

MSAD 40

Three-Year Technology Plan 2008-2011

Sept. 10, 2007

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1. Community and Parental Involvement – *Involve a broad representation of the school community in the planning process. Include a description of how the technology will be used effectively to promote community and parental involvement and increase communication with parents, including a description of how parents will be informed about the technology and its proper use.*

MSAD 40 has in place a Technology Committee, an idea sharing sub-committee of the school board that is dedicated to the development of technology resources for the educational benefit of students in our district. The Goals of the Technology Committee are as follows:

*Recruit participation of school staff and community members on a regular and adjunct basis to promote technology education in MSAD 40 based on the ISTE (International Society for Technology Education) standards, which focus more on skills and expertise and less on tools. Specifically, they address:

- Creativity and innovation;
- Communication and collaboration;
- Research and information fluency;
- Critical thinking, problem solving and decision-making
- Digital citizenship; and
- Technology operations and concepts

*Develop school resources for the purpose of real life experiences, community networking and service learning.

*Professional development for school staff

The Technology Committee members:

- Dr. Pamela Carnahan, Superintendent of Schools
- Scott Vaitones, Business Manager
- Linda Trenholm, Technology Coordinator
- Bob England, Vice Principal/Technology
- Matt Kopishke, Technology Systems Technician
- Melissa Merrifield, Database and SIS Technician
- Dan Tompkins, Technology Integrator
- Richard Blackman, Principal of Prescott Memorial and Friendship Village Schools
- Bonnie Davis-Micue, School board chair and community member
- Gail Hawes, School board member, community member, parent
- Tod Brown, School board member, community member

The meetings are open to the all staff and the public and participation is encouraged. The meeting are announced on our district website and the agenda and minutes from the meetings are posted in the Technology Committee Blog, which is linked from our district web site, with comments enabled to gather input from the staff and community on the work of the Technology Committee. The foundation of the building of our long-range district technology plan is based on the work of the Technology Committee and its outreach effort.

Current Initiatives for Community and Parent Involvement	Goals for Community and Parent Involvement
<p>Website: We are in the process of updating our website so it is a reliable, informative, interactive communication tool. To meet this objective we have been training teachers, administrators and administrative support staff on how to create and maintain their own pages and links.</p>	<p>Website: With the purchase of an upgrade to our First Class Mail Software we will be able to create a district wide calendar that we will create and post to the website with current, reliable school information</p> <p>Continue training of staff and develop a structure for that professional development.</p>
<p>Moodle: online course management system: A section for “Community Courses” was created and linked from the technology page of our website. The goal is to provide a service to the community and inform them of some of the technology tools being used by students in the district.</p>	<p>Moodle: Continue to develop new resources for the community to promote technology skills and demonstrate real life applications of the technology tools being used by students in the district</p>
<p>PowerSchool/PowerGrade: Our staff is trained in the use of PowerSchool and the data for our school management system is a current and reliable source of information for parents on grades, attendance, lunch, etc. Parents and students are given a username and password to access their accounts. Expansion of PowerGrade to lower elementary grades has been successful due to training of the teachers by technology staff.</p>	<p>PowerSchool/PowerGrade: Addition of more student data, such as NWEA scores, that may be useful parent information.</p> <p>Continue to train elementary staff in PowerGrade and work with administration to promote a district reporting system</p>
<p>School Documents and Policies: Some documents and policy statements are available as PDFs through our website and others are hard copies distributed to students to take home</p>	<p>School Documents and Policies: Rewrite our Acceptable use of Information Technology Policy, Computer/Internet Use Acknowledgement form, E-mail Policy, E-mail Acknowledgement Form and Internet Device Application Form and post these documents to our website as well as have them provided in the office of each school so community members as well as parents will be able to access the technology related policies of the district. We will look into e-signatures for these documents.</p>
<p>Assessment Information: MSAD40 implemented NWEA tests in math and reading in grades 2-8 for the first time in Fall 2007. Information has not been shared with parents or community.</p>	<p>Assessment Information: Work with school administration to determine what NWEA reports/charts could be shared with the community and post that information to the website in order to keep parents and the community informed on the gains and needs of the</p>

students in the district.

2. Vision – *Establish a vision statement linking the tools of technology with areas such as curriculum content, instructional practices, professional development strategies, and enhanced services.*

The District's vision is to create a community of lifelong learners who are effective users of technology in order to prepare them for success in life.

