Technology Plan
2007-2010

MSAD #50
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Introduction

School staff is often asked about the function of technology in the educational process. We believe that technology is both a means of instruction and the goal of instruction. For example, in a social studies classroom students might use the Internet to access information about Somalia. In this context, the computer is a tool to help the student achieve some educational result. In another context, a robotics class, students are learning how to use technology as an end in and of itself. We believe that we have a responsibility to insure that our students can use technology and that it is a transparent tool for the acquisition of other knowledge.

To impact of technology on learning is a difficult to measure but we do know some things. Technology can be a powerful learning tool when used by a skilled teacher in a pedagogically sound curriculum. What seems to be the determining variable is not technology, per se, but rather the process in which technology is used. Properly used technology tools do aid learning. We have had anecdotal evidence to this effect for some time but we now are beginning to see the research to support this. Research conduct by the Mitchell Foundation on the Guilford schools' early one-to-one laptop program shows some surprising outcomes. This data even supports that properly used technology improves results on the MLR's.

Add to this the wealth of data surrounding learning outcomes when measured against the variable of parental involvement. Research has strongly supported the notion that student learning is directly related to parental involvement. The more we involve parents, the better we can expect our students to perform. Technology initiatives across the country have taken on the challenge of using technology to increase the involvement of parents in their children's education. Guilford's experience specifically suggests that a good student information system can be used to increase the flow of information from schools to homes.

Best practice indicates that it is not technology per se, but rather technology in the hands of a skilled teacher that makes the difference. Accordingly, we are committed to providing the best professional development that we can for our staff. If computers are used solely as an electronic presentation device, they are nothing but expensive overhead projectors. Research indicates the we can expect the best outcomes from technology when it is integrated into a student-centered learning environment which incorporates project-based learning. Appropriate use of technology is important. Apple Computer's Classroom of Tomorrow research indicates that teachers must "grow into" being effective technology users. The ultimate goal is that teachers and students use technology seamlessly. It is another tool, albeit a powerful one, to aid the learning process.

We are increasingly seeing examples of powerful technology use in MSAD 50. An art teacher uses digital video to create claymation movies that can be shared with the community using streaming video over the district web site. We continue to see more and more teachers using technology with their students for the production of many kinds of work. Teachers speak glowingly of student interest in and ability to use the technology tools available.

In an ever changing, increasingly competitive world we are challenged to give our children skills that will be useful for them in their future. Providing technology skills is challenging because of the pace of technology change. Importantly, our students must learn how stay current with their technology skill set. To be vital in today's world, we must continue to learn technology skills. To compete on even footing with the rest of the world we have no choice.

Importantly, it is not just the use of technology, but also the critical and ethical use of technology that our students must master. This includes understandings of intellectual property rights, copyrights, and the proper use of email and network resources. Modern technology provides access to huge amounts of information, both good and bad. Teachers take on the responsibility for helping students acquire a healthy skepticism and the critical thinking skills needed to evaluate this information.

What is the state of technology use within the district? A teacher survey administered during the spring of 2004 found that all of our teachers use technology. Most of this is basic use such as word processing or accessing information on the Internet. MSAD 50 is like most districts in this regard. There are teachers who are effectively using technology but the majority of teachers are still learning how to do this. This is an area for improvement within MSAD 50.

Improving our use of technology will probably mirror that of other districts. Apple Computer's *Classrooms of Tomorrow* research shows, emphatically, that teachers improve their technology skills along a fairly well defined path. Apple's findings suggest that teaching style is a major determinant of how effective technology use will be. The goal is to move teachers from an instructionist-learning model to a constructionist-learning model. Table One compares instructionist and constructionist models of teaching. Table Two illustrates the stages of teachers' technology development as defined by the *Classrooms of Tomorrow* research.

	Traditional (instruction)	**Extended (knowledge construction)**
Activity	Teacher-centered and didactic	Learner-centered and interactive
Teacher role	Fact teller and expert	Collaborator and sometimes learner
Student role	Listener and learner	Collaborator and sometimes expert
Learning emphasis	Facts and replication	Relationships and inquiry
Concept of knowledge	Accumulation	Transformation
Demonstration of success	Quantity	Quality
Assessment	Norm-referenced and multiple guess	Criterion-referenced and performance portfolios
Technology use	Seat work	Communication, collaboration, and expression

Table One: Instructionist vs. Constructionist Learning from, "Changing the Conversation about Teaching/Learning & Technology: A Report on Ten Years of ACOT Research," Apple Computer, Inc. Cupertino, CA.

A technology expert was once asked how much money a district should devote to professional development. The technologist replied, "Take a look at your classrooms. If the desks are arranged in neat rows allow 30% of your technology dollars for training. If the desks are clustered in small learning groups you can probably get by with just 10%." The challenge MSAD 50 still faces is to not only train teachers in how to use technology but, and more importantly, how to use technology in a sound pedagogical process.

ACOT research shows that teachers progress along this path in five recognizable steps:

Stage	Examples of what teachers do
Entry	Learn the basics of using the new technology.
Adoption	Use new technology to support traditional instruction.
Adaptation	Integrate new technology into traditional classroom practice. Here, they often focus on increased student productivity and engagement by using word processors, spreadsheets, and graphics tools.
Appropriation	Focus on cooperative, project-based, and interdisciplinary work—incorporating the technology as needed and as one of many tools.
Invention	Discover new uses for technology tools, for example, developing spreadsheet macros for teaching algebra or designing projects that combine multiple technologies.

Table Two: Stages of Teacher Technology Development from Apple computer's *Classroom of Tomorrow* research project.

Teacher Readiness in MSAD 50

A teacher technology survey was administered on-line in May 2004. Out of a population of 120 teachers, 31 responded (25%). While this, in and of itself, is indicative of the state of teacher readiness, the data is usable but probably skewed toward more proficient use. Data collected since that time has been anecdotal but seems to suggest very strong trends:

- Teachers in one-to-one grade levels have progressed the most in terms of their ability to effectively integrate technology into their curriculum.
- Teachers who are issued laptops appear to progress faster than teachers with only desktop computers
- In clusters of K-6 teaching staff technology integration has taken a few steps backwards

We feel that the above supports the switch to mobile computers for all teaching staff. It also suggests the need for innovative strategies to help K-6 teachers to more effectively use computer technology in their teaching.

The district has become a predominately Macintosh district and the intent is to use dual OS Intel-based Macintosh wherever possible. The 2007 lease/purchase will place nearly 100 new Macs in the district and provide MacBook laptops for all guidance staff and K-6 teachers.

In 2004 87% of our teachers had either dial-up or broadband internet services at. Since that time more and more staff have migrated to broadband services. In 2004 only 2 teachers report that they did not have Internet service at home.

One group of questions asked teachers about the effects technology was having on their students. Ninety percent of respondents agree that technology at MSAD 50 has had positive effects on student motivation and acquisition of basic skills. Nearly two-thirds (61%) felt that technology increased students' critical thinking while 84% felt it helped students construct knowledge. A majority of respondents felt that technology impacted student's ability to solve real-life problems, understand concepts and relationships and communicate better. These results are supported by both anecdotal information collected since that time and are similar to results found elsewhere in Maine.

All in all, this data suggests that the great majority of teachers are capable of using technology for personal productivity tasks such as email, word processing and using web browsers for research. However, the data suggests that we have a way to go to reach a state where most teachers are using technology is a seamless fashion or are using technology to create innovative teaching approaches. This is especially the case in the K-6 segment of our district.

