

**Technology Plan  
2004-2007**

**MSAD #50  
12 Starr Street  
Thomaston, Maine 04861**

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## MSAD #50 Technology Plan 2004 - 2007

### Introduction

School staff members are 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 and skills.

The impact of technology on learning is 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 conducted 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 student performance on the Maine Learning Results (MRE).

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 the level of parental involvement in the educational process. 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 involve 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, but rather technology in the hands of skilled teachers 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 that we can expect the best outcomes from technology when it is integrated into a student-centered learning environment, which incorporates project-based, cooperative learning. Appropriate use of technology is important. Apple Computer's *Classroom of Tomorrow* research indicates that teachers "grow into" being effective technology users. Our ultimate goal is that teachers and students will use technology seamlessly as another tool, albeit a powerful one, to aid the learning process.

We are seeing more and more examples of effective technology use in MSAD #50. An art teacher has his students use digital video to create "claymation" movies that can be shared with the community using streaming video over the district web site. More and more teachers are 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.

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 technological change. Because of this, our students will need to continually learn new technology skills throughout their lives. To insure that our students can compete on even footing with the rest of the world we have no choice but to give them every advantage we can.

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.

**State of Technology in MSAD #50**

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, e-mail, 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 effectively technology will be used. The goal is to move teachers from a teacher-centered, instructionist-learning model to a student-centered, constructionist-learning model. Table One compares instructionist and constructionist models of teaching.

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

<b>Stage</b>	<b>Examples of teachers' performance in each stage</b>
<b>Entry</b>	Learn the basics of using the new technology.
<b>Adoption</b>	Use new technology to support traditional instruction.

<b>Adaptation</b>	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.
<b>Appropriation</b>	Focus on cooperative, project-based, and interdisciplinary work—incorporating the technology as needed and as one of many tools.
<b>Invention</b>	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.

The highest response rates, and thus the most reliable data, were obtained from Lura Libby and Georges Valley High School. With the influx of MLTI iBooks, the district is now divided with 80% using Windows computers and 20% using Macintosh computers. Should MLTI provide computers for teachers in grades 9-12, MSAD #50 will be equally divided. Internet access at home has increased dramatically in the last few years; 27 (87%) have either dial-up or broadband Internet services at home with dial-up being the most popular. Only 2 teachers report not having a personal computer at home.

One group of questions asked teachers about the effects that technology was having on students. Ninety percent of the respondents agree that technology has had positive effects on student motivation and acquisition of basic skills. Nearly two-thirds (61%) felt that technology increased students' critical thinking and 84% felt it helped students construct knowledge. A majority of respondents felt that technology had a positive impact on students' ability to solve real-life problems, understand concepts and relationships, and communicate.

Another group of questions asked how frequently specific technology applications were used. Only word processors e-mail and web browsers were used weekly. The following applications are used by a majority of teachers but less often than weekly: spreadsheets, educational games, presentation software and CD-ROM based reference materials.

Nearly all teachers have used technology to produce materials for class, email peers and to find teaching resources on the Internet. Eighty-seven percent have used email to communicate with parents. Fifty-eight percent respond that they use electronic gradebooks. Over 90% of respondents say they are aware of standards for the ethical use of technology and a like number state they model these standards.

All in all, this data suggests that teachers are capable of using technology for personal productivity tasks such as email, word processing and using web browsers for research. Teachers are seeing positive examples from the use of technology in the classroom. However, the data suggests that we have a way to go to reach a state where most teachers are using technology seamlessly or are using technology to create innovative teaching approaches. Using Apple's ACOT stages MSAD #50, on the whole, is at the "Adaptation" stage.

Table Three, below, shows an estimated breakdown of teachers in MSAD #50 using The ACOT stages of development:

Stage	Percentage of Staff
Entry	10%
Adoption	35%
Adaptation	30%
Appropriation	20%
Invention	5%

Table Three: Estimated Stages of MSAD #50 Teacher Development

This is not the best of news, but these stages represent mileposts along a journey. Professional development plans must focus on how to allow for continuous improvement for all staff. Teacher evaluations should focus on teachers' skills and the progress they have made in integrating technology effectively into their curriculum.

### **Impact of MLTI and NCLB**

Since our last technology plan, Maine has embarked on a cutting-edge technology program, the Maine Learning Technology Initiative (MLTI). This has fundamentally changed the way seventh and eighth grade classrooms function across the state and has served as a model for schools everywhere. Research is beginning to show that this effort was well worth the capital expenditure. It is transforming the very nature of classrooms in the state. This initiative is exciting because it has provided the catalyst for improving teacher technology skills. Anecdotal information collected in the district suggests that teachers with laptops have improved their skills in using technology faster than teachers without laptops. While we would hope to see MLTI expand into the 9-12 grade level this does not appear likely for 2004.