Technology will be used to support this vision by establishing a system in which meaningful and engaged learning is emphasized. Technology changes have a complex impact on educational and societal structure and in recognizing specific areas of concern may be unforeseeable, the following guidelines and goals for the use of technology for student learning have been established:

MSAD 40 wishes to empower students to become:

- Actively involved in the learning process
- Complex and higher-order thinking people
- Effective communicators
- Learners who construct and produce knowledge in meaningful ways
- Creative problem-solvers
- Workers who can collaborate on tasks

MSAD 40 Technology guiding tenets to facilitate student learning:

- Emphasize the importance of all students having equitable access to technology
- Use technology for meaningful and authentic tasks
- Develop a system of ongoing professional development
- Provide the necessary technical infrastructure and support
- Use technology to establish partnerships between schools, businesses, community and higher education
- Support E-learning and virtual schools
- Move towards digital content
- Integrate data systems
- Use assessment to enhance instructional practices
- Support curriculum content

3. Goals – *Articulate specific goals, aligned with the Maine Learning Results, for using advanced technology to improve student academic achievement.*

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MLR	Technology to improve student academic achievement
A. Reading	
<ol style="list-style-type: none"> 1. Interconnected Elements: Comprehension, Vocabulary, Alphabetics, Fluency 2. Literary Texts 3. Informational Texts 4. Persuasive Texts 	<p>Goal: Provide and improve access to all forms of text materials by updating necessary hardware, exploring software and free/subscription learning services both online and server based.</p> <p>online: literary e-texts, course materials from universities, news sites, blogs, etc. Students may use special browser plug ins to make reading online text easier and/or be provided with hand held devices to have on demand access to reading materials.</p> <p>Text in the library organized through software that specifically targets content and identifies reading levels.</p>
B. Writing <ol style="list-style-type: none"> 1. Interconnected Elements 2. Narrative 3. Argument/Analysis 4. Persuasive 5. Practical Application 	<p>Goal: To increase the effective use of existing technologies while exploring new ways to inspire student writing.</p> <p>Word processing for editing and outlining</p> <p>Graphic organizers and mind mapping software for creative process</p> <p>Writing for a variety of publishing formats including podcasts, storyboarding, blogging, websites</p> <p>Screenwriting/dialogue creation software</p>
C. Research <ol style="list-style-type: none"> 1. Research 	<p>With the vast amount of information sources available to students it is imperative that they learn how to evaluate and verify their sources of information. Technology professional development for both teachers and students need to focus on research skills.</p> <p>Goal: Increase use of online course management courses and interactive webinars to deliver the professional development necessary for teachers and students.</p>
D. Language <ol style="list-style-type: none"> 1. Grammar and Usage 2. Mechanics 	<p>Goal: To use technology to assist in the teaching of grammar by presenting, managing and evaluating the information in a user-friendly environment.</p> <p>Make use of online grammar podcasts</p> <p>Online quizzes for learning and assessment</p> <p>Student created informational material to learn by instructing using multi-media applications such as online quizzes, presentations or podcasts – video or audio.</p>
E. Listening and Speaking	Goal: To use digital media for instruction and assessment of listening and speaking skills.

1. Listening 2. Speaking	Video and audio podcasts for self-evaluation. Use technology to record student work for the purpose of self-evaluation and assessment. Teachers must instruct with a variety of sources to model appropriate listening skills using mixed content.
F. Media 1. Analysis of Media	Goal: To provide opportunities for students to create and view media for the purpose of analyzing the media for authenticity and content and to provide the parameters necessary for constructive criticism of information presented in various medias. Teachers need to have the equipment and access to a variety of media and the professional development necessary to know how to use media with students. Projectors, interactive pads and whiteboards, download capabilities of appropriate content, management of large files, video viewers, multi-media rubrics, how to comment on media and post online criticisms.
Math	
A. Number Whole Number Rational Number Real Number B. Data Measurement and Approximation Data Analysis Probability	Goal: Support the differentiated instruction of Math through the use of a variety of technology tools, software and online learning communities. On demand access of video for classroom and remedial instruction of math concepts. Utilizing online learning courses with companion materials for real world application of math concepts. Using software for data analysis, real world simulation and graphing Use an integrated curriculum model to create an online business for the purpose of applying math concepts such as data analysis to real world applications
C. Geometry Geometric Figures Geometric Measurement Transformations	Online geometry resources and software applications that support classroom instruction and allow for students to review concepts and explore new material on demand.
D. Algebra Symbols and Expressions Equations and Inequalities Functions and Relations	Access to online or software supported calculators Use of interactive white boards and interactive pads for use in the classroom. Software inclusive of different levels of learning to support differentiated instruction Students creating math lessons using a variety of technology media.

