MAINE SCHOOL ADMINISTRATIVE DISTRICT
RSU 72/MSAD 72

TECHNOLOGY PLAN 2014-2017

Revision 2.0
May 19, 2014

Serving:

Molly Ockett Middle School
Charles A. Snow Elementary School
Brownfield/Denmark Elementary School
New Suncook Elementary School

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Introduction

Introduction

Technology itself is not a magical solution to today's problems. But we believe that technology, properly used, will help us better prepare our students for the world in which they will work and live. Furthermore, just putting technology into a school district will have little effect unless the proper support is provided.

First, there must be support to keep the system working. Technology is of little value unless it does what it is supposed to do. Districts must have an individual or individuals with the technical expertise to troubleshoot the day-to-day problems that arise with technology. On-going training of technical support staff will take place through 2017.

Second, teachers must have substantial, ongoing staff development with this technology. A few hours at the beginning of the school year will not be sufficient. Teachers must have "hands on" time to really get in and learn to use the technology. Teachers will not use technology they are uncomfortable with. We will continue to schedule staff training in the area of technology through 2017.

Third, technology cannot just be "added to" our current curriculum. If that is done it will not be of much benefit. For technology to be effective, it must become an integral part of the curriculum. Teachers must understand that "just using" a piece of software isn't going to be effective. The software must have a purpose, and there must be some sort of discussion or debriefing exercise after its use. We will continue to evaluate software used in instruction within the curriculum through 2017.

Finally, our district is committed to technology. An investment in technology must not be viewed as a "one time" event. The School District, Board of Directors and the Community must commit at least some level of ongoing funding for the upgrade and replacement of technology. We will continue to support the district technology budget through 2017.

1. District Overview

The MSAD #72 School District has made a commitment to provide the best education possible for all of our students. We believe that public education must be designed to prepare students for the future. We are preparing them for a workplace and a home place that is technologically oriented, which will require a parent and worker force who can use higher order thinking skills. Jobs, and life in general, will require people who can solve problems, understand complex terminology, communicate clearly, make sense out of massive amounts of ever changing information, and know how to use appropriate problem solving techniques.

It is no longer possible for teachers to know or teach everything a student needs to know to succeed in life. In all areas of the curriculum we must teach an information-based inquiry process which meets the demands of the age in which we live. Thus, we believe that students must be empowered with the tools necessary to access this information in an information-based, technologically oriented society. In order to accomplish this, we, as educators must be visionary in our application of knowledge, technology, and educational methods. We must provide educational programs that will prepare students to function in a world in which much of the technology and knowledge they will use has not yet even been discovered.

To this end, the MSAD #72 School District believes that technology exists as a very powerful, essential tool in the education process for both students and staff. Technology is not a separate curriculum, but an integral part of every curriculum at every level of instruction. A key word in this process is, "appropriate." Technology for technology's sake is a waste of precious resources. But technology used in an appropriate way will bring tremendous rewards.

Based upon a review of available research, we feel that any technology plan must address five critical issues. Those five conditions are:

1) Access—to have computers accessible in every classroom

2) Connectivity—to have all computers connected to the network

3) Tools--provide tools for exploration, research, and day-to-day tasks

4) Resources--reach beyond the classroom walls to tap other resources

5) Integration—to learn how all of the other 4 elements work together.

2. District Beliefs

The following Belief statements are the general premises which will guide development of technology and help us achieve our goals:

1. Computers, and other technologies are used by students/staff as <u>tools</u> for <u>producing</u> integrated work.

- Student assessment should be based on demonstration of skills and knowledge within a continuum of growth.
- Educators should <u>model</u> use of technology for students
- Computers should be used across all curriculum areas

- Software and hardware decisions and purchasing need to be based on curriculum
- Access to online information and sources should be readily available
- Buildings must be networked (within the school, within the District, and outside of the District)

2. It is recognized that not only is there an explosion of development in the technology fields but also our educators are at many levels of use; therefore a variety of staff development is necessary.

- Educators need to constantly update their knowledge of technology.
- Staff development should involve instruction and ongoing support
- Distribution of technology should be organized by the needs of each individual classroom or school.

3. MSAD #72 District (K-8) and the Fryeburg Academy (9-12) leadership is critical in order to provide expertise and coordination.

- While recognizing the integrity of both school systems, communication and coordination between the Academy and the District is essential.
- Educators need to constantly engage in good public relation activities regarding technology developments, needs and uses through communications with the school board and the various "communities".

3. District Technology Competencies

All K-8 students should develop the following technology competencies at various levels:

- Be able to understand core computing concepts.