MLTI has changed the way we communicate. It connects students to others and the information sources available on-line. MLTI has given teachers options in their classrooms that would not be possible without a one-to-one approach. The district should continue to look for local funding, if necessary, to expand this initiative through the high school.

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 has moved to adopt a new student information system, PowerSchool, that will enhance our ability to track individual and aggregate performance. It also gives us the ability to provide parents with information on their children's performance in new and exciting ways.

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.

### **Models for Continuous Improvement of Technology**

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).

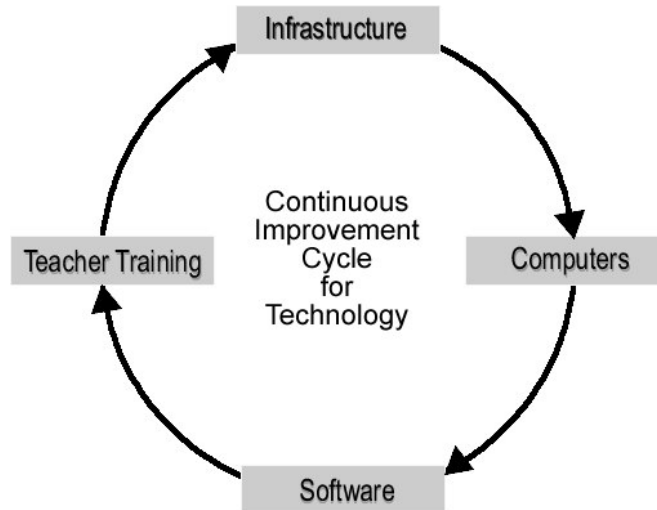


Figure One: Continuous Improvement Cycle for Technology, Eichel (1999)

This model conceptualizes 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) 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 plan reflects these models.

### **MSAD #50 Technology Assessment**

**Infrastructure:** All of our classrooms and many non-classroom areas are wired for Internet access. All buildings except Lura Libby are equipped with 100 mb Ethernet and it is a goal to increase LL's capacity during this three-year cycle. We have wireless networks in all buildings but there are areas of all buildings that are not covered by the wireless network. We continue to run our own web site for communication with our stakeholders and this remains an important goal. FirstClass and new student information system (SIS) software are now or will soon be available to staff and students through our network connections. The 2004-2005 technology budget earmarks funds for increasing GVHS's network capacity and installing new file servers in all buildings.

**Computer Hardware:** The lease-purchase arrangement has provided us with the funds necessary to provide for a basic, six-year computer replacement cycle in all of our classrooms. Even with this periodic investment we cannot satisfy all teacher requests. In the summer of 2004, we anticipate that we will spend \$120,000 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 two hundred laptops. To administer this expanded installed base

MSAD #50 added one FTE technician position and anticipates that the tech coordinator will become full time (182 days per year) for the 2004-2005 school year. We continue to add network services such as FirstClass email, FirstClass Etc. and the SIS, which require more tech support time.

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

**Teacher Training:** Providing effective teacher training remains a challenge for us as it does for most school systems. 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 specialists became responsible for the libraries and for supporting technology, including training for both students and staff.

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." Should the MLTI laptop expand laptops into the ninth grade this fall the need for continued teacher development is even more urgent. Teachers must be able to handle the hardware and software competently, but most importantly, must become experts in seamlessly integrating technology into their curriculum.

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 notes 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. District administration has acted in a fiscally responsible manner and not requested budgets that they felt would not be supported. With the state of educational funding in Maine in flux, we anticipate that there will be more pressure to hold the line on expenditures in coming years. For the 2004-2005 school year, state subsidy money was reduced significantly requiring the district communities to make up much of the difference. As a result, the technology lease-purchase amount was reduced by 20% from the 2001 amount. The MLTI equipment offset part of this reduction, however. iBooks in the seventh and eighth grades have reduced our need for desktop computers.