Using Apple's ACOT stages MSAD 50, on the whole, is at the "Appropriation" stage. Table Three, below, shows a estimated breakdown of teachers in MSAD 50 using The ACOT stages of development:

Stage	Percentage of Staff
Entry	10%
Adoption	30%
Adaptation	30%
Appropriation	20%
Invention	10%

Table Three: Stages of MSAD 50 Teacher Development

Professional development plans must focus on how to allow for continuous improvement, regardless of stage. However, different strategies should be used for staff at different places on this continuum.

Since 2004 the Department of Education has implemented an optional ninth grade MLTI program and a

second four-year middle school initiative. This has fundamentally changed the way seventh, eighth grade and ninth grade classrooms function. Research is beginning to show that this effort was well worth the capital expenditure. It is transforming the very nature of classrooms in the district. This initiative is exciting because it has provided the catalyst for improving teacher technology skills. Anecdotal information suggests that improvement seen in seventh and eighth grade teachers' ability to use technology is now being seen with ninth grade teachers.

Another mandate has and will continue to have a great impact on the district's technology efforts. The Federal "No Child Left Behind" act requires that we are able to track the academic achievement of each student in the district. It further mandates that we will have that data accessible for timely interventions and communication with parents. We must be able to track data to show the efficacy of our educational processes. For example, Title I expenditures can go only for those activities shown to produce educational results. This places the onus squarely on the district to account for what we are doing. To meet this mandate MSAD 50 adopted PowerSchool in 2004. We still have work to do to open the parent portals allowing parents access to their children's academic information.

Technology offers us new ways to communicate within the district, with our stakeholders and with the outside world. This improved communication should translate into better student performance.

To continuously improve MSAD 50 must pay attention to various aspects of our technology efforts. The "Four Pillars" of technological development (1996, Technology Literacy Challenge Fund grants) provides one model.

1. Hardware: Classrooms must be equipped with modern, multimedia computers
2. Connectivity: Classrooms must be wired for the Internet
3. Software: Educators and students must be provided with effective, useful software and online learning resources to use technology effectively.
4. Teacher training: All teachers must have the proper instruction in how to bring the benefits of technology into the classroom.

This is expressed in a slightly different way by the "Continuous Improvement Cycle for Technology (Eichel, 1999).

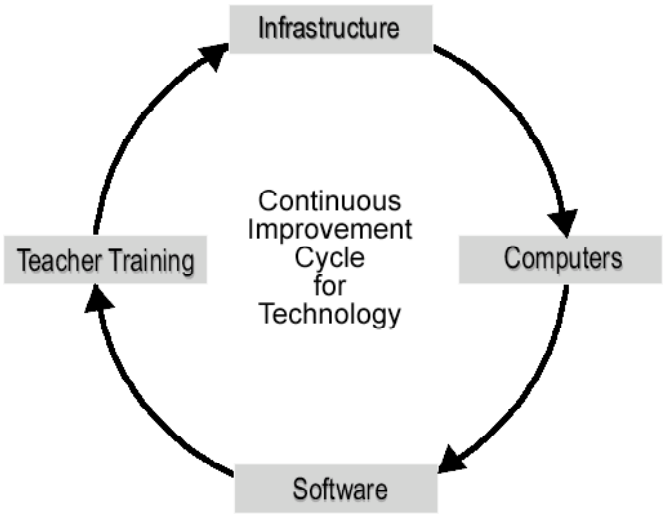

Figure One: Continuous Improvement Cycle for Technology, Eichel (1999)

This model tries to conceptualize technology planning and development. While the pace of technology change has slowed somewhat in recent years, change is constant. Technology change, while difficult to envision in its specifics is understandable from a larger perspective. First of all, districts must create a network infrastructure (the highway) on which teachers (drivers) operate computers (cars) operate using

software (fuel). Our roads must be large enough to accommodate our cars. We must provide fuel for the cars and instruct drivers on how to operate their cars. Infrastructure creates capacity for computers, which require software to operate. As more and more teachers learn how to use technology we must improve the infrastructure and computers to meet the increased demand.

The technology standards for the State of Maine mirror these basic goals. MSAD 50's technology plans also reflect these models. Below is an accounting of where we are in each of these areas.

Infrastructure: All of our classrooms and most non-classroom areas are wired for Internet access. Additionally, all buildings have wireless networks installed. We continue to run our own web site for communication with our stakeholders and our training teachers to use the FirstClass system for their class home pages. Web communication continues to be an important goal. The 2007-2008 technology budget earmarks funds installing switches that can prevent peer-to-peer software use that dramatically curtails bandwidth in and out of the GVHS. Additionally, MSLN will install a second T1 line for GVHS in July 2007.

Computer Hardware: The lease-purchase arrangement has provided us with the funds necessary to provide for a basic computer replacement cycle in all of our classrooms. Even with this periodic investment we cannot satisfy all teacher requests. In the summer of 2007, we will again spend $120,000-130,000 on new computer hardware through lease-purchase. Building expenditures for computers and peripherals add to this amount. Since the beginning of MLTI we have added over four hundred laptops. To administer this expanded installed base the MSAD 50 has grown to 4 FTEs and will add a part time technology assistant for the start of the 2007-2008 school year. We continue to add network services to support special education needs (Lexia and Kurzweil servers) student assessment (NWEA MAP) and cafeteria sales.

Software: Our software budgeting has provided all staff and students will good basic software. We use Microsoft Office, MS Works, Internet Explorer, FirstClass, and Photo Impact for graphics editing. For students and staff with MLTI iBooks, AppleWorks, iMovie, iPhoto and QuickTime are used for basic office productivity, graphic and multi-media applications. Teachers buy specific, curriculum-related software from their curriculum budgets.

Teacher Training: Providing effective teacher training remains difficult for us as it does for all school systems nationwide. The average expenditure in U.S. school systems for teacher training is 3% of the technology budget. At the beginning of the 2003-2004 school year, district media specialist positions were made full time and the expectation of being a building technology lead was added to the job description. Librarians act as liaisons between the schools and the technology office and provide “first response” for technology support.

A draft revision of the U.S. Department of Education’s teacher training standard states "All teachers will effectively use technology. ... The need for training is ongoing and must be not only about how to use technology, but also how to support student learning." When the MLTI laptop expanded laptops into the ninth grade we provided initial start-up training for all high school teachers. We will use a similar model for K-6 staff receiving laptops this summer, 2007.

MSAD #50's Strategic Plan Goal One states, “MSAD #50 will provide a high-quality educational experience based on continuous curriculum development, integrated instructional practices, and the use of technology to prepare students for adult life.” The document also speaks to the following needs:

- The need for training staff and students
- The need for adequate maintenance for an increasing number of computers
- The need to use our web pages as a means of communication within our communities.

Our job is to use computer technology in the most effective way to achieve our educational goals. We believe we need not continue the debate on whether or not students need access to technology. They do!

Economic state of MSAD 50

Citizens of the district have always valued education and supported district budgets. However, district administration had acted in a fiscally responsible manner and not requested budgets that they felt would not be supported. With the state of educational reorganization and funding in Maine, we anticipate that there will be more pressure to hold the line on expenditures in coming years. While this plan outlines steps to improve MSAD 50 through its use of technology we understand that reorganization and funding pressures can have a large impact.