- Be able to properly complete assignments using a word processing program.

- Be able to retrieve information from electronic databases.

- Be able to read, write, and articulate technical instructions.

- Be able to create multimedia presentations.

- Be able to use technology to communicate with others.

- Be able to use available software and/or technology associated with a particular course of study or vocational choice.

- Be able to access information over the district computer network.

- Be able to use the computer to collect, compile, and analyze data from experiments, simulations, and/or real life problems/applications.

- Be able to interact with and acquire information from the Internet through our local area network (LAN).

4. Effective Technology

Over the past three years our district has done a number of things that have worked well.

1. We provide technical expertise in computer hardware and software support including the installation and repair and upgrade of all computers. This is accomplished by the District's Technology Coordinator, Technology Assistant, Technology Building Representatives, and the Technology Committee.

2. Our technology training is designed to be flexible, to support not only teachers who may be fearful or ignorant of new technology but those teachers who enthusiastically embrace it and share their knowledge with their peers.

3. We strive to provide adequate technology by recycling older computer equipment to classrooms/libraries and by upgrading others as part of our district-wide basic computer standards.

4. We provide each classroom teacher with a laptop computer. With the introduction of Google Apps for Education in 2013, the ability to E-mail about meetings, collaboration on educational issues, etc. has increased communication between staff and staff and students.

14 Required State of Maine Categories for Technology Plan

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.

The intent of MSAD #72 is to use technology as a means of providing a variety of information for the parents and community. We believe that this effective parent communication is one of the most important components for a child to be successful.

The MSAD #72 District is using the Infinite Campus student information system (SIS) and Intouch notification server by Edulink Systems. This system gives us the ability to communicate the educational process of each student using a dedicated parent portal and allows us to effectively notify parent of district events, snow days, and emergencies. Attendance is available to parents via the SIS web features. We hope to take advantage of some of the other modules in this SIS system I.E. Special Education and Food Service within this tech plan period through 2017.

MSAD #72 maintains and continues to upgrade the District's web site as well as the individual teachers' websites to expand communication for teachers, students and community. We will provide support and hardware necessary to allow teachers, students and parents to use the schools information communication network from home (Homework Hotline, District Electronic Card Catalog, District News and web links). MSAD #72 plans to continue parental and community involvement through the development and maintenance of each school's web site of information (This item addresses the availability and support issues to 2017).

As part of the MLTI Participation Agreement we start each year with either an in-person or online presentation to parents of 7th and 8th grade students about topics such as proper use and care of laptops, maintenance and warranty, digital citizenship, filtering and usage monitoring, and district technology philosophy. Parents are encouraged to learn to use these devices with their students and be active participants in the monitoring of their students usage.

All MSAD #72 school board members have an email account on our current communication server. This service has increased the ability to communicate within our community and with our teachers and staff in the district.

MSAD #72 will continue to provide support and maintenance of the Destiny Electronic Card

Catalog. The information server holds all the districts library books cataloged online. Student, teachers and the community can access this information through the districts web site. Parents along with their child can access the Destiny server to view and check-out books.

The MSAD #72 Administration team, sub committees, and individuals have had a direct impact in the development of the District Technology Plan including:Technology Director, Technology Specialist, Technology Education Specialist, District Librarian, Elementary teachers, Middle School teachers. Administration team; Superintendent, Denmark and Snow school Principal, Molly Ockett Principal, Special Education Director, and New Suncook Principal.

2. Vision for the MSAD #72 School District K-8

Establish a vision statement linking the tools of technology with areas such as curriculum content, instructional practices, professional development strategies, and enhanced services. (If you have already established a school or district-wide vision statement you may use it rather than establishing a separate statement, so long as it encompasses the requirements above.)

Our technology vision is to incorporate technology in educational programs across all curricula with the outcome being a more competent and confident teaching staff which will in turn enable teachers to utilize daily integration technologies for higher achievement of all students.

Our technology goal is to provide the necessary skills and tools to give every student the opportunity to be successful in life and to be competitive in the work place.

3. Goals that aligned with Maine Learning Results/Common Core Standards

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

Proficiency with technology allows students to succeed. The Maine learning Results include basic technology skills to help them succeed. They also call for students to use technology to help them learn in all areas. Technology is part of the learning solution, whether it be using tools to solve math problems, to access information, or to promote literacy and communication skills.