During the 2003-2004 school year, a full-time library (with technology support and training duties) position was partially funded with e-rate funds. The current budget switches this funding to the general budget freeing e-rate refunds for other technology use. The 2004-2005 budget also calls for the technology coordinator's position to be a full-time position (182 days per year). This had been a half-time position with additional summer work added. It is estimated that the following funds will be available for the three years covered by this plan:

- E-rate applications at 49% discount for FY05 (free and reduced lunch rate 28

- %); \$ 8,500 per year
- Technology Budget (wages, benefits and office support); \$150,000 per year
- Lease-purchase; \$43,000 per year

## I. Community and Parental Involvement

Parents of district students and community members were involved in the development of the plan. These are listed in Table 1:

John Hughes, MSAD #50 Computer coordinator, teacher St. George School, Tenants Harbor resident	Ann Dodd-Collins, MSAD #50 Media specialist, computer coordinator Lura Libby School, Cushing Community School	Linda Knight, MSAD #50 Assistant PC lab, Georges Valley High School, Adult education instructor, Thomaston resident
Joseph Knight, MSAD #50 District computer technician, Thomaston resident, Parent	Kristi Niedermann, MSAD #50 Educational technician Web master Cushing Community School Cushing resident	Amanda Walker, MSAD #50 Business education teacher Georges Valley High School,
Pat Higgins, MSAD #50 Media specialist, computer coordinator, Thomaston Grammar School	Judi Farley, MSAD #50 Computer technician, Thomaston resident, parent	Glenn Eichel, MSAD #50 Technology Coordinator Area businessman
Patty Robertson, MSAD #50 Media specialist, computer coordinator St. George School, Thomaston resident.	Neal Guyer, MSAD #50 District Curriculum Director Thomaston resident	Sue Cerridwen MSAD #50 Media specialist, computer coordinator Georges Valley High School
Richard Johnson, MSAD #50 Teacher, art and video production Area businessman		

Table Four: Technology Plan Committee Members

Technology has shown to be an effective means by which districts communicate with parents and other stakeholders. In fact, we believe that effective communication with parents is one of the most important components if children are to be successful in our schools. MSAD #50 intends to use technology as a means of providing information for parents and ways to link with parents and the community.

To date, the MSAD #50 web site has provided a wealth of information to the school community. A half-time position is devoted to using technology as a means of sharing information via the web. New capabilities were added within the last year with the deployment of our FirstClass server. While we have not fully used these features we will be phasing them in during this three-year cycle.

The district is in the process of installing a new student information system (SIS), PowerSchool. PowerSchool gives us the ability to communicate the educational progress of students in nearly real time. Teachers will be able to use their PowerGrade electronic grade book to record student grades. Grades and attendance will be available to parents via PowerSchool's web features. MSAD #50 intends to take advantage of these features during the period covered by this technology plan.

Again, educational research has demonstrated the effects that parental involvement has on student performance. We also know that there is a drop off of parental involvement as students

move up in grade level. MSAD #50 intends to use all available technology resources to bridge the gap between the classroom and the living room.

## **II. Vision and Mission**

### **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.

### **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.

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.

Computer technology will 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. 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.

MSAD #50 will make every effort to find time-saving technological solutions for routine tasks. We will expand the use of e-mail for staff and students. 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.

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.

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.

### **III. Learning Goals**

MSAD #50 is currently in the process of developing comprehensive student technology competencies. This document will serve to guide teachers and administrators in developing curriculum that not only addresses subject matter but encompasses the acquisition of technology skills as well. This process was begun in August 2003 and will be finished during the 2005-2006 school year. In the 2005-2006 school year, model lesson plans will be developed showing how technology competencies can be integrated within subject area lessons. These lesson plans will be aligned with the Maine Learning Results.

### **IV. Identify Necessary Technology**

Past efforts within the district have 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. All five schools have computer labs and all have supervision during the school day. Classes are scheduled to use the labs during the school day, and many students are sent to the labs and libraries to use equipment. All teachers have a networked computer and most classrooms have at least one additional computer, usually an older model. All classrooms, libraries and labs were networked in June 1999. District servers are housed in the technology office in GVHS. 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 connecting to the central campus.

All schools in the district have received new technology in an equitable. In 1995, the district spent \$102,000 in a lease-purchase of 108 computers. In 1998 the district funded another lease-purchase of computers, printers, scanners, digital cameras, computer-TV connections and teacher selected software at a cost of \$139,000. Lease-purchase provided nearly \$150,000 in 2001. The lease-purchase funding for 2004 is \$121,670. The 200 iBooks at the seventh and eighth grade level has allowed us to decrease the amount of lease-purchase funds for 2004.

We now have over 290 networked multi-media computers available to students. During 2002 and 2003 200 MLT1 iBooks were added to the seventh and eighth grades. During the summer of 2004 nearly 80 additional computers will be added to the inventory. These will replace many of the older Pentium II's, which are not now repairable. Grants and lease-purchase will add two mobile labs during 2004.