I. Community and Parental Involvement

The development of this plan involved a core planning committee, the technology team, district administration and interviews with key individuals. Together these groups provided the input necessary to assess where MSAD 50 is and to plot out where we want to be in three years. The core committee formulated the information into a draft that was then reviewed by district administration. The individuals involved were:

Glenn Eichel Technology Coordinator	Ann Dodd-Collins Librarian, Building Tech Lead	Robert Beverage Principal, parent
Morris Berry Board Member and former teacher	Alison England Teacher	Beth Vickery Teacher
Margo Murphy Teacher	Jeff Monahan Technology Staff	Stan Fox Board Member, community technology professional
Lawrence Schooley Principal, parent	Beth Chamberlain Principal, parent	Mary Alice McLain Principal, parent
Neal Guyer Curriculum Coordinator	John Spear Business Manager	Judith Harvey Superintendent
Patty King Librarian, Building Tech Lead	Sue Cerridwen Librarian, Building Tech Lead	Pat Higgins Librarian, Building Tech Lead
Joseph Knight Technology Staff, parent	Judi Farley Technology Staff, parent	

II. Vision

Technology Department Mission Statement

> The Technology Department of MSAD #50 will provide and maintain the technology necessary to support the educational goals of the district. The Technology Office will also provide leadership in the efforts to integrate state-of-the art computer and network technology into classrooms providing transparent tools that are used to achieve desired educational outcomes for all our students.

Vision Statement

> Technology at MSAD #50 will be a powerful learning tool that will allow students and staff to obtain the knowledge and skills that are necessary for them to be successful in school and in their chosen life-paths. MSAD #50 will give students every opportunity to use technology to achieve learning goals and life skills and to become life-long learners.

It is our belief that technology is a tool of education and not an end in and of itself. As such, the educational goals and district curriculum drive technology use. At the same time, however, emerging technology can allow for the development of new educational practices.

We will extend MSAD #50's goal of "Excellence in Education" to the entire community, emphasizing continuous improvement as a district and as individuals. Our goal is to develop students who will be able to successfully compete in their world once they leave the district. District technology will be used to provide the community with information and resources that give our students every opportunity to be successful in school, at work and in life. Technology will provide connections between the schools and community groups so that our students can take advantage of the expertise of community members.

We believe that computer technology must be integrated into every area of the curriculum where its use is an appropriate choice to achieve a given educational goal. Technology will be used to expand the curricular opportunities offered to students. Technology will support the acquisition of critical skills in all areas of our curriculum. Staff will receive support necessary for them to help students achieve these goals. District technology leaders including the technology staff, technology teachers and library media specialists will provide this support. When possible, MSAD #50 will partner with other area schools to improve student technology skills and overall educational performance. We will continue to look for appropriate ways to allow students, through technology curriculum, opportunities to maintain hardware, to teach software applications to staff and younger students where appropriate, and to develop skills that will serve them in the workplace after graduation.

We believe that MSAD #50 should make every effort to find timesaving technological solutions for routine tasks. Tasks, such as the creation of purchase orders, the compiling and calculation of grades, and communication between all segments of the district will be done electronically. Reducing time spent on routine support tasks allows more time for teaching and learning.

We believe that technology can and should be used to improve communications between all segments of the school community. The MSAD #50 web site will continue to be a source of timely information about the schools. It will be a repository for all policy and handbook information including the district budget, and will provide the community with e-mail access to all staff members. The web site will also provide access to district library catalogs, pages of links to valuable educational sites, descriptions of curricula, and display of student work. We will also expand the use of communication strategies such as email, teacher web pages, blogs and podcasts.

We believe that our school district must produce students who are technologically capable and ready for life and work in a changing world. It is our desire to be aware of emerging technology and to make these available to all of our learners, staff and community.

We believe that our technology vision can and must be achieved in a fiscally responsible manner balancing educational benefits against cost. We will evaluate technology to help ensure that we are meeting our goals and objectives in a cost-effective way. We will make every effort to evaluate technology as to its cost and benefits provided.

III. Goals

During the 2007-2008 school year student technology competencies are to be developed as part of a comprehensive educational plan for MSAD 50. This was not done during the 2004-2007 cycle in hopes that the Maine Department of Education would publish guidelines that could be followed. This document will list the expected technology skills and knowledge that students should possess as they progress through the district.

IV. Identify Necessary Technology

Past efforts within the district focused on providing up-to-date computer labs in each of the five schools. Newest equipment went into labs and older equipment was cycled to classrooms. This strategy has been thoroughly evaluated during the last three years and open labs have been eliminated in two schools in favor of mobile labs of wireless laptops. Staff prefer to have standing labs for the use of students in grades K-4. Labs are maintained in the high school were the object of instruction is technology-specific skills such as business computer application classes and CAD drawing classes. For the next three years, St. George, Cushing and Lura Libby schools will maintain computer labs located in their libraries. Thomaston Grammar School and Georges Valley High School will provide mobile lab service in regular classrooms.

All teachers have a networked computer and most classrooms have at least one additional computer. Teachers in grades 7-12 all have wireless laptops. District servers are housed in the technology office in GVHS. Centralized servers are in place for email. Web services, PowerSchool SIS, streaming video and database services. A library server and specialized servers for reading assessment and assistance are also housed in the district office. All buildings have a fileserver for student and staff use and run servers for the NWEA MAP testing software.

Each school has a T-1 connection through the MSLN network and central campus schools (GVHS, TGS and LLS) are connected with 10 mb fiber. The district office connects to the system via a radio system to the central campus. With the exception of GVHS, this bandwidth has been adequate. MSLN has informed us that we will be receiving a network upgrade for GVHS during in July 2007, doubling the available bandwidth.

All schools in the district have received new technology on a per student basis in the past. Beginning in 1995 the district implemented 3-year lease-cycles. The last cycle began in 2004 and a new lease-purchase is planned for the summer of 2007. With the upcoming lease-purchase, technology will be allocated based on need, rather than per student. This change is predicated on state and district funded one-to-one programs in grades 7-9. Grant and district funds provided for the 9th grade one-to-one program in 2005.

The district also opted to purchase used MLTI computers from the state in 2006. These were used to expand one-to-one to the 10th grade and to provide more mobile computing capacity in grades K-6. The age of these devices, however, suggests that their use into the future is problematic. Failure rates during the 2006-2007 school year call into question whether these devices will be cost-effective into the future.

The total number of networked multi-media computers available to students and staff now exceeds 800 (desktop and laptop devices). We expect to add another 70 devices during the summer of 2007.

An established goal has been to provide all teaching staff with laptops. We feel that there is a strong correlation between enhancing technology skills and having a mobile computing device. This will be accomplished through the 2007-2010 lease/purchase cycle.

In the past, MSAD 50 has gone from Apple computers to Windows-based PC. With the start of MLTI, we began a transition back to Apple computers. Macs are used exclusively at the middle school level and all teachers 7-12 have Mac laptops. We feel that platform is less important than it has been in the past. Students go easily between PCs and Macs. Intel-based Macs allow users to boot with either the Windows or Mac operating system. For these and other reasons we recommend that the district should standardize on Apple Macintosh computers unless curriculum goals require another platform.

Technology Support

In 2004, the district used ISTE's Technical Support Index (TSI) to asses technology support. That assessment indicated that MSAD 50 could be:

> "considered 'Island' requiring attention and improvement. The 'Island' stage of development refers to a system that has some areas of excellence, but typically isolated and limited in implementation. While there is some good support in place, improvement will be required to overcome technology challenges."

Additional fiscal support could offer improvement in many areas. For example, implementing a one-to-one program in the 10th grade with 3 and 4 year old iBooks is not the best strategy. The reliability and power of these devices creates problems. While we have added 1.5 positions over the last 3 years we have also added over 300 laptops. Our computer to technician ration is still around 200:1.

Summary results of the 2007 TSI suggests:

> "According to the Technology Support Index (TSI) your system is considered 'Satisfactorily Efficient' requiring limited improvements. The 'Satisfactory Efficiency' level of development refers to a system that is doing a very good job of support in many areas. Improvements in a number of areas will enhance the organizational capacity to effectively implement technology."

The changes in three years reflect the investment in additional personnel and the formalization of a number of support processes. We have shown good improvement during this three-year period.