To improve student academic achievement aligned with Maine learning Results, students will achieve, with the help of the MLTI laptops in the following areas, Produce and publish

documents, Interact and collaborate, Communicate using web tools, Evaluate information presented in different media formats

Career and Education Development

As we are a K-8 District Career planning occurs outside of our purview. Education development occurs in various Curriculum Committees that are heavily utilizing the remote collaboration tools that Google Apps for Education (GAFE) provides. All staff have District provided laptops and a GAFE account allowing close integration with those on the ground and those administrating.

English Language Arts

An obvious ELA technology goal revolves around teaching typing, which is emphasized at varying periods throughout the year by most grade level teachers using the "Type to Learn 4" program. Starting in 2013 we strongly emphasized the collaborative writing tools available as part of the GAFE suite and students in grades 4-8 are projected to use these tools daily moving forward. We also are closely involved with individual teachers' pet projects, such as the 6th grade "movie trailer book report" project in which students use Keynote and iMovie to create technology reliant book reports that mimic how modern movies capture audiences with movie trailers.

Health Education and Physical Education

Our goal is provide technology tools to help students develop and maintain physical fitness, mental, and emotional health of students including education on nutrition, exercise and sports.
Using on-line research in specific health care topics and software tools to measure accountability of physical performance.

Mathematics

Our technology goals for mathematics are directed toward integration and usage of software and external web services which assist with Common Core instruction. Various grades use Khan Academy and MobyMax which both implement Common Core programs. Our Technology Education Specialist visits K-8 classrooms to assist in the instruction of these tools with the kids, and has created topic specific lessons at the request of teachers, such as graphing and coordinate instruction using the easy to use Logo programming language.

Science and Technology

The District Technology Department supports student understanding of advanced technical skills and helps to foster those skills through an exclusive group of promising students designated the "iTeam." These students work hand in hand with fellow students and staff learning how tol work on various student driven technology projects in the realms of programming, technical troubleshooting, logic processing, and general technical knowledge.

Social Studies

Our goals for the Social Studies curriculum includes many ambitious projects revolving around review of archived media from historically relevant sources, paperless workflow using GAFE and classroom management tools, and dynamic evaluation of timelines using various software and web services.

Visual and Performing Arts

Our goal for visual and performing arts revolves around creation of content using the excellent digital tools available on the MLTI laptops and the open source tools we have added to our deployment. Multitrack audio recording, podcasting, and scoring are heavily used in our music curriculum. Raster based and vector based illustration tools are available in a variety of software and are actively encouraged to be used to enhance projects in all subject areas.

World Languages

Most foreign language instruction in MSAD #72 relies on traditional teaching methods, but we do enhance subject learning with culturally significant media available online.

Blended Learning

While not directly a topic in the Maine Learning Results, our district's 8th grade begins a multi month long project entitled "Decades" which is heavily dependent on technology for research and content creation. Students are broken into groups and are assigned a decade with the goal to create a rich live action and multimedia enhanced presentation about their decade. iMovie is heavily leveraged, as are archived media research, green screen filming, and multi track audio layering.

4. Identify Necessary Technology Hardware Inventory Component, Usage Information Component and Future Needs Component

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 goals.

The district is constantly replacing computers throughout the district and at this point we have about 800 computers as summarized below.

- We have 8 carts of 25 wireless MacBooks used in the 3 elementary schools for keyboarding and general instruction in the 3rd, 4th, and 5th grades.
- The middle school has about 310 wireless MacBooks and MacBook Air (MLTI-IV) laptop computers that are used for student and teachers in the 6th , 7th, and 8th grade.
- The district has 10 networked multifunction copiers, 30 networked laser printers, 14

locally attached laser printers.
- Each school has fast Internet access - the Molly Ockett Middle School has a 200 megabit connection, the Denmark School, Snow School, and New Suncook School each have a 20 megabit connection.
- All four schools in the district have full wireless coverage.
- The MSAD #72 district uses the Maine School Library Network to provide our Internet connectivity. IP addresses are provided via DHCP only to machines we have added to a MAC access control whitelist.
- We use Infinite Campus as our district SIS (Student Information System). This IC system maintains all student and staff information and records.
- We have a district library server running Destiny software that maintains all the library books for each school and can be accessed from any classroom. Managed eBooks are available for teacher classroom and individual student use.
- All three Elementary school libraries have a small pod of older computers for general student use. These range from Windows XP Desktop PCs to Apple MacBook Laptops.
- A Google Apps for Education communication server supports all staff email communication within the District.
- The Central Office has private and public wireless access and has eleven (11) Desktop PCs connected to the network. A Microsoft Windows Server 2008 R2 at the Central Office is used for local file sharing and backup of local systems. The Central Office has three (3) network printers to handle various department printing needs and one (1) network color copier for scanning and printing of bulk items.