#### **Technology Support**

To gather data on MSAD #50's technology support, the tech coordinator, network technician and technology team completed ISTE's Technology Support Index (TSI). While there was some difference on individual items, the overall state of the district's technology support was similar on each survey. In general, MSAD #50 is:

“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, replacing computers on a three-year cycle is preferred, but fiscal responsibility within the district dictates a six-year cycle. An additional technician would improve our computer-to-technician ratio, which is currently around 250:1. Again, this requires additional funding.

Some items on the survey measure process variables which are less dependent upon money. In those areas MSAD #50 scores better and this is where we might be able to improve without significant additional funds. The more we “single-source” the better the support system will become. Single platforms, single operating systems, printer models, etc. allow for easier support. Using FirstClass for a trouble ticket system is a process improvement. Division of technology office labor is preferred over a more generalized approach to support.

We score “exemplary,” in network infrastructure areas. This is due to state support through MSLN and past district investment. While we may not be at the high end of a wage continuum, this has not produced negative consequences. We have low staff turnover and a stable work force.

### School Technology and Readiness

To assess the way technology is used in the classrooms, building tech 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.

The table below shows results for each of our schools. Scoring is high tech (HT), medium tech (MT), low tech (LT), and target tech (TT). Low tech and target tech scores indicates areas where improvement is needed. The average district score is last column.

Area	CCS	LLS	STG	TGS	GVHS	Ave.
Hardware	HT	HT	HT	HT	TT	HT
Connectivity	LT	LT	MT	LT	LT	LT
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

Classroom hardware scores “HT” since we have a good classroom ratio of computers to students. However, this does not take into account the age of the systems. Factoring out older systems would drop our score. Surprisingly, connectivity scores were graded as low tech. With 100 mb Ethernet in every classroom and wireless networks now in every school, middle tech would seem a more accurate assessment. Still, there is room to improve.

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.

Not surprisingly, we have room to improve with our professional development of staff. Overall, staff training in technology is limited. While there are variables that control some of this (e.g. finances and available time) some changes in processes might allow for improvement.

Integration is perhaps the most telltale variable and we score low tech here. Integration measures the state of technology use within the curriculum. For example, a teacher using a computer-based PowerPoint presentation is still using technology a “teacher-centered” way and not high tech. Aside from the computer and software, the teaching style is the same as when the teacher wrote the notes on the blackboard or used the overhead projector to support a lecture. While there are

areas where we have improved in integrating technology, this remains a critical area if we are to impact student achievement. In sum, we are low tech in this area leaving plenty of room for improvement.

While MSAD #50 has many areas for improvement the district is similar to most other schools across the U.S. Most schools are still trying to get technology fully integrated into the curriculum and seamlessly used as a learning tool. To achieve this we will need to make a commitment to provide new avenues for professional development for all district staff. MSAD #50, along with a great majority of U.S. schools, falls short of the mark in this.

## **V. Collaboration with Adult Literacy Service Providers**

MSAD #50 has made an excellent and consistent effort to involve the community in our schools. However, there currently is no adult literacy program within the district. MSAD #50 continues to cooperate with regional adult education programs and to provide service to adults within the district. In the past, the district opened computer labs for community use. Since that time, especially with the proliferation of home computers, the need has decreased. As a result, the district has opted not to continue this. We will continue to look for ways to work with adult literacy programs and the community.

## **VI. Strategies for Improving Academic Achievement and Teacher Effectiveness.**

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

MSAD #50's Strategic Plan states that we will "...develop a special staff training focus on computers and other instructional technology." We have used a variety of techniques, trying to suit as many learning styles as possible and will continue to do this. Included strategies are:

- Self-paced series of lessons
- Half-day workshops focusing on special aspects of the basic software
- "Train the Trainers" workshops
- Research/technology projects given each year to a new group of K-8 teachers
- Small group instruction
- One-on-one training by full time media specialist positions
- On-line, professionally developed tutorials
- Summer workshops

Our teacher survey indicates that teachers can use productivity tools, the Internet, and email. They can also use the software applications they obtained through curriculum adoption processes.

Student education in the use of hardware and software continues uneven throughout the district, the important variable seems to be teacher competency in using the software and technology. Students with teachers competent in the use of technology receive much more exposure to computers than those with teachers less comfortable with technology. However, we are working to develop and imbed technology standards in all areas of the curriculum. Currently, all students in each school have received training in keyboarding, word processing, database, spreadsheet, and systems software. Some receive assistance learning e-mail and webpage production. Most

can use the Internet for research. All students now have e-mail but not all have received training in how to use the FirstClass mail software. The media specialists, working with the technology team, have developed a technology skills checklist for all students. Evaluation is done by observation and checklist.