The survey showed a number of areas of high efficiency, such as the availability of on-line training (AtomicLearning) but also identified areas for growth. An on-line troubleshooting database for staff and implementing "push" technology for remote installation are examples of the latter.

School Technology and Readiness

To assess the way technology is used in the classrooms, building technology leaders were asked to use ISTE's StaR Chart questionnaire. This twenty-item survey asks specifically about variables directly related to the quality of technology use within the curriculum. Results are given in five areas, hardware, connectivity, content, professional development, and integration. This assessment was initially done during 2004 and results for 2004 and 2007 are shown.

The table below shows results for each of our schools. Scoring in each area is high tech (HT), medium tech (MT), low tech (LT) and target tech (TT). Low tech and target tech indicates areas where improvement is needed. Additionally, an overall score is provided which uses the same scoring code.

	CCS	LLS	STG	TGS	GVHS	Ave.
Hardware	HT	HT	HT	HT	TT	HT
Connectivity	LT	LT	MT	LT	LT	MT
Content	MT	MT	MT	MT	MT	MT
Professional Development	LT	LT	MT	LT	LT	LT
Integration	LT	LT	LT	MT	LT	LT
Overall	MT	MT	MT	MT	MT	MT

Table Five: StaR Chart Results for MSAD #50 Schools, 2004

	CCS	LLS	STG	TGS	GVHS	Ave.
Hardware	HT	HT	HT	HT	TT	HT
Connectivity	LT-MT	LT-MT	MT	MT	HT	MT
Content	MT	LT-MT	HT	MT	MT	MT
Professional Development	LT	LT	HT	LT	MT	LT
Integration	LT	LT	MT	MT	MT	MT

Overall	MT	MT	HT	MT	MT	MT

Table Five: StaR Chart Results for MSAD #50 Schools, 2007

Classroom hardware scores HT since we have good classroom ration of computers to students and have added 1:1 in two high school grade levels. However, we will need to replace systems to maintain this level. It is not surprising that connectivity is seen as low tech. This most likely results from 1:1 in the 9th. And 10th. grades. Since district servers are housed in GVHS, interacting with those servers can be slow when there is heavy high school network usage.

Content refers to the technology-based curricular materials available to students. Through curricular adoption and building/class budgets we have maintained an average level of technology content. While we have maintained the middle-tech level, switching to Macintosh computers will require updating several software titles. Most existing software, however, will run on Macs booted in Windows.

Not surprisingly, we continue to have challenges that affect our ability to provide adequate professional development to staff. Overall, staff training in technology areas is limited. While there are variables that control some of this (finances, available time, other pressures on teachers) some changes in processes might make some improvement.

Integration is perhaps the most telltale variable and we are low tech in that area. This area tries to measure the state of technology use in the curriculum. For example, a teacher using a computer-based PowerPoint is still using technology in a "teacher-centered" learning model. Anecdotal information strongly suggests that teachers involved in 1:1 learning (grades 7-9 and increasingly 10) have made good progress in integrating technology. Software such as NoteTaker allows teachers to develop entire units that are pulled together by technology. While we are seeing some exciting examples of high-tech classrooms, these tend to be in the 7-12 grade levels. Regardless, while we have made some progress there is plenty of room for improvement.

The state of MSAD 50 is not all that different from that of other schools across the U.S. Most schools are still trying to reach a situation where technology is a seamlessly used learning tool. To reach this state will require a commitment to professional development for classroom teachers and, importantly, school administrators. MSAD 50, along with a great majority of U.S. schools fall short of the mark, here. While there are many reasons for this, training teachers to effectively use technology must compete with a myriad of other initiatives and too often gets "sold short."

V. Collaboration with Adult Literacy Service Providers

MSAD #50 has made an excellent and consistent effort to involve the community in the schools of the district. Currently, there is no local adult literacy program within the district. As MSAD 50 moves forward with possible consolidation with MSAD 5, either as a combined district or a combined "Many Flags" high school we will work to offer assistance to and collaborate with adult literacy service providers

VI. Strategies for Improving Academic Achievement and Teacher Effectiveness.

We are no longer in the era when learning how to use technology is to be considered an end in and of itself. Rather, we now see educational technology as a way by which students are able to achieve academic goals generally and MLR goals specifically. The first step in improving academic achievement is to insure that teachers have the skills to efficiently use technology to help accomplish learning goals. In that process, students will also learn the skills necessary to achieve success.

MSAD #50's Strategic Plan states:

> Goal One: To provide our students with a teaching staff who is dedicated to their own learning as

well as that of their students.

Five-Year Objectives:

- The number of teachers pursuing graduate degrees will be increased.
- A professional development plan will be designed and evaluated.
- Teacher induction and support programs will be developed.
- A plan for supervision and evaluation will be implemented.
- An environment of collaboration will be fostered to enable teachers to work together.

To accomplish these objectives, technology can and will play an important part. Technology-specific actions for these objectives include:

- Develop self-paced series of lessons using on-line resources
- Offer short, one-hour, targeted workshops on special aspects of the basic software.
- Develop and implement a orientation program on district technology for new teachers
- Small group instruction
- Redeploy an aide position to support in routine building technology tasks freeing the librarian/media specialists to use their time more effectively
- On-line, professionally developed tutorials such as those offered by Atomic Learning
- Summer workshop intensives

Our teacher survey indicates that teachers can use productivity tools, the Internet, email and curriculum specific software such as Lexia and Kurzweil programs. They can also use the software applications that they purchase through the curriculum adoption process.

Student education in the use of hardware and software continues unevenly throughout the district. Comparing this across a grade level in three schools shows different results. The important variable seems to be teacher competency in using the software and technology and their ability to properly use these within their teaching. Students with teachers competent in the use of technology receive much more exposure to computers than those whose teachers are less competent. However, we are working to develop and imbed technology standards in all areas of the curriculum. At one time, all students in each school received training in keyboarding, word processing, database, spreadsheet, and systems software but because of restrictions on time this is no longer the case.

Other district initiatives compete for attention and even when librarians have time to work on technology skills with students, teachers do not take advantage of this. All students now have e-mail accounts but not all have received training in how to use the email software. If they learn to use the system it is because a classroom teacher feels this is important. During the next three years it is our goal to take the focus off of technology skills, per se, and focus on the pedagogical skills necessary to achieve desired learning outcomes. To do this we must first know where we are. In the past, principals did not evaluate teacher technology use to a great extent. This was due, in part, to a lack of knowledge by the principal as to what constituted effective use of technology. We have set a goal to train principals to assess teachers' use of technology and to make that assessment part of the evaluation process.

Technology as the goal of instruction will still be offered. We will need to find creative ways to achieve this goal. As we move to pedagogically driven training for teachers, learning to use technology will be embedded in the training. Additionally there are classes that will continue to be offered where learning technology skills is a goal of the class, such as CAD classes and other educational technology classes.

Importantly, communication and assessment can help improve student achievement. The use of PowerSchool to give students and parents immediate access to performance will be expanded upon. The use of the computerized NWEA MAP tool for assessing student performance in key academic areas will also continue to be used and supported by the district.

VII. Integration of Technology with Curricula, Instruction, and Assessment

As mentioned above, teachers have progressed to the point where most are able to accomplish basic tasks and use most productivity and specialized curriculum software. Research conducted on the use of MLTI iBooks indicate that this saturated use shows positive results when evaluated for learning outcomes.

MSAD #50 curriculum was revised and brought into alignment with the Maine Learning Results (MLR) during the 2002-2003 school year. The media specialist, curriculum coordinator and technology coordinator also worked to develop technology standards for all teachers in the spring of 2005. These standards were those deemed necessary for teachers to help students achieve technology competencies modeled after those from ISTE. This needs to be finalized and adopted.