	Exit exams, NWEA assessment to evaluate math programs.
Science	
A. Unifying Themes 1. Systems 2. Models 3. Constancy and Change 4. Scale	<p>Goal: To use available technology to facilitate the learning of science through real world application.</p> <p>Modeling and simulation software available on student and teacher computers.</p>
B. The Skills and Traits of Scientific Inquiry and Technological Design 1. Skills and Traits of Scientific Inquiry 2. Skills and Traits of Technological Design	<p>Expansion of the robotics program.</p> <p>Offer programming and web design as electives.</p>
C. The Scientific and Technological Enterprise 1. Understandings of Inquiry 2. Understandings about Science and Technology 3. Science, Technology, and Society 4. History and Nature of Science	<p>Model digital citizenship</p> <p>Access online community groups, science networks to examine and understand the place and purpose of science and technology in our world</p>
D. The Physical Setting 1. Universe and Solar System 2. Earth 3. Matter and Energy 4. Force and Motion	<p>Use digital simulation and models to teach and understand the properties of the physical sciences.</p> <p>Use digital video equipment to record and demonstrate physical concepts in science</p>
E. The Living Environment 1. Biodiversity 2. Ecosystems 3. Cells	<p>Computer microscopes</p> <p>Research – how to find scientific information.</p> <p>Simulation software</p>

<p>4. Heredity and Reproduction 5. Evolution</p>	
<p>Social Studies</p>	
<p>A. Applications of Social Studies Processes, Knowledge, and Skills</p> <ol style="list-style-type: none"> 1. Researching and Developing Positions on Current Social Studies Issues 2. Making Decisions Using Social Studies Knowledge and Skills 3. Taking Action Using Social Studies Knowledge and Skills 	<p>Use of online surveys for research</p> <p>Record interviews; develop and record sources of primary information.</p> <p>Seek out collaborative and interactive online opportunities for current social studies issues.</p>
<p>B. Civics and Government</p> <ol style="list-style-type: none"> 1. Knowledge, Concepts, Themes, and Patterns of Civics/Government 2. Rights, Duties, Responsibilities, and Citizen Participation in Government 3. Individual, Cultural, International, and Global Connections in Civics and Government 	<p>Research and navigate government sites for current, historical and primary document information.</p> <p>Research different global perspectives using online news sources from other countries. Students may use RSS readers to organize and gather information.</p> <p>Produce technology rich media to demonstrate knowledge of the workings of government.</p> <p>Use technology to develop service-learning projects.</p>
<p>C. Economics</p> <ol style="list-style-type: none"> 1. Economic Knowledge, Concepts, Themes, and Patterns 2. Individual, Cultural, International, and Global Connections in Economics 	<p>Use simulation and modeling software to demonstrate economic concepts.</p> <p>Use spreadsheets and charts to identify trends and evaluate data.</p> <p>Investigate interactive/layered mapping to demonstrate knowledge and deepen understanding of economic connections and patterns.</p>
<p>D. Geography</p>	<p>Use a GPS</p>

<ol style="list-style-type: none"> 1. Geographic Knowledge, Concepts, Themes, and Patterns 2. Individual, Cultural, International, and Global Connections in Geography 	<p>Establish a themed community mapping project using GIS software</p> <p>Make global connections by social and economic mapping using GIS software</p>
<p>E. History</p> <ol style="list-style-type: none"> 1. Historical Knowledge, Concepts, Themes, and Patterns 2. Individual, Cultural, International, and Global Connections in History 	<p>Evaluate online resources for authenticity.</p> <p>Use primary documents, interviews and other media content found online to enhance knowledge of history.</p> <p>Investigate local history using online and other resources, conduct and record personal interviews and produce movies, podcasts about their local history.</p>
Visual and Performing Arts	
<p>A. Disciplinary Literacy</p> <p>Dance:</p> <ol style="list-style-type: none"> 1. Terminology 2. Space 3. Time 4. Energy 5. Locomotor and Non- Locomotor Movement 6. Compositional Forms <p>Music:</p> <ol style="list-style-type: none"> 1. Music Difficulty 2. Notation and Terminology 3. Listening and Describing <p>Theatre:</p> <ol style="list-style-type: none"> 1. Terminology 2. Production <p>Visual Arts:</p> <ol style="list-style-type: none"> 1. Artist’s Purpose 2. Elements of Art and Principles of Design 	<p>Use video recording devices and computers with cameras to investigate movement. View dance online for leaning and evaluation – projectors for classroom viewing.</p> <p>Music software, online courses, recording of audio in digital. Digital editing and creation of music using specific software.</p> <p>Theatre design and production assisted by technology for audio and video.</p> <p>Visual arts using digital media for production of original work.</p>