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. Media specialists will continue to provide skill sessions for students and staff in technology. 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.

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

As mentioned above, teachers have progressed to the point where most are able to 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.

As MSAD #50 curriculum is revised, it is brought into line with the Maine Learning Results. During school year 1999-00 MSAD #50 hired a consultant who met with all staff monthly to begin the alignment of classroom curriculum with the MLR. This process was completed during the 2002-2003 school year. The media specialist/ technology teachers are also working to align the MLR, ISTE standards and the MSAD #50 curriculum goals. This should be completed by June 30, 2005.

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 the use of technology 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 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 used consistently in grades 1-12 ever since. As technology became more available to the district, the model has been expanded to include it. Current examples of student products can be on the district web page, <http://www.msad50.org>

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 seventh and eighth grade level. Should MLTI come to the high school level we can expect to see similar results. Until we have one-to-one computing in grades 9-12, we intend to provide mobile labs that can be used in various ways in order to help integrate technology into learning situations. Mobile labs can be used in a one-to-one fashion or can be used in small groups for learning projects. A mobile iBook lab was purchased in the 2003-2004 school year using Title VI grant monies. We will continue to use available Title VI funds and E-Rate funds for more mobile technology during the years covered by this plan.

Computer technology in MSAD #50 is a tool used in all areas of the curriculum and by students in all grade levels. With the exception of keyboarding, which is offered to our students at the 3rd grade level, technology hardware and software come into use in support of particular programs and projects. Technology education staff, for example, uses computer assisted design (CAD) programs as part of their classes. Word processing is used at all grade levels as part of the writing process emphasized in the literacy curriculum. CD-ROM technology and the Internet are used at all grade levels to support research projects. E-mail projects bring together students from our different schools that do not know each other yet, but will be together in later years. The use of the Internet for research and publication of student work grows daily. Use is changing and growing daily as teachers and media specialists develop new projects in all subject areas.

MSAD #50 will use all available models to continue to improve student and staff technology skills. Additionally, we will provide professional development using all available means. We will not rely on workshops as a sole means of increasing staff proficiency. We will utilize manuals, one-on-one learning and on-line professional development services to improve our staff's ability to use technology in an educationally sound fashion.

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

Over the next three years, MSAD #50 will spend approximately \$40,000 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 (currently about \$25,000 annually) and E-Rate funds (about \$8,000 annually) will also be used to achieve the goals of this plan. Additional district funds go to support the technology department budget and provide curricular technology.

It has been nearly six years since the district standardized on the Windows computer platform. Since that time, the MLTI project has brought significant numbers of Macintosh computers into the district. Should MLTI expand through the high school level we can expect to see a district where K-6 uses the Windows platform and 7-12 uses the Macintosh platform. We feel, first and foremost, that curricular considerations drive platform selection. We also believe that maintaining dual platforms, while not preferable, is not the issue it once was. We also believe that MLTI's success with Mac iBooks presents a significant model that cannot be ignored if given a choice in one-to-one computer platforms. That said it is our intent to continue to replace old computers with Windows machines at grade levels not affected by MLTI. We will continue to evaluate this throughout this lease purchase cycle.

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

<b>Purchase</b>	<b>Amount Budgeted</b>	<b>Objectives and Action Steps</b>	<b>Date Finished</b>
Lease-Purchase 2004 – 2007	\$121,670	<p>Develop and implement a purchase plan for technology needed during the 2004-2007 lease-purchase cycle</p> <ul style="list-style-type: none"> <li>•Meet with building committees to determine their technology priorities</li> <li>•Review priorities to insure that they are consistent with the technology plan</li> <li>•Price technology and adjust to the budget amounts set forth by district administration</li> <li>•Create purchase orders and submit to vendors according to district office time lines</li> <li>•Set up and deploy purchased technology</li> </ul>	<p>December 15, 2003</p> <p>January 15, 2004</p> <p>January 21, 2004</p> <p>June 15, 2004</p> <p>August 20, 2004</p>
2004-2007 Title VI,	\$25,000 each year	<p>Annually develop and implement a purchase plan for this grant money taking into consideration the MLTI plans for grades 9-12.</p> <ul style="list-style-type: none"> <li>•Meet with the curriculum coordinator on an annual basis to set priorities for grant expenditures</li> <li>•Develop a purchase proposal</li> <li>•Submit purchase orders</li> <li>•Set up and deploy technologies</li> </ul>	<p>January 30</p> <p>February 28</p> <p>March 15</p> <p>April 15</p>
2004-2007 E-Rate	\$8,000 each year	<p>Annually develop a purchase strategy for E-Rate funds that supports the overall goals of the technology plan</p> <ul style="list-style-type: none"> <li>•Meet with the technology committee to set priorities for the expenditure of E-Rate fund</li> <li>•Develop purchase orders for items to be obtained with E-Rate funds</li> <li>•Obtain, set up and deploy technologies</li> <li>•For professional development purchased with E-Rate funds communicate with staff on how to make use of this training</li> </ul>	<p>September 15</p> <p>September 30</p> <p>October 31</p> <p>October 31</p>
Lease-Purchase 2007 – 2010	\$120,000	<p>Develop and implement a purchase plan for technology needed during the 2004-2007 lease-purchase cycle</p> <ul style="list-style-type: none"> <li>•Meet with building committees to determine their technology priorities</li> </ul>	<p>December 15, 2006</p>