The goals and current achievements of MSAD #50's Community Technology Plan are district-wide and apply to the entire community. We believe strongly that technology competency is vital to our children's education and to the continuing education of all of our adults. The ability to communicate freely and easily, and to continue to learn throughout life, is supported by the presence of computers in each classroom and in libraries and labs throughout the district. Computer availability is essential to access the Internet for research, communication and the publication of student projects. The guiding principles for the Maine Learning Results are models for us in working on the technology plan and in the developing the classroom projects using research and technology with staff throughout the district.

The project model for teaching technology and research that we have used throughout the district during past years contains the following objectives:

- Students work cooperatively in groups
- Students can identify the questions that will lead to the description or an answer to any research problem
- Students will use all available sources for research and will be able to evaluate those sources and select the most useful
- Students will be able to use technology for publication of the product of their research, whether word processor, webpage, graphics, or presentation software, and
- Students will be able to use the computers to communicate in and outside of the district using e-mail. They will be contacting peers and experts.

This model, which was originally designed as a means of teaching the research process across the district in 1991, has been a model ever since. As technology became more available to the district, the model has been expanded to include it. Current examples of student products are often published on the district web site.

We believe that students are best served when technology is used as a seamless tool to help achieve learning goals. As such, technology must be available and used within the classrooms. MLTI provides a wonderful solution at the 7th – 9th grade levels and district efforts have expanded this through the 10th grade. We will continue to provide mobile labs for 11th and 12th grades to be used in various. Mobile labs can be used in a one-to-one fashion or can be used in small groups for learning projects. We were also able to expand the availability of mobile computers in grades K-6 using a district purchase new or used MLTI hardware.

The lease-purchases that the district has supported have provided networked access to technology at all grade levels, in all classrooms and in labs, libraries and mini-labs. All buildings now have wireless networks available and we expect that coverage gaps will be corrected during the summer of 2007. All staff is able to use email and software required for the submission of student grade information.

MSAD 50 will consider all available professional development models to continue to improve staff technology skills. By doing this we can expect to improve students' ability to use technology. We will not rely on workshops as a means of increasing staff technology proficiency. We will utilize manuals, one-on-

one learning, on-line professional development services and peer support to improve our ability to use technology in an educationally sound fashion.

As mentioned above the NWEA MAP tool should provide teachers with areas that they could target to improve student performance in reading, language skills, math and science. Since this test uses state-of-the-art technology, results are available within a few days which makes this assessment much more effective as a tool for improving learning. The district will continue to provide the necessary technology and support for this assessment tool.

VIII. Technology Type and Costs, and Coordination with Funding Resources

Over the next three years, MSAD 50 will spend approximately $43,000 per year on technology through the lease-purchase plan. Those purchases will follow the vision, values and goals laid out in this technology plan. Title VI funds (about $25,000 annually) and E-Rate funds (about $8,000 annually) will also be used to achieve the goals of this plan.

Prior to the implementation of MLTI, MSAD 50 was predominately a Windows PC district. New desktop computers were white boxes built by a local vendor. As MLTI pushed Macintosh iBooks into the middle school grades and into the 9th grade we found the district transitions to the Mac platform in grades 7-12. First and foremost, curricular needs should dictate which operating system is used but in most settings the OS is not important. What does matter is the software and what it must run on. With the release of Intel processors in Macs, MacBooks and other models can run Windows XP and the Mac OS equally well. At one time, Windows-based systems were much less expensive but that price differential has all but disappeared. Research conducted by Grunwald Associates LLC, "Intel-based Mac Computers in Education: Research and Findings" (2007) concludes:

- Increased administrative efficiencies due to flexibility of a dual OS computer
- Ease of implementation and compatibility
- Lower total cost of ownership
- Shorter learning curve
- Lower support requirements
- Teachers find the Mac iLife software enhances the learning environment
- Digital authoring tools engage students in allow them to more deeply apply their learning.

As a result, it is our intent to purchase Apple Macintosh systems for implementation in K-6 classrooms. This will provide the benefits of one standard system but still respect teachers' needs to continue using classroom software purchased for Windows.

While it is impossible to detail purchases far into the future, these goals and objectives will specify how we will make decisions for the expenditures on an ongoing basis.

Purchase	Amount Budgeted	Goals and Objectives	Date Finished
Lease-Purchase 2007 – 2010	$126,474	Develop and implement a purchase plan for technology needed during the 2007 – 2010 lease-purchase cycle	August 25, 2007
		•Meet with building committees to determine their technology priorities.	December 15, 2006
		•Review priorities to insure that they are consistent with the technology plan	January 15, 2007
		•Price technology and adjust to the budget amounts set forth by district administration	January

		•Create purchase orders and submit to vendors according to district office time lines. •Set up and deploy purchased technology	21, 2007 June 15, 2007 August 25, 2007
2007-2010 Title VI,	$25,000 - $30,000 each year	Annually develop and implement a purchase plan for this grant money taking into consideration the MLTI plans for grades 9-12. •Meet with the curriculum coordinator on an annual basis to set priorities for grant expenditures •Prepare and submit budget requests for funds to augment Title VI funds. •Develop a purchase proposal Submit purchase orders Set up and deploy technologies	March 30 of each year January 30 February 28 March 15 April 15 June 15 August 25
2004-2007 E-Rate	$8,000 each year	Annually develop a purchase strategy for E-Rate funds that supports the overall goals of the technology plan. •Meet with the technology committee to set priorities for the expenditure of E-Rate fund •Consult with the Administration Team on E-Rate expenditures. Develop purchase orders for items to be obtained with E-Rate funds. Obtain, set up and deploy technologies For professional development purchased with E-Rate funds communicate with staff on how to make use of this training.	November 1, of each year September 15 October 1 October 15 October 31 October 31
Lease-Purchase 2010 – 2013	$125,00	Develop and implement a purchase plan for technology needed during the 2004-2007 lease-purchase cycle •Meet with building committees to determine their technology priorities. •Review priorities to insure that they are consistent with the technology plan •Price technology and adjust to the budget amounts set forth by district administration	August 25, 2010 December 15, 2009 January 28, 2010 January

		•Create purchase orders and submit to vendors according to district office time lines. •Set up and deploy purchased technology	21, 2010 June 15, 2010 August 20, 2010
Building Technology purchases, annually	Various	Buildings will submit their technology purchase plans to the technology office to insure compatibility with existing hardware and software. Compile and send a list of requested technology purchases to the technology coordinator for review Reviewed lists are returned to	
Technology Office Budget	$40,000	Develop an annual expenditure plan to support the district technology initiatives.	January 15

Table Six: Budget, Funding and Purchase Goals

IX. Supporting Resources

In order to use technology as an effective learning tool MSAD #50 must provide:

- Technology support resources: adequate staff and funding to maintain our infrastructure and hardware
- Bandwidth: to ensure that network resources and content are delivered to computer desktops.
- Computer hardware and software
- Training: to ensure that students and staff have the skills and knowledge necessary to take full advantage of technology as a learning tool.

The district will work to ensure that the necessary supporting resources, above, are in place so that students will have every possible chance to succeed. In the last three years, MSAD has increased the technology staff by 1.5 FTE positions. We will be adding a part-time technology assistant in July 2007. The district has made a commitment to provide timely service to its technology infrastructure and computer hardware. We will continue to do so in a financially responsible fashion. The district has and will continue to invest in training for the technology support staff. In the past this has included PowerSchool, Apple laptop repair, Unix and other workshop.