<p>3. Media, Tools, Techniques, and Processes</p>	
<p>B. Creation, Performance, and Expression</p> <p>Dance:</p> <ol style="list-style-type: none"> 1. Communication 2. Sequencing 3. Solving Challenges 4. Technical Aspects <p>Music:</p> <ol style="list-style-type: none"> 1. Style/Genre 2. Composition <p>Theatre:</p> <ol style="list-style-type: none"> 1. Movement 2. Character 3. Improvisation <p>Visual Arts:</p> <ol style="list-style-type: none"> 1. Media Skills 2. Composition Skills 3. Making Meaning 4. Exhibition 	<p>Technical aspects of all visual and performing arts can be enhanced by technology – either for viewing or creating projects through the use of audio and visual equipment and software and online opportunities for viewing art.</p>
<p>C. Creative Problem-Solving</p> <ol style="list-style-type: none"> 1. Application of Creative Process 	<p>The creative process and problem solving can be enhanced through technology with tools such as mind mapping software.</p>
<p>D. Aesthetics and Criticism</p> <ol style="list-style-type: none"> 1. Aesthetics and Criticism 	<p>Use technology to reference specific areas of aesthetic by digitally editing the content for comment. Students can view and participate in blogs to practice viewing and commenting on the arts.</p>
<p>E. Visual and Performing Arts Connections</p> <ol style="list-style-type: none"> 1. The Arts and History and World Cultures 2. The Arts and Other Disciplines 	<p>Integration of the arts with other disciplines can be facilitated by inclusion of the subjects matter in the research and production of other tech related projects and output.</p>

<ul style="list-style-type: none"> 3. Goal-Setting 4. Impact of the Arts on Lifestyle and Career 5. Interpersonal Skills 	
World Languages	
A. Communication <ul style="list-style-type: none"> 1. Interpersonal 2. Interpretive 3. Presentational 4. Language Comparisons Culture	<p>Use online courses and podcasts for world language programs</p> <p>Use digital recording, mp3 players and other tech devices to help practice communication skills</p> <p>Investigate and research world cultures online.</p>
B. Cultures <ul style="list-style-type: none"> 1. Practices and Perspectives 2. Products and Perspectives 3. Comparisons with Own 	<p>Make charts to compare cultures</p> <p>Use blogs and news sites to gain perspective on world cultures.</p>
C. Connections <ul style="list-style-type: none"> 1. Knowledge of Other <i>Learning Results</i> Content Areas 2. Distinctive Viewpoints 	<p>Connect to other content areas using news services, blogs, and websites to synthesize information.</p>
D. Communities <ul style="list-style-type: none"> 1. Communities 	<p>Use online resources: videos, blogs, and news sites to investigate world communities.</p>

4. Identify Necessary Technology – *Include a technology assessment. Gather information about technology currently in use so that what will be needed to meet new goals can be determined. Include a list of the equipment and telecommunication services that are necessary to reach the goal.*

Hardware:

Class 1: (C1) 1-4 years of age. Equipment is mostly under warranty/protection plan. In good working order and will be repaired when damaged.

Class 2: (C2) 4-5 years of age. Out of warranty. Good working condition. May be repaired.

Class 3: (C3) over 5 years. Nearing end of life/scheduled for replacement. Computers are in passable working condition. Will not be repaired.

Staff computers: All administrators and elementary teaching staff have a C1 computer. Administrative support staff varies from desktop C3 computers to laptops C1 computers. It is a goal to replace aging administrative support staff computers with hardware necessary to meet the demands of a data driven school district. High School teaching staff and administration laptops are within the guidelines established through the MLTI program. Middle School teachers and staff have MLTI laptops in accordance to the guidelines of that program.

Current Assessment: HS teacher/admin (48 C1), Middle School teacher/admin (42 C1), Elementary School teacher/admin (80 C1), District Administration (36 C1, C2)

Goal: To maintain a system of assessment and replacement of staff equipment to meet the needs for administrative and educational functions.

Technology Needed: Computer, printers, and peripherals that meet administrative and educational requirements.

Staff software: Administrators and teaching staff in elementary and the high school use application for word processing, spreadsheets and presentations as well as any specialized software necessary to complete departmental tasks. Teaching staffs have images specific to the necessary software applications used at their school level and also available on student computers. Career/guidance and special education use additional software applications. All computers are Internet ready with updated version of Firefox and Safari installed.

Goal: To provide the necessary software for teaching, learning and administrative tasks. We will look at all sources, both open source, purchase and online.

Technology Needed: In addition to software and subscription services, opportunities for training and funding for maintenance and upgrades to software need to be considered.

General goals: To provide consistent support of the technology infrastructure and establish a system for ongoing professional learning and assessment of practices for the purpose of technical support of administrative tasks and the promotion of technology integration in the classroom.

Telecommunications and Network Assessment and Goals: For the most part cabling and switching is adequate in all buildings with minor upgrades to switches and access points planned yearly. MSLN provided us with two new routers that will be supported, making all routers in our system updated and supported. Network servers are at each school and provide email access, file service and web service. Network servers also host PowerSchool student information system and district software and databases for administrative tasks (Library World, NutriKids). All schools are wireless and there are a few spots where connectivity needs to be boosted. One particular area of issue is the portable units (modular classrooms) that lie outside of the main building of the high school. Connectivity is an issue as is access to technology as the outside location prohibits anything but a mobile cart that is stationary or desktop computers and it is not always an efficient use of laptop time to have them located in one remote area; however it is important to provide those students and teachers with technology. Because of the distance between schools, establishing a WAN in the near future is not practical but as the alternatives of bringing fiber to more remote areas increase and the options for internet service change in the future due to these changes in the state infrastructure and the ATM network as it is currently supported by the state, we will keep in mind in our structural and financial planning goal of directly connecting our schools and public buildings. An immediate goal is to improve communication within out district for the purpose of sharing information, training and teaching between school, home and the community. Using video conferencing, webinars, video chat to enhance education, professional development and integrate technology into the curriculum is an objective of MSAD 40 that we have outlined in our goals and plans for integration strategies (questions 3, 7), professional development (question 12), and strategies to increase accessibility and deliver materials using technology (questions 10 and 13).