CURRENT STATUS OF MSAD #72, April 2014

Total number of users in district	
Number of staff	199
Number of students	759

Number of schools K-8
    Elementary
    Middle
	4
	3
	1

Technology support staff in district	
Technology Director	1
Technology Specialist	1
Technology Education Specialist	1

Support Technician	½ time shared resource (SAD 61)

Total number of computers in district	
PC's	76
Mac's	817

MacBook carts at each Elementary School (25 per)
    C.A. Snow School
    Brownfield Denmark School
    New Suncook School
	
	4
	2
	2

MacBooks in 6th Grade	88
MacBooks used by staff	113
MacBook Air's in 7th and 8th Grade	173
MacBook Air's used by staff	34

Total number of printers in district	
Standalone laser printers	14
Networked laser printers	30
Multifunction Networked copiers	10

Total number of servers in district	
Mac Mini servers (for file sharing, Filemaker Pro server, print/Munki server, and other misc services)	2
Upgraded MacBooks running OSX 10.9 (for dedicated print/Munki server)	3
Destiny	1
ADS	1

Networks in Elementary Schools	CAS / BDES / NS

Bandwidth provided by MSLN	20 MBps each school
Managed 48 port Gigabit core switch	1 each school
Managed 8 port POE switch	1 each school
Number of UBiQUiTi 802.11ac WAPs	5 / 4 / 6

Network in Middle School	Molly Ockett
Bandwidth provided by MSLN	200 MBps
Managed 24 port core switch	1 MDF x 2 IDF
Cisco Aironet 2600 WAPs	
6500 series Cisco switch and controller	1

Necessary technology to supplement our current base required to achieve our technology goals over the next 3 years would include:

- To ensure full IPv6 compatibility
- Acquire the current MLTI phase laptops when they are made available to replace our aging white MacBooks.
- Additional wireless access points in our 6th grade wing.
- The design and supplemental hardware to support a district wide WAN.
- Updated repair tools and software to continue to keep our existing computers functioning as expected.

Additional areas to consider identifying necessary technology needs are those involving special computers, augmentative communication devices, and special systems to support the needs of students with disabilities. The district regularly purchases these special pieces of equipment, but must also ensure that updated hardware and software is in place to support these systems.

5. Collaboration with Adult Literacy Services providers

Describe how the program will be developed, where applicable, in collaboration with adult literacy service providers.

MSAD #72 continues to be part of a dual-district adult ed program with MSAD #61 which has

typically provided courses in introduction to computers, Microsoft Office, Google Analytics, and courses in English, writing, fitness, and vocational. Every attempt is made to accommodate requests for access to technology. Computer availability for adult education is imperative to the success of the program. Individuals must have access to a computer for a variety of reasons both in the school and in the community. The local schools and libraries provide computer and Internet access. Their hours of operation and services are promoted through a published document to both districts. (This item address the availability and support issues to 2017.)

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.

Goal 1: Continue to support curriculum that will enable students to achieve the goals of the Common Core Standards.

- Through a curriculum council we develop methods that our installed technology base can support.
- Lacking funds for a full time Technology Integrator we supplement as best we can with our Technology Education Specialist by demonstrating specific application usage periodically as requested by the teachers.

Goal 2: Improve classroom interaction between teachers and students

- Funds have been allocated in prior years and going forward toward the realization of installing short throw projectors in every instructional classroom to allow teachers to present materials interactively to the whole class without needing to waste time setting up a projector on a cart as needed.
- We are investigating an iPad initiative in our Elementary Schools to determine whether the devices will bridge the gap between students and teachers in a meaningful way at that level.

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.

Technology continues to be a vital tool in enhancing our work as we aligned all our curriculum areas with the Maine Learning Results/Common Core. We have been very proactive about integrating technology into our curriculum performance standards by participating in the STAR online assessments and trialing the Smarter Balanced assessment this spring, and by integrating Google Apps for Education tools into the daily workflow of our students. We are also investing the use of the Reading Street program at our Elementary schools which contain a significant amount of digital integration with the physical instructional media.

Technology has become very important as we develop our local Comprehensive Assessment Plan. At all levels (classroom, school and district) we are using assessment data to create action plans that directly influence our classroom instruction work, our curriculum development, and our professional development plans.

Google Apps for Education is an integral part of our communications structure allowing both staff and students to use email and collaboration effectively. All of the agendas and minutes of our district's committee work is posted on our Google Apps for Education system, which makes it available to all community members, staff, and students, in and out of school via the District's web site.