The district provides for commonly used software tools at the district level. Office applications, email and similar software are routinely updated from district budgets. Software specific to particular classes or grade levels is provided through department or building budgets. We continue to investigate possible means of providing content at all grade levels and in 2006-2007 a high school student was able to take an online course for credit. We continue to investigate emerging technology for its application within a school environment.

X. Steps to Increase Accessibility

MSAD 50 takes its responsibility to provide equal educational opportunity to all students seriously. We strive to provide equal access to all physical and electronic resources. Web pages are developed keeping

in mind the needs of special populations. We continually provide adaptive technology to students needing that kind of assistance and support this either through the vendor or tech office staff.

To insure that we continually meet these needs the technology coordinator will meet regularly with the special education coordinator to develop plans to address accessibility.

XI. Promotion of Various Curricula and Teaching Strategies that Integrate Technology

For some time now research suggests that teaching style is a strong determinant of the success of educational technology in the classroom. Specifically, constructionist models of learning are more effective than instructionist models. Technology when used in a “teacher-centered” classroom or when used solely for “skill drills” has not shown satisfactory outcomes. The goal of MSAD #50 is to use best practice models to integrate technology into classrooms, K-12. We intend to expand the use of constructionist models with the district. Our training strategies will focus on both technology skills and the pedagogical issues related to the effective use of educational technology. Teacher evaluations will include information on the teaching styles used in conjunction with technology and serve as a road map for continued growth.

All training sessions will have this dual focus. As teachers are trained in new technology skills they must also be trained in effective strategies for using this technology. We realize that this change in teaching style will be a challenge for some teachers. Changing how we use technology will be an on-going effort.

XII. Professional Development

MSAD #50 will us a multi-faceted approach to professional development to accommodate the various learning styles of our staff. We believe that adults learn best from doing so our approach will be to engage staff in technology rather than to just show them technology. Within any organization, there will be three basic groups, early adopters, those willing to adopt, and non-adopters. Professional development strategies must consider each of these groups.

Early Adopters: Early adopters will learn technology on their own. The challenge often is to keep up with their ever-expanding needs for technology. Staff in this category will take advantage of a wide variety of professional development opportunities. They are good choices for “train the trainer” workshops in which they commit to passing on the skills they’ve obtained to other staff. They will also use self-paced learning such as printed and online tutorials. Early adopters become the target group for new technology since they will have a much better chance of success than other groups. Even one-on-one training pays dividends here.

Willing adopters: Willing adopters will learn to use new technology if they are provided with effective training. This group will adopt new technology and teaching strategies but will need to be shown how this can impact their classrooms. Care needs to be taken so as to not set this group up to fail in their efforts. This group is an ideal group for summer intensive workshops. We can assist here by encouraging their attendance at regional intensives or through the development of an intensive project-based technology workshop on the district level. Once these teachers experience some success in their classrooms we can expect that they will be even more likely to take advantage of self-paced learning.

Non-adopters: Non-adopters will resist all or most new technology. Non-adopters can learn technology skills but they have an emotional response to technology, which causes resistance. Experience shows that the best strategy for this group is one that provides training in small doses that can be easily replicated. For example, providing these teachers with a complete, technology-rich lesson plan and the training to use it may bridge their resistance. Self-paced learning and large group settings are not the best venues.

Additionally, we find that some staff learns easily with manuals or on-line tutorials. Others will learn effectively in workshop settings. For some, one-on-one training is the most effective strategy. We believe that adults learn best from doing so our approach will be to engage staff in technology rather than to just show them technology.

MSAD #50 intends to provide a multi-faceted approach to professional development. We will develop and expand our collection of electronic and hard copy manuals. We will continue subscriptions to on-line tutorial sources. We will take advantage of in-service times and develop strategies for intensive, project-based workshops for staff. We also intend to form a district professional committee to assess our current state and make recommendations for improving our ability to use technology to achieve learning goals.

XIII. Innovative Delivery Strategies

MSAD #50 will continue to look for opportunities to develop innovative methods to provide both the content and process of learning, These strategies will be used for both staff development and student learning. We will continue to look for new, effective ways to provide content for students including interactive video for distance-learning utilizing video over IP strategies, podcasting and other “Web2” technologies. We will also look to take advantage of on-line sources for professional development and course content for students.

XIV. Accountability Measures

Every goal is broken into objectives, which are broken into action steps. Action steps include an achievement date and a review date. Action steps also specify a timeline for achievement and a date for review. Additionally, other data will be routinely gathered. This includes MLR results, attendance rates, graduation rates and similar data. While there are many variables that affect this type of data, this information can be helpful in measuring the effectiveness of our technology strategies.

Yearly, the technology team will review progress and report to the district administrative team. At that time, new goals and objectives may come into play to respond to new situations.

XV. Goals

Following are the established goals for the period of this technology plan. One intent of this plan is to create an on-going planning process to meet unforeseen contingencies. With the rate of change any specific plans will often need to be modified due to changes in technology and expectations created by local, state and federal mandates.

Goal 1: Student achievement and performance will improve through the use of technology.

A. MSAD 50 will use technology to improve student learning and achievement.

B. MSAD 50 students will acquire the technology skills necessary to successfully compete in further education and careers.

1.1 All students will use technology as a tool of instruction to meet state and local curriculum standards.
1.2 Technology will be uses to provide authentic learning situations.
1.3 Technology will be used to allow students to learn problem-solving skills.
1.4 Technology will allow for students to improve their ability to communicate and collaborate with others.
1.5 Students will use technology to gather and assess information.

1.6. Students will have innovative technologies available to them for the delivery of curriculum content.

Goal 2: Teacher preparation and delivery of instruction will improve through the use of technology.

A. MSAD 50 staff will integrate technology into curriculum, instruction, and assessment to enhance student achievement.

B. MSAD 50 will provide for ongoing professional development to ensure that all staff can use appropriate technology proficiently and that their skills continue to improve.

2.1 Develop and use an annual staff technology assessment instrument to measure staff technology competency.
2.2 Develop a set of expected teacher technology skills necessary to facilitate technology-enhanced learning.
2.3 On a yearly basis, develop a multifaceted professional development plan to allow for continuous improvement of staff skills necessary to effectively integrate technology into the K-12 curriculum.
2.4 Develop a process to assist district administration in its evaluation of teachers' use of technology.

Goal 3: The use of technology in administration, management and communications will support and enhance the teaching and learning process.

A. MSAD 50 will use the appropriate technology to improve data management and administrative efficiency to enhance the teaching and learning process.

B. MSAD 50 will use all available technology to improve communication and enhance the teaching and learning process.

3.1 MSAD 50 will continue to use PowerSchool as a student information system unless mandated by the state to adopt a new state system.
3.2 MSAD 50 will fully implement features of PowerSchool and PowerGrade that allow for immediate assessment of student academic progress to help insure successful achievement of educational outcomes.
3.3 When appropriate, PowerSchool will be adapted to a district standards-based assessment system.
3.4 MSAD 50 will continue to assess current practices looking for ways that technology can help solve administrative tasks.
3.5 MSAD 50 will use all available technologies to improve communication between the administrators, teachers and parents.
3.6 MSAD will provide all necessary technological support to efficiently use the NWEA Measure of Academic Progress student assessment.

Goal 4: Students, and staff will have the technology necessary to achieve district educational goals.

A. MSAD 50 will provide all buildings with adequate bandwidth for Internet connectivity.

B. MSAD 50 will provide, in a fiscally responsible manner, all buildings with an equitable technology base necessary to support the teaching and learning process.

4.1 MSAD 50 will provide bandwidth to all buildings that is required to accomplish the educational goals and will assess network usage on an annual basis so that annual budget requests can reflect the need for expanded network capacity.