It was decided to connect our new middle school building to the Internet by running dark fiber underground between Medomak Valley High School and Medomak Middle School so the middle school can connect to the Internet via the ATM at the high school. Several options were considered including a wireless access point and above ground fiber. During the process of investigating alternatives we had a chance to discuss the future of networking and Internet service in our district with interested parties, both within and outside of the community. In addition to obtaining pricing for dark fiber, we also received a quote on Internet service from Time Warner to the UMaine network/Internet, which was not an option at this time. Because the options for our future connectivity and ISP needs are indeterminate at this time, our strategy is to support and build our infrastructure to meet immediate needs and remain flexible for future options while planning for alternatives for funding our telecommunication needs.

Student computers:

School	Current Technology	Goals	Technology Needed to meet goals
Medomak Valley High School	Students have two laptops carts with 15-20 computers each located in the library for lending use to classrooms. MAC C2	To track the use of the mobile carts to determine a schedule for replacement of old equipment and maximize the use of existing resources.	Reservation, tracking and ticketing system for equipment

	<p>Mobile laptop carts of 15-20 computers are also found in the math, science and language arts wings of the building. MAC C2</p> <p>A bank of 15 laptops computers is provided for literacy. MAC C2</p> <p>4 laptops in the music department. MAC C2</p> <p>15 PC desktop computers in career/guidance C3</p> <p>8 PC laptops for robotics program C1</p> <p>Digital art and CAD: 12 desktop MAC C3</p> <p>Science lab: 6 MAC C3 desktops</p> <p>Plato/Virtual High School program: 8 MAC laptops C1 and 10 MAC laptops C2</p> <p>Peripherals: LCD Projectors: 2 in the library, 1 in career guidance, 4 departmental C2</p> <p>3 digital still cameras C2 1 digital video camera C2 1 DVD burner C1</p>	<p>Use technology to expand credit recovery (Plato) and E-learning opportunities (Virtual High School) and offer additional programs for career and adult education</p> <p>Replace old desktop computers with laptops in mobile carts for better sharing of resources.</p> <p>Investigate the use of peripheral such as response systems and interactive boards to enhance student learning.</p>	<p>Laptops running current operating systems with the hardware/add-ons necessary to support online learning.</p> <p>PC laptops in cart for career/guidance</p> <p>Plan for funding sources to provide hardware peripherals such as interactive whiteboards.</p>
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	1 interactive whiteboard C1		
Medomak Middle School	Students have MLTI laptops. Smartboards are to be placed in 15 classrooms	Professional development is necessary to utilize the financial investment of the interactive white boards.	Investigate training opportunities that may be available through various funding areas including Ed tech funds.
Miller Grade School	20 MAC laptops in a mobile cart C1 15 MAC laptops in a mobile cart C2 20 Desktop computers in classrooms (6-C1, 8-C2, 6-C3)	Replace aging laptop computers with new laptops to maintain mobile carts Support differentiated instruction in the classroom Replace desktop computers with shared laptop computers Enough laptops to support two classrooms 1 to 1.	Small, locking mobile cart with five laptops and a projector that can be placed in an easily accessible location to be used in the classroom for small group and differentiated instruction.
Warren Community School	20 MAC laptops in mobile cart C1 18 MAC laptops in mobile cart C2 20 Desktop computers in classrooms (8-C1, 6-C2, 6-C3)	Replace aging laptop computers with new laptops to maintain mobile carts Support differentiated instruction in the classroom Replace desktop computers with shared laptop computers Enough laptops to support two classrooms 1 to 1.	Purchase LCD projectors to support classroom instruction. Purchase network equipment to support wireless connectivity in all areas of the school.
Union Elementary	20 MAC laptops in mobile cart C1	Replace aging laptop computers	Provide funding for replacement of

School	15 MAC laptops in mobile cart C3 8 Desktop computers in classrooms C3 (6-C1, 6-C2, 8-C3) 1LCD projector	with new laptops to maintain mobile carts Support differentiated instruction in the classroom Replace desktop computers with shared laptop computers Enough laptops to support two classrooms 1 to 1.	aging equipment in support of learning programs.
Prescott Memorial School	20 MAC laptops in mobile cart C1 12 MAC laptops in mobile cart C3 1 LCD projector 8 Desktop MACs (4-C1, 3-C2, 1-C3)	Replace aging laptops and desktops with new laptop computers Enough laptops to support one classroom of 1 to 1 and a 5 laptop mobile cart for differentiated instruction.	Replacement MAC laptops for carts and small mobile cart for differentiated instruction.
Friendship Village School	20 MAC laptops in mobile cart C2 8 Desktop MAC C3 (4-C1, 3-C2, 1-C3)	Enough laptops to support one classroom of 1 to 1 and a 5 laptop mobile cart for differentiated instruction.	Adequate support of technology infrastructure and professional development.