		<ul style="list-style-type: none"> <li>•Review priorities to insure that they are consistent with the technology plan</li> <li>•Price technology and adjust to the budget amounts set forth by district administration</li> <li>•Create purchase orders and submit to vendors according to district office time lines</li> <li>•Set up and deploy purchased technology</li> </ul>	<p>January 28, 2007</p> <p>March 21, 2007</p> <p>June 15, 2007</p> <p>August 20, 2007</p>
Building Technology purchases, annually	Various	<p>Buildings will submit their technology purchase plans to the technology office to insure compatibility with existing hardware and software</p> <ul style="list-style-type: none"> <li>•Compile and send a list of requested technology purchases to the technology coordinator for review</li> <li>•Reviewed lists are returned to buildings</li> </ul>	<p>February 15, annually</p> <p>March 1, annually</p>
Technology Office Budget	\$50,000	<p>Develop an expenditure plan to support the district technology initiatives</p> <ul style="list-style-type: none"> <li>•Develop a list of priorities for the district technology office budget</li> <li>•Develop a draft budget to be reviewed by the technology committee</li> <li>•Finalize budget request and submit to district administration</li> <li>•If necessary, make adjustments in budget request</li> </ul>	<p>December 15, annually</p> <p>January 15, annually</p> <p>February 15, annually</p> <p>April 15, annually</p>

Table Six: Budget, Funding and Purchase Goals

## IX. Supporting Resources

In order to use technology as an effective learning tool MSAD #50 needs to provide technology support resources. Within the scope of this plan, additional network bandwidth, computer hardware, software and training will be required. MSAD #50 will ensure that students and staff have adequate resources needed to successfully meet state and local learning standards. We will provide for an adequate network infrastructure, computers and peripherals, software and training.

## X. Steps to Increase Accessibility

MSAD #50 takes its responsibility to provide an equal educational opportunity to all students seriously. We strive to provide equity of access between buildings and between classrooms. Additionally, the district has aggressively pursued the adaptive technologies required by special needs students. All students should have equitable access to technology. To increase technology available for students at the high school the district has begun purchasing mobile, wireless laptop

labs and without a 9-12 state laptop initiative will expand these in coming years. With more available technology, students will have more time to use technology within their classrooms.

The technology coordinator routinely consults with both the curriculum coordinator and special education coordinator to insure that the district provides technology on a fair and equal basis.

## **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.

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 use a multi-faceted approach to professional development to accommodate the various learning styles of our staff. Within any organization, there will be three basic groups, early adopters, those willing to adopt, and non-adopters. Early adopters will learn technology on their own. The challenge often is to keep up with their ever-expanding needs for technology. Willing adopters will learn to use new technology if they are provided with effective training. Non-adopters will resist all new technology. For them, it does not appear to be that they can't learn technology skills but rather that they have an emotional response to technology, which causes resistance. Professional development strategies must consider each of these groups.

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 develop or purchase subscriptions to on-line tutorial sources. We will take advantage of in-service times and develop strategies for intensive, project-based workshops for staff.

### **XIII. Innovative Delivery Strategies**

MSAD #50 will continue to look for opportunities to develop innovative methods of providing both professional development for staff and curriculum for students. These strategies will include interactive video for distance learning, video over IP and web-based curriculum strategies. As described above, we will also look to take advantage of on-line sources for professional development and course content for students. With the current rate of technology change, foreseeing some of these opportunities is impossible.

### **XIV. Accountability Measures**

Every goal in this plan is broken into objectives, which are then broken into action steps. Action steps specify a timeline for achievement and a date for review. The position responsible and source of funding are also indicated for each step. Other data will be routinely gathered to measure the effectiveness of our technology efforts.. 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. An annual progress report will be submitted to the Technology Committee and district administration, which focuses on the goals and objectives of this technology plan.