4.2 MSAD 50 will provide computer workstations necessary to accomplish academic goals equally across the district.
4.3 MSAD 50 will provide peripheral technology necessary to ensure that student and staff technology competencies are met.
4.4 MSAD 50 will provide through technology funds or building curriculum funds the software necessary to achieve academic goals.
4.5 MSAD 50 will continue to assess the efficacy of one-to-one computing and continue present one-to-one initiatives and expand one-to-one through the 12th grade.

Goal 5: Adequate and timely technical support will be available to all students and staff, to support the teaching and learning process.

A. MSAD 50 will, in a fiscally responsible manner, provide the appropriate technology personnel needed to support the district's technology initiatives.

B. MSAD 50 will deliver timely, ongoing technical expertise and maintenance necessary to support the teaching and learning process and administrative tasks.

5.1 MSAD 50 will provide the technology staff necessary to maintain and support the technology used within the district.
5.2 MSAD 50 will provide the technology staff with the training necessary to perform their duties.
5.3 MSAD 50 will provide an on-line technology support system for students and staff.
5.4 MSAD 50 will review and adjust its supported software list on an annual basis.

Goal 1. Student Achievement Student achievement and performance will improve through the use of technology.							
A. MSAD #50 will use technology to improve student learning and achievement. B. MSAD #50 students will acquire the technology skills necessary to successfully compete in further education and careers.							
Objective	**Action Step**	**Timeline**	**Review Date**	**Expected Progress**	**Progress Assessment**	**Party Responsible**	**Funding**
1.1 All students will use technology as a tool of instruction to meet state and local curriculum standard	Develop student technology competency standards.	June 30, 2008	Annually	All staff will be able to document how their curriculum helped students meet technology standards.	Curriculum plans, evaluations	Curriculum Coordinator, Technology Coordinator, building administrators	Curriculum
	Communicate standards to administrators and teachers.	Oct. 31, 2008	Dec. 2008	All teachers receive this information using various formats	Attendance and other documentation	Curriculum Coordinator, Technology Coordinator	Technology, Curriculum
	Develop model lesson plans for K-6 classrooms to demonstrate the integration of student tech standards.	Dec. 15, 2008	June 1, 2009	A collection of lesson plans will be available to teachers.	Lesson plan collection	Technology Coordinator	Technology
	Revisit the issue of keyboarding and develop a proposal r district administration	May 1, 2008	Sept. 30, 2008	A proposal will be completed for keyboarding instruction.	Proposal and Recommendations	Technology Coordinator	Curriculum

	Continue to assess MSAD #50's ability to expand a laptop program throughout the high school level.	Jan. 15, 2009	Annually	Recommendations will be submitted to district administration.	Report	Curriculum Coordinator Technology Coordinator	Technology Curriculum
1.2 Technology will be used to provide authentic learning situations.	Integrate the pedagogy of authentic learning into the technology professional development plan.	Dec. 15 2008	June 1, 2009	The professional development plan will encompass strategies to improve their teaching strategies using problem based and authentic learning	A plan will be available for review by staff and administrators.	Technology Coordinator, Curriculum Coordinator	District and Technology
1.3 Technology will be used to allow students to learn problem-solving skills	Integrate the pedagogy of problem-based learning into the technology professional development plan.	Dec. 15 2008	June 1, 2009	The professional development plan will encompass strategies to improve their teaching strategies using problem based and authentic learning	A plan will be available for review by staff and administrators.	Technology Coordinator, Curriculum Coordinator	District and Technology
1.4 Technology will allow for students to improve their ability to communicate and collaborate with others.	Develop a comprehensive district student technology plan that includes collaboration and communication standards.	July 1, 2008	October 1, 2008	The district will have grade-leveled student technology standards.	The plan will be published electronically and in hard copy.	Technology Coordinator, Curriculum Coordinator	District and Technology

1.5 Students will use technology to gather and assess information.	Media specialists create a proposal for administration recommending how students will be provided with skills necessary to gather information using technology Teachers will work with media specialists to implement the revised research skills plan.	May 1, 2008 Sept. 30, 2008	June 1, 2008 Annually	There will be a revised K-12 plan for teaching research skills to students. Students will be involved in appropriate research skills curriculum	Revised District plan Student participation documentation	Technology Coordinator, Curriculum Coordinator Technology Coordinator, Curriculum Coordinator	Media Building
1.6 Students will have innovative technologies available to them for the delivery of curriculum content.	The Technology Team will routinely screen emerging technology to determine whether it can be effectively used to achieve teaching and learning goals/	Annually	Annually	When necessary, plans will exist for how new technology will be integrated into classroom processes.	The use of new technologies in the classroom.	Technology Coordinator Tech Team	District and building

Goal 2: Teacher Preparation and Instruction Teacher preparation and delivery of instruction will continually improve through the use of technology							
A. MSAD 50 staff will integrate technology into curriculum, instruction, and assessment to enhance student achievement B. MSAD #50 will provide for ongoing staff development to ensure that all staff is proficient in their use of appropriate technology and that their technology skills continue to improve.							
Objective	**Action Step**	**Timeline**	**Review Date**	**Expected Progress**	**Progress Assessment**	**Party Responsible**	**Funding**
2.1 Develop and us an annual staff technology assessment instrument to measure staff technology competency.	Review a variety of instruments that may be used for this assessment Select an instrument to be used in whole or in a modified way. Administer to staff.	Sept. 1 – Dec. 15, 2007 Jan 2008-Mar. 3008 April – May, 2007	June, 2007 June, 2007 June, 2007	The district will have aggregate date for planning purposes	This data is used when planning the technology professional development plan	Technology Coordinator	District
2.2 Develop a set of expected teacher technology skill standards necessary to facilitate technology-enhanced learning.	Review progress made on this task during the 2005-2006 school year. Complete the standards. Review with administrators and other district groups Adopt the standards	Sept. 1 – October. 15, 2007 Oct. 2007-April, 2008 May, 2008 June 15, 2008	June, 2007	The district will have a comprehensive set of teacher technology skill standards in place.	The plan will be published electronically and in hard copy.	Curriculum Coordinator, Technology Coordinator	District

2.3 On a yearly basis, develop a multifaceted professional development plan to allow for continuous improvement of staff skills necessary to effectively integrate technology into the K-12 curriculum.	Create a professional development committee to create a professional development plan to assure better use of technology in the classroom Through regular meeting develop a plan for on-going professional development. Present the plan to district administration for adoption. Create the strategies necessary to implement the plan	Sept. 30, 2007 Feb, 2008 March, 2008 May, 2008	Oct. 30, 2007 March, 2008 April, 2008 July, 2008	A technology skills professional development plan will exist that has administrative support and helps teachers continually improve the ability to use technology to achieve district educational goals.	The plan will be published electronically and in hard copy.	Curriculum Coordinator, Technology Coordinator	District
2.4 Develop a process to assist district administration in its evaluation of teachers' use of technology	Work with administration to create a plan to encompass training and assistance in evaluating teachers	Dec, 2007	Jan, 2007	The district will have a process for effectively evaluating teachers' ability to use technology to accomplish their teaching and learning goals.	Administration evaluations identify areas for improvement and teacher will create an improvement plan for this.	Curriculum Coordinator, Technology Coordinator	District

