Brook Elementary School. The district is increasing the laptop pool for all students at the high school and needs to expand wireless access through out the building for those students. The Linux terminal server will allow us to increase computing access for all students by adding up to 50 terminals (workstations) using recycled equipment.

See # 11 and 12 for integration and curriculum support

The Draft Technology Integration Guide specifically addresses the issue of integrating technology effectively into curriculum and instruction. See included document.

11. Strategies that Promote Integration of Technology and Curriculum.

See Technology Integration Guide at http://www.sad61.k12.me.us/webTIG/.

12. Professional Development:

The district has four full time Technology Integrators. Each is a professional teacher whose primary responsibility is teacher training. They work daily in the classroom with teachers and collaborate with them on curriculum development and lesson planning. In addition, each integrator provides traditional staff development workshops and courses at their school(s).

This spring we are embarking on another strategy to provide additional support to all staff. Any staff can sign up for an independent study. Staff must meet with an integrator and develop a written plan. Upon completion of this plan they will receive CEUs for their efforts. Our elementary library media specialists have asked to create a plan that will serve their needs as a group.

See #13

13. Innovative Delivery Strategies:

Some teachers are using the conferencing features of the FirstClass groupware product to deliver course content, post homework, and receive work electronically.

We are now assessing the benefits of the Opensource application “Moodle”. Moodle is a web based course content and delivery package that is gaining in popularity as an easy to use and cost effective process for delivering instruction online.

We now have Polycom video conferencing hardware in every school in the district. This fall we will begin our first real time test of this equipment by using it to train our special education assistants at all the elementary schools. We expect to expand this use to students being able to access ATM broadcasts from other schools for instruction that otherwise would not be available to them. Teachers will also be able to use this medium to collaborate with other teachers in the district, as well as access ATM educational broadcasts from other schools or state sponsored training sessions.

14. Accountability Measures:

Part 9 of the District Strategic Plan includes the goal of developing a formal assessment mechanism for evaluating the impact of technology integration. This goal is stated earlier in this plan.

Our Draft Technology Integration Plan directly references the MLR.

In addition, all instructional activities must reference their connection to Local Common Assessments and the Maine Learning Results. We ask ourselves what connection does this function or activity have to improving instruction in our district. If we can’t answer that, then we don’t do it.