Technology planning is a broad-based effort within the district. The Technology department conducts ongoing analysis of district needs. Needs are determined by analyzing curriculum; keeping abreast of current technology developments; analyzing currently available hardware and software; and by talking to teachers, school board members, parents, students, and administrators. There is an ongoing dialogue that helps focus technology needs. This dialogue also allows us to help teachers, parents, and others develop a vision for future uses of technology. This process is supplemented by "pilot projects" that may be set up within the district to provide additional planning information. As needs are determined we begin analyzing methods of financing needed technology. In the past, we have used a combination of NCLB Title IID funds, Incentive Grant funding, and local money.

Computer technology is being deployed as appropriate in all schools as budget allows. Digital equipment such as short throw LCD projectors are available to display images for whole class viewing. Several digital cameras, video cameras, and scanners are available in all schools. Technology integration has continued to advance in the math and science department during the current year. Internet resources are available to support the math and science curricula.

The social studies department continues to integrate technology within its curriculum. Technology has also continues to be integrated into the music, fine arts, and the physical education departments. A timeline reference can be found on Goal 9: Continue to integrate technology within the classrooms.

8. Technology Type and Costs, 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 other Federal programs, and state and local sources that support technology acquisition and integration. (The example below is available as an Excel document for an optional template).

As with most school districts, MSAD #72 has been forced to carefully monitor its budget dollars on technology hardware, software, and training. While it is impossible to detail purchases far into the future, these goals and next steps will specify the process that we use to make decisions on an on-going basis.

Goal 1:   Provide ongoing professional development to improve staff knowledge.

Next Steps:

- Set up professional development workshop options each school year, one in October and the other in March

- Set up a repository of helpful technology usage tips and video segments modelled after Khan Academy so that teachers can learn on demand and at their own pace

- Continue to perform District assessments of professional development activities that will enhance the ability of teachers to successfully meet the technology standards of the district.

- Conduct a professional development survey at the end of each year.

- Continue to align professional development activities to the performance standards for the local curricula, which have been aligned with the Learning Results and Common Core.

- Work closely with the Learning Results and Common Core standards each year.

Hardware/Software: Use of district laptops

Costs: None anticipated

Funding Source: District Technology Budget if required

Time line: September 2014-2017 Conduct a District survey
October 2014-2017 Implement professional development workshops
November 2014-2017 Conduct a technology workshop exit survey.
March 2014-2017 Ongoing support of district workshops.
April 2014-2017 Conduct end of year survey.

Goal 2: Continue to upgrade District Technology Computer based on Standards.

Next Steps:

- Maintain our standardized hardware and software base standards for minimum technology acceptance.

- Verify task based performance standards to apply to base line technology specs.

- Test all manufacturer upgrades for software identified as key to our standards before deployment.

- Review/update hardware software inventory database for accuracy

- Evaluate district computers each year for suitability for deployment to all staff/students

- To continue planning efforts to replace below baseline computers/software.

- Repurpose or sell old computers where applicable

Hardware/Software: Purchase computer and software upgrades

Costs: Costs for this goal are subject to budget creation and review by the school board every year

Funding Source: School district technology budget

Time line: July 2014-2017 Purchase/install above equipment and software
                    September 2014-2017 assessment of Base Standards
                    2014-2017 Ongoing review of baseline computers/software standards
                    and make upgrades wherever needed.

Goal 3:   Increase communication among the community, staff, and faculty.

Next Steps:

- Model best practices for staff using GAFE system to communicate with others - Calendars, Websites, Groups, Email, Voice & Video, etc

- Provide online documentation to support common communications issues.

- Continue to evaluate other communication software cost factor.

- Develop a plan to implement a cost effective email communication.

- Continue to learn about and take advantage of the features of our Intouch Emergency Notification system

Hardware/Software: District laptops

Costs: Archiving costs for Google email
                    Annual cost for Intouch Emergency Notification system

Funding Source: District Technology budget

Timeline: September 2014-2017 provide GAFE usage updates
                    January 2015-2017 On-going assessment of progress.
                    July 2014-2017 On-going support for communication tools.

Goal 4:   Work toward a unified computing experience between schools

Next Steps:
- Continue to explore needed technology and hardware requirements to implement unified district infrastructure, including possible IPv6 integration.
- Work with MSLN to maintain the proper network as defined via discussion.

- Standardize on a common OSX software image for all laptops K-8 so that teachers can confidently devote time to learning applications that can be used at any school.
- On-going training of staff on proper usage of technology.