Goal 3: Administrative Data Management and Communication Processes **The use of technology in administration, management and communications will support and enhance the teaching and learning process**.							
A. MSAD #50 will use the appropriate technology to improve data management and administrative efficiency to allow for informed decision making and to enhance the teaching and learning process. B. MSAD #50 will use all available technology to improve communication and enhance the teaching and learning process.							
Objective	**Action Step**	**Timeline**	**Review Date**	**Expected Progress**	**Progress Assessment**	**Party Responsible**	**Funding**
3.1 MSAD 50 will continue to use PowerSchool as a student information system unless mandated by the state to adopt a new state system.	Meet with principals and administrators to develop a process for implementing new PowerSchool features Implement the above plan	Oct. 15, 2007 June, 2008	Nov, 2007 July, 2008	Additional PowerSchool features will solve administrative teaching	Implemented features	Technology Coordinator, PowerSchool coordinator	District and technology
3.2 MSAD 50 will fully implement features of PowerSchool and PowerGrade that allow for immediate assessment of student academic progress to help insure successful achievement of educational outcomes.	Meat with building principals to develop a process for implementing PowerSchool parent/student portals. Have parent meetings in buildings opening these portals to explain how to access and distribute userIDs and passwords. Implement the portals in PowerSchool	Sept. 30, 2007 Oct. 2007 Oct. 2007	Nov. 2007	Parents and students will have timely access to the child's' academic performance.	PowerSchool logs will reflect usage patterns of students and parents.	Technology Coordinator Building Principals PowerSchool Coordinator	District and building

3.3 When appropriate, PowerSchool will be adapted to a district standards-based assessment system.	Continue to assess district progress towards developing local assessment strategies and once finished begin implemeting these in PowerSchool	Annually	Annually	Moving to standard-based assessments will be reflected in PowerSchool.	Options for using standards will be available for student assessment using PowerSchool and PowerGrade	Technology Coordinator	Technology, district
3.4 MSAD #50 will continue to assess current practices; looking for ways that technology can help solve administrative tasks.	Meet with various district groups to assess how technology solutions may improve efficiency. Create an implementation plan for the above. Develop the technology solutions from the plan above	Oct, 31, 2007 Nov. 30, 2007 June 30, 2008		July, 2008	Technology will allow teachers to save time on administrative tasks allowing them more time to focus on teaching responsibilities.	Technology Coordinator, Business Manager, Curriculum Coordinator	District and technology
3.5 MSAD 50 will use all available technologies to improve communication between the administrators, teachers and parents.	Review and emerging technologies that may be able to improve communication. Provide information on new technologies	On-going	On-going	MSAD 50 will continue to integrate emerging technologies into classroom instruction and administrative application	MSAD will continue to integrate new technologies to improve communications within and out of the district.	Technology Coordinator	Technology, district

3.6 MSAD will provide all necessary technological support to efficiently use the NWEA Measure of Academic Progress student assessment.	After both fall and spring testing periods review the process and make recommendations to the administrative team for improvements to minimize the impact on teaching and learning. Implement the approved recommendations	Oct. 15, 2007 May 15, 2008 March 1, 2008 Sept 1, 2008	Nov. 1, 2007 June 15, 2008 April 1, 2008 Sept. 15, 2008	The impact on staff and students for NWEA MAP testing will be minimized.	New strategies will decrease the disruption to teaching and learning caused by NWEA MAP testing,	Technology Coordinator	Technology, district

Goal 4: Resource Distribution and Use Students and staff will have the technology necessary to achieve district educational goals.							
A. MSAD 50 will provide all buildings with adequate bandwidth for Internet connectivity. B. MSAD 50 will provide, in a fiscally responsible manner, all buildings with an equitable technology base necessary to support the teaching and learning process.							
Objective	**Action Step**	**Timeline**	**Review Date**	**Expected Progress**	**Progress Assessment**	**Party Responsible**	**Funding**
4.1 MSAD 50 will provide bandwidth to all buildings that is required to accomplish the educational goals and will assess network usage on an annual basis so that annual budget requests can reflect the need for expanded network capacity.	Annually assess bandwidth use in all buildings Work with MSLN to develop a strategy for improving bandwidth when needed and fund this through the annual funding process Implement the strategy	Dec. 1, 2007 Jan 15, 2008 Spring and summer, 2008	Jan, 2008 April 10, 2008 Sept. 1, 2008	Staff and students will have the bandwidth needed to perform their job functions and educational goals.	The bandwidth assessment will be reported to both the tech team and the administrative team for comment and budget during the budget cycle.	Tech Coordinator	District

4.2 MSAD #50 will provide computer workstations necessary to accomplish academic goals equally across the district.	Meet with building and district groups to gather information for a tri-annual lease purchase of instructional technology. Develop a lease purchase plan and submit within the budget process Request bids from vendors Purchase and deploy technology	Nov., 15, 2009 Jan. 15, 2010 June 15, 2010 Sept 1, 2010	Dec. 1, 2009 Feb. 15, 2010 July 1, 2010 Oct. 1, 2010	New technology will be in place for the 2010-2011 school year	New classroom technology in place.	Technology Coordinator, Business Manager	District
4.3 MSAD #50 will provide the peripheral technology necessary to ensure that student and staff technology competencies and educational goals are met.	On a yearly basis assess peripheral technology needs. Include these needs in the yearly budget request Secure vendor quotes Purchase and deploy peripheral technology.						

4.4 MSAD #50 will provide through grant funds, technology funds or building curriculum funds the software necessary to achieve academic goals.	Contact teachers and staff to determine their software plans for the following school year Assist them in their budget process or work this software into the technology budget. Secure vendor quotes. Purchase and deploy technology						
4.5 MSAD 50 will continue to assess the efficacy of one-to-one computing and continue present one-to-one initiatives and expand one-to-one through the 12th grade.	In the fall of each school year work with various district groups to assess one-to-one initiatives and report to the administrative team. Prepare a budget request for one-to-one technology based upon recommendations above.	Dec. 1, 2007 Jan 15, 2008	Jan 1, 2008 Jan. 30, 2008	MSAD will continue to assess the educational impact of one-to-one laptop initiatives and expand if educational and financially sound.	On-going strategies to address one-to-one computing	Technology coordinator Curriculum Coordinator	District

Goal 5: Technical Support Adequate and timely technical support will be available to all students and staff to support the teaching and learning process.							
A. MSAD 50 will, in a fiscally responsible manner, provide the appropriate technology personnel needed to support the district's technology initiatives. B. MSAD 50 will deliver timely, ongoing technical expertise and maintenance necessary to support the teaching and learning process and administrative tasks.							
Objective	**Action Step**	**Timeline**	**Review Date**	**Expected Progress**	**Progress Assessment**	**Party Responsible**	**Funding**
5.1 MSAD will provide the technology staff necessary to maintain and support the technology used within the district.	Review and make recommendations to district administration for department staffing in the following year	Jan 15, 2008	Annually	Recommendations for staffing contained within the submitted department budget	Submitted budget document	Technology Coordinator	Technology
5.2 MSAD 50 will provide the technology staff with the training necessary to perform their duties.	On an annual basis, develop a training strategy for technology staff that will be funded through the budget process	Jan 15, 2008	Annual	Training plan and funding within the proposed department budget	Completed budget document	Technology Coordinator	Technology
5.3 MSAD #50 will provide an on-line technology support system for students and staff.	Review the current "trouble-ticket" process and make appropriate changes	Jan. 31, 2008	June 2, 2008	The process will be in place that allows staff to efficiently report the need for technology support.	A revised process	Technology Coordinator	Technology
	Develop an on-line self-help process for dealing with common technology issues	June 1, 2009	Sept. 30, 2009	There will be an efficient resource bank that allows students and staff to solve low-level technology issues without help	Electronic resources	Technology Coordinator	Technology

5.4 MSAD #50 will review and adjust its supported software list on an annual basis.	The technology committee will review and adjust the district's supported software list.	Dec. 20, 2007	Annually	An updated list of supported software will be available for all district staff, students, and stakeholders.	List of supported software Lease purchase budget request	Technology Coordinator	Technology