Software:

Level	Current Software/Server based applications	Goal	Needed Technology
District	Nutri Kids ADS	To provide a cohesive plan for the use and support of administrative	Upgrades and Support

	Library World PowerSchool/PowerGrade First Class Mail NWEA TestTaker MS Office (Admin, MVHS, Elementary) Moodle Course Management System ilife and iworks on all MAC computers	software. Provide a plan for compatibility and usability between schools	Development of purchase order system Servers and software upgrades to support district applications and maintenance of website. Image editing software
High School Level	Plato Virtual High School SRI Noteshare (Teaching Staff) Guidance software Music online learning subscription Foreign language online learning subscription	Plan for expansion of Plato, Virtual High School, Noteshare and investigating opportunities for other online subscription learning programs Server based Math software for district. Noteshare (student) Online foreign/world language subscription for middle and HS	Additional subscriptions licenses to support goals. Technology assistance/support for the use of open source applications
Middle School Level	MLTI image	Establish continuity with middle school mlti technology use and district objectives and plans.	Professional development opportunities and coordination of program application at the elementary and high school level.
Elementary Level	appleworks ilife	iworks ilife	Purchase of software to support district objectives

5. Collaboration with Adult Literacy Service Providers - *Describe how the program will be developed, where applicable, in collaboration with adult literacy service providers.*

MSAD 40 Adult Education is a comprehensive program for adults and families, offering a variety of classes and training opportunities for the local communities it serves. Programs offered include:

Adult Literacy, Family Literacy, High School Completion, GED Preparation and Testing, Vocational Training, Clerical Skills Training, Computer Training, Enrichment Classes, and College Classes. Classes are offered at a variety of locations in our 5-town district in Maine, but most are in the evening at the local high school, Medomak Valley High School. In addition, we have 2 daytime locations in the district to serve the needs of the adults in those communities. Our program continues to grow and evolve as we offer the classes that the district residents request at a high level of quality.

The Adult Education program links directly from the MSAD40 website and computer education classes are offered both online and at Medomak Valley High School using the career room and office desktop computers and online. Classes are offered in basic computer skills and specialized areas for teaching professionals on integrating technology in the classroom.

6. Strategies for Improving Academic Achievement and Teacher Effectiveness – *Describe how funds, specifically Ed Tech funds where applicable, will be used to improve academic achievement, including the technology literacy of all students attending schools served by the SAU; and describe how funds expended will improve the capacity of all teachers in schools served by the SAU to integrate technology effectively into curricula and instruction.*

Strategies for the use of educational technology funds, and other sources of support of technology and learning, for the purpose of increasing student achievement and teacher effectiveness include the following:

- The continuous assessment of student performance and collection of data to support differentiated instruction.
- Technology professional development on how to use assessment data to implement differentiated instruction within the classroom
- Assessment of teacher and support staff technology skills and the establishment of professional learning plans taking into consideration the time and resources necessary to provide ongoing training for staff.
- Technical support for digital resources
- Technology integration support
- A plan for providing equitable access to technology resources

7. Integration of Technology with Curricula, Instruction, and Assessment – Describe how technology (including software and electronically delivered learning materials) will be integrated into curricula, instruction, and assessment and include a timeline for this integration.

Plans for technology integration with curricula, instruction and assessment will be based on the standards developed by the International Society for Technology Education standards for students. ISTE standards for educators are being revised and those proposed revisions would be taken into consideration when planning for technology integration and instruction. Essential to any plan for technology integration is the support of the general program by administrative staff with specific directives and incentives developed for the teaching staff to promote the use of technology for teaching and learning.