Hardware/Software: MLTI laptops and other district owned computers

Costs: Funds allocated to maintenance and repair of laptops, networks, and other related technology

Funding Source: 2014-2017 District Technology Budget

Time line: March-June 2014-2017 create annual OSX image for laptop deployment
July 2014-2017 ongoing technology support and maintenance.

Goal 5: Continue to support a keyboarding/writing program for grades 3-6

Next Steps:

- Continue to monitor, support and repair the MacBooks/carts at each school used to meet the standards on our keyboarding (Type to Learn), and reading continua.
  Perform a weekly assessment on MacBooks
  Repair all damaged MacBooks

- Provide an ongoing assessment of the 3rd, 4th, 5th, and 6th grade keyboarding program.
- Work with staff to maintain a level confidence
- Support staff with quarterly reports on student status.
- Continue to support the teachers to coordinate the keyboarding program at each elementary school.
- Meet with teachers to assure confidence in teaching keyboarding
- Continue to inform 7th and 8th grade teachers to use TTL4.

Hardware/Software: MLTI and district owned laptops and TTL4 software

Costs: Annual maintenance subscription for Type To Learn 4

Funding Source: 2014-2017 District Technology Budget

Time line: August 2014-2017 Assess and replace/repair MacBooks where needed
September 2014-2017
Continue to the assessment of student keyboarding skills for grades 3, 4, 5, and 6
Continue to assess the writing use of student work

On-going review, support, and adjustment.

Goal 6: Introduce emerging technologies to students.

Next Steps:

- Continue review a list of new technologies.
- Narrow down list to appropriate grade level
- Provide professional development training for teachers
- Educate students on new technology
- Provide on-going support

Hardware/Software: iPads, Kindle, MimioTeach™ interactive system, LEGO®
MINDSTORMS® NXT 2.0, interactive whiteboards, 3D printing

Costs: Variable depending on school board support

Funding Source: District Technology Budget
Time line: Summer 2014 Evaluate new software/hardware
September 2014 training and support of new technology for
teachers/students
2014-2017 Continue to provide on-going assessment of new
technologies.

Goal 7: Evaluate best practices for data backup and stress the importance of these practices to the students and faculty.

Next Steps:

- Continually review best software backup methods
- Continue to assure the integrity of student and staff data for middle school
- Implement a mission critical data backup system for Central Office staff
- Instruct teachers and students on backup using Google Drive

Hardware/Software: No specialize hardware required (Cloud based)

Costs: $700 for CrashPlan software

Funding Source: 2014-2017 District Technology Budget

Time line: August 2014-2017 purchase software
        September-October 2014 Configure and install Software.
        June 2014 Train teachers and students best practice in Google Drive
        September 2014-2017 On-going support, and adjustment.

Goal 8:   Continue to maintain and improve the Districts web sites

Next Steps:

- Work with district departments to improved department presence online
- Continually add relevant content to new Google websites
- Continually evaluate website function and review new tools added by Google
- Provide staff professional development training for instruction on Google website design.
- Provide on-going support for all schools.

Hardware/Software: No specific hardware required, any modern web browser

Costs: No direct cost

Funding Source: N/A

Time line: September 2014 On-going needs assessment for web integrity
        October 2014-2017 Setup training each year
        September 2014-2017 Continue to maintain and support district web sites
        September 2014-2017 Coordinate professional development as needed

Goal 9:   Explore distance learning technology possibilities

Next Steps:
- Explore available methods for distance learning
- Determine interest level from teachers
- Dedicated hardware is an option
- Existing laptops and software solutions are an option
- External resources available to connect to need to be researched

- Implement chosen solution
- Train staff and students on use of distance learning solution
- Compile resources available into an easy to use guide for teachers

Hardware/Software: Computer system with additional hardware and distance learning software

Costs: Investigate cost factor range of $500-$20000

Funding Source: RUSS grant

Time line: July 2014 Assessment of methods
September 2014 implementation of agreed methods for school interconnectivity
September 2014-2017 continued assessment
September 2014-2017 ongoing support

Goal 10: Develop a method to better incorporate digital citizenship

Next Steps:
- Discuss with teachers and administration how best to incorporate digital citizenship into an already congested instruction period
- Determine the best division of topic content to be given at the middle school level and the elementary school level.
- Determine the best resources to use to teach digital citizenship
- Implement methods determined to be best for our available resources to achieve this goal.

Hardware/Software: Use of district computers

Costs: Range of $0 - x cost of a Full time salary for Tech Integrator depending on best solution.