#### **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 in technology, specific objectives will often need to be modified due to these changes and the 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 post-secondary 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 used 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 an annual staff technology assessment instrument to measure staff technology competency.
- 2.2 Develop teacher technology competencies and imbed these into teacher evaluations.
- 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.

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 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.
  - 3.1 MSAD #50 will use PowerSchool to efficiently handle the data management responsibilities of the district.
  - 3.2 MSAD #50 will use PowerSchool and PowerGrade to allow for immediate assessment of student academic progress to help insure student success and achievement of educational outcomes.
  - 3.3 MSAD #50 will continue to assess current practices looking for ways that technology can help solve administrative tasks.
  - 3.4 MSAD #50 will use all available technologies to improve communication between the school and parents.

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 to the district network and the Internet to promote student achievement.
- 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 the bandwidth to all buildings that is required to accomplish the educational goals and 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 the peripheral technology necessary to ensure that student and staff technology competencies and educational goals are met.
  - 4.4 MSAD #50 will provide through technology funds or building curriculum funds the software necessary to achieve academic goals.

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 an appropriate ratio of technology personnel to support district technology resources.

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

C. MSAD #50 will continue to explore ways to create computer curriculum and allow students to be involved in district technical support for authentic learning.

- 5.1 MSAD will provide the technology staff necessary to maintain and support the technology used within the district.
- 5.2 MSAD #50 will provide an on-line technology support system for students and staff.
- 5.3 MSAD #50 will review and adjust its supported software list on an annual basis.
- 5.4 MSAD #50 will explore ways to create computer technology classes for students, which would allow them to provide technology support as a part of that curriculum.

**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.

<b>Objective</b>	<b>Action Step</b>	<b>Timeline</b>	<b>Review Date</b>	<b>Expected Progress</b>	<b>Progress Assessment</b>	<b>Party Responsible</b>	<b>Funding</b>
1.1 All students will use technology as a tool of instruction to meet state and local curriculum standards	Develop student technology competency standards and model curriculum.	June 30, 2006	Annually	All staff will be able to document how their curriculum helped students meet technology standards.	Curriculum plans	Curriculum Coordinator, Technology Coordinator	Curriculum
	Implement the recommendations for teaching students keyboarding skills.	June 1, 2006	Sept. 30, 2006	A plan will be completed for keyboarding instruction.	Plan and Recommendations	Technology Coordinator	Technology
	Review building technology strategies for technology instruction to insure consistency across the district.	Oct. 31, 2005	June 1, 2006	A report will be submitted to district administration with recommendations.	Report	Technology Coordinator	Technology
	Communicate standards to administrators and teachers.	Oct. 15, 2004	Annually	All teachers will attend meetings to introduce standards.	Attendance documentation	Curriculum Coordinator Technology Coordinator	Curriculum
	Continue to assess MSAD #50's ability to expand a laptop program into the high school level.	Jan. 15, 2005	Annually	District Administration will make recommendations for laptop expansion	Recommendation	Curriculum Coordinator, Technology Coordinator	Curriculum

1.2 Technology will be used to provide authentic learning situations.	Develop a strategy to train teachers in authentic learning techniques.	Sept. 15, 2004	June 15, 2005	All staff will have the opportunity to participate in in-service trainings and/or workshops focusing on the pedagogy of educational technology.	Workshop and in-service agendas	Curriculum Coordinator Technology Coordinator	Curriculum, Technology Training Grant
	Provide multi-faceted professional development tools to increase staff's understanding of authentic learning.	Nov. 15, 2004	June 15, 2005	20% of teaching staff will take advantage of on-line tutorials and other materials available to them.	Training logs	Curriculum Coordinator Technology Coordinator	Technology Training Grant
1.3 Technology will be used to allow students to learn problem-solving skills	Develop a strategy with 1.2, above, to increase staff's use of problem-based and project based learning techniques.	Sept. 15, 2004	June 15, 2005	All staff will have the opportunity to participate in in-service trainings and/or workshops focusing on the pedagogy of educational technology.	Workshop and in-service agendas and attendance documentation.	Curriculum Coordinator Technology Coordinator	Curriculum, Technology Training Grant
	Provide multifaceted staff development.	Nov. 15, 2005	June 15, 2006	20% of teaching staff will take advantage of on-line tutorials and other materials available to them.	Training logs	Curriculum Coordinator Technology Coordinator	Technology Training Grant
1.4 Technology will allow for students to improve their ability to communicate and collaborate with others.	Train classroom teachers in the classroom collaboration tools available in FirstClass.	Dec. 20, 2004	Jan. 15, 2005	All staff will participate in building sessions on the collaborative features available in FirstClass.	Workshop and in-service agendas and attendance documentation.	Curriculum Coordinator Technology Coordinator	Curriculum, Technology Training Grant
	Develop and implement a plan for instructing students in the collaboration tools available in	June. 1, 2005	Sept. 15, 2005	Each building will have a plan for extending First-Class services to their student body.	Workshop and in-service agendas and attendance documentation	Curriculum Coordinator Technology Coordinator	Curriculum, Technology Training Grant