Technology Integration Area:	Plans for Integration	Timeline
Curricula and Instruction	<p>Ongoing professional development for the use of Moodle, course management system, for differentiated instruction of all content areas.</p> <p>Development of the “Train the Trainer” model for professional development</p> <p>Technology training for administrative and support staff in Moodle using documents, audio files, movies.</p> <p>Technology training and support using ichat and skype</p>	<p>Fall 2008 -</p> <p>Spring 2009</p> <p>Fall – 2008- Spring 2010</p>
	<p>Expectations with yearly minimum goals for technology integration will be established through a collaborative effort of the technology committee and school principals for teaching staff by content area and/or grade level for each teacher.</p> <p>Development of a support network for the development of a plan and implementation of technology integration, based on individual need, for meeting the yearly technology integration expectation.</p>	<p>Fall 2009-Fall 2010</p> <p>Fall 2009</p>

	<p>Webinars/Online learning opportunities for students that expand the curricula and support learning results</p>	<p>Spring 2009</p> <p>Fall 2008- Spring 2011</p>
<p>Assessment</p>	<p>Twice yearly NWEA testing for all students in grades 2 – 9. Identified students testing mid-year for increased support of instructional planning. Year-end math exit exams for Algebra I and II students.</p> <p>Investigate the use of electronic portfolios as a demonstration of development over time. As teachers integrate technology and students create work digitally we need to look at what work examples would give a supportive and perhaps different view of student performance than NWEA assessment. What indicators are consistent over time (writing, audio presentation, video presentation, mathematical reasoning, artistic creations, etc.), worthwhile as learning indicators and capable of being stored and managed?</p>	<p>Fall 2008 – Spring 2009</p>

8. Technology Type and Cost, and Coordination with Funding Resources – *Develop a step-by-step action plan, with timeline, 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 Federal programs, and state and local sources that support technology acquisition and integration.*

Technology Type, Cost, And Funding Source

Goals	Activities	Technology Type	Costs	Funding Source	Time-Line
Use technology to expand credit recovery (Plato) and E-learning opportunities (Virtual High School)	Online course development	Subscription services	\$5000-\$10,000	District Grants	Fall 2009
Support of adult education and career planning	Computer literacy classes, guidance and career planning software, community involvement	PC computers, Career planning software, projectors, MS Office applications, Digital imaging applications	\$5,000-\$20,000	District Adult Ed Grants	Fall 2008-Fall 2009
Replace old desktop computers with laptops in mobile carts for better sharing of resources. Improved infrastructure	Sharing and maximizing of resources and technology funding by utilizing mobile carts	Mobile carts of MAC laptop computers	\$35,000 – \$150,000	District E-Rate	Fall 2009-Fall 2011
Investigate the use of peripheral such as response systems and interactive boards to enhance student learning.	Check student knowledge and develop support materials.	Whiteboards, response systems	\$2,000-\$8000	District	Fall 2009
Professional development	Online courses developed by technology department,	Hardware and software for online courses,	\$500 - \$3000	Ed Tech Funding	Spring 2009 –

	outside instruction, state supported instruction for professional development, contact hours, certification requirements	webinars		District	Spring 2011
Support differentiated instruction in the classroom	Professional development	Mobile computer and multi-media carts	\$500- \$5500	Ed Tech funding District	Fall 2008 – Spring 2009, Fall 2009
Improved communication tools/Disaster preparedness	Phone system, online communication	Infrastructure upgrades/network maintenance and improvements	\$10,000 - \$75,000	E-Rate District	Fall 2009
To provide a cohesive plan for the use and support of administrative software. Including but not limited to office type applications, purchase order, transportation, lunch, library, guidance and student information system	Common use of software to lessen transition and compatibility issues	Software purchases, subscription services, maintenance and upgrades of purchase and Open Source applications and the hardware necessary to run the applications and connect reliably.	\$500- \$50,000	District	Fall 2009 – Fall 2011
District server based educational software and online subscription services for content areas (world language, math, language arts)					

9. 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.*

We will maintain PowerSchool and PowerGrade until a decision is made to change student information systems by the technology committee. As the state moves toward Infinite Campus, we will evaluate it for cost and service in relation to the needs of our district.

MS Office will be kept for administration machines and iWorks will be used for general word processing, spreadsheets and presentation applications on all other staff and student computers. Appleworks is not currently supported and will not be continued on any district machines that are capable of using iWorks.

Administrative software for the lunch program, payroll, transportation and human resources will be maintained and upgraded as necessary.

Online learning programs: Plato, Virtual High School, Advance Placement University Classes and other supportive and advanced learning opportunities will be supported and investigated for future use in the district. E-learning will be promoted and supported for teachers, students and the community.

Open source software options, including library automation software, will be researched and evaluated for use in the district. Resources and options that five years ago were either not available, costly and/or user un-friendly are now available for use and, in many cases, adaptation for general use. For example, google products – maps, earth, documents, Open Office, GLPI - and we will continue to search for cost effective and educationally sound applications and ways to deliver them to our students in a manner that meets guidelines, policy and standards for student technology use.

Human Resources: The district employs the following full time positions: Technology Coordinator, Technology Integrator, Network System/Computer Technician and a SIS/Database Technician who support all the schools in the district. One half time position in the technology department is changing this year and the plan is to hire a part time technician to troubleshoot end-user issues with hardware and software. It is the goal of the technology department to continue to support district wide planning for the use of technology in MSAD40 and implement strategies for the effective and efficient use of resources to support student learning.