Funding Source: District Technology Budget

Time line: June 2014 assess technology curricula with district administration
September 2014 work with curriculum team leader.
September 2014-2017 implement changes in curriculum to include this goal

Goal 11:   Continue to support digital research literacy

Next Steps:
- Evaluate current usage of research resources
- Educate users on other resources available and best practices
- Follow up on whether best practices have been successfully adopted

Hardware/Software: Use of district computers and other hardware

Costs: No direct cost associated other than man hours dedicated to project

Funding Source: Library and Technology budget

Time line: 2014 - 2017 evaluation, implementation, and ongoing support.

Goal 12:   Continue to Improve Network Security of all district resources

Next Steps:
- Evaluate single point of failure and other network weaknesses
- Prioritize resolution of discovered weaknesses
- Determine most effective methods of resolving prioritized weaknesses
- Resolve weaknesses based on priority and available resources

Hardware/Software: Hardware security devices

Costs: Maintenance and upgrade of existing networking as needed

Funding Source: District Technology Budget
                    MLTI funded security device

Time line: July 2014 evaluate network
                    September 2014-2017 implement changes that may be required

Goal 13:   Continue to enrich a thorough Run Book to define district technology procedures

Next Steps:

- Evaluate areas where documentation and procedure definition are lacking
- Document critical specific staff knowledge that is important to the entire dept
- Prioritize areas where such documentation would be most helpful the soonest
- Develop a Disaster Recovery Plan to define emergency procedures
- Document all relevant knowledge about existing network infrastructure
- Draft the Run Book based on content priority and available manpower

Hardware/Software: No specialized hardware or software is required

Costs: Man hours related to organization and production of Run Book
                              Possible Consultancy costs for guidance and review

Funding Source: District Technology Budget

Time line: July 2014-2017: A Run Book is a living document, prioritization of
                              content will determine timeline of specific features, and all will be
                              updated annually once created.

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.

The MSAD #72 technology planning is a broad-based effort within the district. The technology coordinator, technology assistants, and the technology committee members conduct ongoing analysis of district needs. Needs are determined by the following resources;

- Analyzing curriculum
- Keeping abreast of current technology developments
- Analyzing currently available hardware and software
- Talking to teachers, school board members, parents, students, and administrators

Additionally, in order to help support the use of technology, the following resources need to continue to be in place during the 2014-2017 period.

- Students need academically supported software suited for their grade level.
- Students need accessibility of application software.
- Teachers need to better make use of existing classroom management software.
- Teachers need a grading program that is easy to use and reliable.
- Teachers need a basic computer usage and maintenance sessions.

- Teachers need Internet resources to enhance educational opportunities for students.
- Administrators need an enhanced student information system (Infinite Campus).
- Administrators need to continue the management of a server based Purchase Order system.
- Administrators need to continue to support State and Federal data needs (MEDMS)
- Administrators need to continue to evaluate the currency and functionality of the districts network, hardware and software.
- Administrators need to continue to support the Special Education Assistive Technology
- Administrators need to continue to support the online district library resource server (Destiny).
- Administrators need to acquire sufficient hardware, in the areas that support academic achievement, transportation, scheduling, student information, reporting to parents, health, safety, and food service.

Our District has trialled Reading Street Common Core at the Brownfield-Denmark Elementary School and is evaluating whether to expand this district wide. This program utilizes functions like tablet and computer based Grammar Jammers for individualized instruction among other tech oriented teaching methods. It also assists with one of the most time-consuming parts of grading - correcting writing papers with the tool named EssayScorer. This online automated scorer is expected to save our teachers time and students receive instant feedback as they write.

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.

1. We participate in the MLTI program, which provides laptops to 7th and 8th grade students and teachers.

2. We provide our 6th grade students with laptops at a 1-1 level, as well as carts containing at minimum 50 laptops for shared use at each elementary school.

3. We provide each instructional teacher and many support teachers/staff with a laptop if not part of the MLTI program directly. The ability to E-mail about meetings, educational issues, etc. has increased communication between staff.

4. We provide workshops and technical expertise in computer hardware and software support including the installation and repair and upgrade of computers. This is

accomplished by the District's Technology Specialist, the Technology Assistant, and the Technology Committee.

5. We provide software and hardware training, which is aligned with our technology plan. Through this staff computer usage and motivation has increased dramatically.

6. We strive to provide adequate technology by recycling older computer equipment to classrooms/libraries and by upgrading others as part of our district-wide basic computer standards.

7. We provide extra support to the teachers that are at a comfort level to begin using technology. This has lead to teachers becoming mentors for other teachers.

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 curricula instruction will be identified based on a review of relevant research, and promoted to lead to improvements in student academic achievement

Our method to promote technology integration in the classroom is by constantly demonstrating the following benefits to teachers:

- **Ease of use** - the greatest barrier to teacher adoption of technology is fear and lack of time to learn. By reinforcing that these tools really are not as hard to use as you think, you reduce the fear and diminish the perceived time commitment.
- **Availability** - having 1 to 1 computing in the middle school and carts of laptops available in the elementary schools we ensure the technology is available to use, and that time spent on integration will not be wasted with the removal of resources.
- **Productivity** - showing teachers how technology can save them time and make certain lessons more productive can tempt them into wanting to bring this into their curriculum.
- **Excitement** - new tools and new features, or even learning new things about old tools raises interest in using them. Modern technology is exciting once you allow yourself to explore it.

Through different mediums such as our Newsletters, District web site, and District wide email and Google Groups teachers will be able to post their various curricula and teaching strategies for integrating technology. Working with staff development workshops will teach other teachers technology integration skills and promote the use of technology. MSAD #72 will utilize technology in all areas of instructional delivery and to monitor the success of learning using different assessments.

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 library media center.

Staff development continues to be considered critical. Over the past several school years we have significantly increased the amount of computer related staff development workshops. As a result, teacher surveys indicate individual teacher computer usage has increased.
We have provided hands-on computer training and workshops for teachers. As a result of this all of our teachers use the Internet and E-mail on a regular basis.

MSAD #72 will continue to support professional development by:

1. Continuing to perform district assessments of professional development activities that will enhance the ability of teachers to successfully meet the technology standards of the district.

2. Continuing to align professional development activities to the performance standards for the local curricula, which have been aligned with the Learning Results and Common Core.

3. Continuing to provide educators a variety of opportunities to continue their professional growth, which will have a direct impact on improving student performance

When the district technology plan was reviewed it was clear that the process was working and encouraged to continue. GAFE is an integral part of our communications structure allowing staff to use e-mail effectively. All of the agendas and minutes of our district's school board's work are posted on our GAFE websites, which makes it available to the public.

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 encouraged, particularly in areas that would not otherwise have access to such courses or curricula due to geographical distances or insufficient resources.

We do not have ITV or satellite capacity, but we do see value in distance learning opportunities. We are currently engaged in an investigation into various methods available to us, which we have laid out in preceding sections. Our hope is to find a cost effective solution which allows us to connect to relevant distance learning resources which exist already.

We also are planning on introducing material directly related to exploring emerging

technologies to pique teacher and student interest in new technological developments and how they might be integrated into their respective roles educationally.

Being a K-8 only environment, technology budget constraints and lack of student maturity have hampered past efforts at truly innovative delivery strategies, a flaw we are aware of and do hope to correct.

While innovation in delivery is a valuable strategy, technology must not be viewed as an end in itself. Technology is only valuable and efficient if it provides a means of accomplishing or supplementing the overall goal of education. We believe that technology in education is justified in two major ways:

First, it provides a means of making the educational process more efficient. Technology provides an additional method of instruction; it provides tools to allow students to become workers; access information and it provides a means to make students more productive.

Second, technology education is vital to the adequate preparation of students for today's work force. Technology pervades in almost every occupation. Students who have not learned to interact with and adjust to technology will be at a disadvantage.

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.

When introducing new technology into the classroom we follow a plan including appropriate professional development for the new tools, follow-up training as requested, user feedback of the tool's actual effectiveness in comparison to the anticipated effectiveness, and user promotion of the tool to other users if further expansion of the tool is desired.

Evaluation of technology, as implemented, is typically done using a combination of the following methods:

- The utilization of surveys to get broad levels of feedback
- Tech committee meetings
- Technology department presence at Administrative Team meetings
- Technology department presence at Grade Team meetings

In response to feedback about shortcomings in tech implementation, we follow up with appropriate extra training, online one page "Tech Tips" to clarify certain topics, additional

hardware or services as needed, or any other supplemental steps that are brainstormed during the evaluation process.

We have also worked with administration toward a goal of getting Tech literacy as one of the criteria used in teacher evaluation.

New technology assets are tagged and added to a dedicated asset management database which is used to monitor usage and reliability of the devices. Asset failures and user problems are tracked and added to a growing knowledge base.

Our Mobile Device Management solution allows for tracking device and application usage. This information allows us to provide pointed instruction to teachers via demonstrative documents and in class support for tools that have high utilization.

All of the items detailed above are not necessarily prioritized. The extent to which they are accomplished during the coming years will depend largely upon funding, availability of technicians, and responsiveness of users. The district will use District Technology Funds and other grant funds to help achieve these objectives.

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