10. 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.*

Increased access and equity of access to technology is a high priority for MSAD 40. Ed Tech funds and district funding is being used and will continue to be budgeted to provide access to technology for teachers and students in the district and the software, tools and training necessary to maximize the use of the equipment and learning potential for students. Assessment of student performance using traditional indicators, NWEA assessment and teacher evaluations are being used to indicate what students would benefit from credit recover through Plato, specialized curriculum offerings through Virtual High School and the use of technology to support differentiated instruction. Ongoing assessment combined with technology professional development and the assistance of the technology department (integration, software and technical support) ensures that teachers have the opportunity to be prepared to effectively integrate technology into the curricula and instruction. Support of e-learning opportunities and making technology available through alternative avenues to students who do not have access at home is an important planning and equity consideration. Many students have Internet access at home but for some it is through a slow dial up connection and not suitable for accessing online learning opportunities. We need to conduct a current survey of home computer use and develop a plan to support students who do not have computer and Internet access at home. If we are to design on-demand learning opportunities for students and staff we need to make sure that provisions for access are made for those who do not have it at home.

11. 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.*

Successful teaching and curricula strategies that integrate technology will be identified by a review and assessment of teaching plans that include technology. Teachers using Moodle to develop courses show use statistics and teachers are able to share their courses, experiences and training to help other staff members. Using technology to support instructional areas identified by NWEA testing and teacher evaluations will be reviewed after testing sessions to determine effectiveness and adapted as necessary. Evaluation and improvements will be ongoing. As outlined in question 7, technology integration will be part of teaching goals and the effectiveness of the implementation evaluated each year.

12. Professional Development – *Describe how ongoing, sustained professional development for teachers, principals, administrators, and school library media personnel will be provided to further the effective use of technology in the classroom and the library media center.*

Administrators, teachers, principals, and library media personnel have all participated in workshops and classes about the use of technology through a variety of avenues, including: professional organization conferences, software workshops, college classes, MLTI and other state sponsored workshops on technology. All staff is encouraged to participate and our district has hosted some of these events. Within our district, the technology staff offers professional development directly to staff members on all levels – individual, grade level, departmental, school-wide and district-wide. Our goal is to enable staff to help each other; employing a “train the trainer” method. We use Moodle online course management to provide help

courses for staff on technology procedures and integration techniques and tools. We have used iChat and other communication and desktop sharing tools to assist staff members and plan to use more online communication tools; including webinars, video conferencing and chats to facilitate on-demand and remote learning opportunities. The technology department uses software to produce training movies as well as written materials and podcasts for the staff. It is key for administration and principals to promote the use of technology in their schools and support of their efforts is also a priority of the technology department. As online opportunities emerge we will investigate the no-cost alternatives to using our existing technology to provide remote and on-demand learning opportunities. The technology department is also planning on providing workshops on teacher in-service days and will investigate offering summer technology workshops starting in 2009.

13. Innovative Delivery Strategies – *Describe how the development and use of innovative strategies for the delivery of specialized or rigorous courses and curricula through the use of technology, including distance-learning technologies, will be encourage, particularly in areas that would not otherwise have access to such course or curricula due to geographical distances or insufficient resources.*

Currently we are providing access for students to specialized programs and curricula through online opportunities; Virtual High School and advanced placement classes through the University of Maine. Students have taken classes that would not otherwise be available to them otherwise. As the use of the ATM is phased out, we will investigate more of these learning opportunities for our students at all grade levels. The advantages of online learning are many; specialized content, fits into the school schedule and students may access their programs at home. To ensure that all students in our district have access to online courses, we need to make sure they have access to the technology. Some students do not have Internet access at home or the service does not meet the requirements for online learning programs so we need to offer time in school or provide the opportunity for access outside of the normal school day. MSAD40 has plans to lend MP3 players to students so they may access podcast learning material. Other plans may include having computer access to students before or after regular school hours.

14. Accountability Measures – *Describe the process and accountability measures which will be used to evaluate the extent to which the plan activities are effective in integrating technology into curriculum and instruction, increasing the ability of teachers to teach, and enabling students to reach Maine’s Learning Results.*

As the plan is implemented, we will conduct surveys of staff members to evaluate its effectiveness in supporting the integration of technology, assisting teachers, and helping students to reach the goals of the Maine Learning Results. Also teachers will include an evaluation of the technology they use in their curriculum in regards to its ability to increase their ability to teach and inspire and engage students to learn. It is important to identify technology use with teachers to ensure equity of access for students. Principals can set an expectation of technology use for both staff and students and review the progress and work with the technology director to adapt or modify plans as necessary to meet the objectives of the technology plan. NWEA data may be used to identify areas where technology is used and show a correlation between its implementation and assessment scores of student