	FirstClass.						
1.5 Students will use technology to gather and assess information.	Media specialists will assess and refine their instruction in the Internet as a source of information.	Dec. 20, 2005	June 1, 2006	There will be a comprehensive K-12 plan for teaching research skills to students	District plan	Media Specialists	Media
1.6 Students will have innovative technologies available to them for the delivery of curriculum content.	Work with staff of the DOE to develop an acceptable plan to secure state funding for interactive video via ATM.	Nov. 1, 2004	Jan. 15, 2005	We will have an agreement with the DOE to install state-funded interactive video.	Agreement accepted by the superintendent	GVHS Principal Technology Coordinator	State DOE funding
	Create a GVHS committee to develop strategies to implement interactive video.	Jan. of funding year	April of funding year	We will have a plan to implement the interactive video.	The interactive video plan will be available for public review	GVHS Principal Technology Coordinator	State DOE funding
	Install the interactive video equipment.	July. of funding year	Sept. of funding year	Interactive video will be installed and fully tested.	Installation documentation	Technology Coordinator Head Technician	State DOE funding
	Train staff in technology skills and teaching skills necessary to use the interactive video equipment for content delivery.	Oct. of funding year	Dec. of funding year	20% of GVHS staff will be trained in the use of the interactive video equipment for content delivery and curriculum enhancement.	Training logs and attendance verification	GVHS Principal Technology Coordinator	State DOE funding, Curriculum funds

**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 use technology as a tool to achieve state and district student standards in all curricular areas.  
 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.

<b>Objective</b>	<b>Action Step</b>	<b>Timeline</b>	<b>Review Date</b>	<b>Expected Progress</b>	<b>Progress Assessment</b>	<b>Party Responsible</b>	<b>Funding</b>
2.1 Develop an annual staff technology assessment instrument to measure staff technology competency.	Develop an assessment for review by the technology committee.	Jan, 15, 2005	Annually	A questionnaire will be available for review.	Questionnaire	Technology Coordinator	Technology
	Make changes to the instrument and adapt for on-line use.	Feb 15, 2005	Annually	A final version will be adapted for on-line use.	On-Line instrument	Technology Coordinator	Technology
	Make the instrument available on-line and instruct staff on its use	March 15, 2005	Annually	75% of staff will complete the assessment questionnaire.	Server logs	Technology Coordinator	Technology
2.2 Develop teacher technology competencies and imbed these into teacher evaluations.	Form a representative committee to develop technology competencies for teachers.	March 1, 2005	Annually June 1	A comprehensive skill set of teacher technology competencies be created.	Technology Competencies	Technology Coordinator	Technology
	Submit technology competencies to district administration for approval.	May 30, 2005	Annually	Recommendations will be submitted to the appropriate district body for action.	Committee minutes	Technology Coordinator	Technology
	Provide training for principals in stages of technology	Oct. 15, 2005	Annually	Training schedules and agendas will be in place.	Schedules, agendas and attendance logs	Curriculum Coordinator Technology	Curriculum Technology

	development and assessment of technology skills.					Coordinator	
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.	The technology committee will develop a comprehensive annual staff technology-training plan to be incorporated into the district budget.	Dec. 20, 2004	June 15	A training plan will be available for district review and comment.	Plan and responses.	Technology Coordinator	Technology
	Develop a funding request for the training plan.	Jan. 15, 2005	June 15	Training needs will be incorporated into the district budget document.	Budget document	Curriculum Coordinator Technology Coordinator	Curriculum Technology Title VI
	Modify the plan as needed to fit within the district budget.	March 15, 2005	June 15	A modified, district budget will be created, if needed.	Revised budget	Curriculum Coordinator Technology Coordinator	Curriculum Technology Title VI

**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.

<b>Objective</b>	<b>Action Step</b>	<b>Timeline</b>	<b>Review Date</b>	<b>Expected Progress</b>	<b>Progress Assessment</b>	<b>Party Responsible</b>	<b>Funding</b>
3.1 MSAD #50 will use PowerSchool to efficiently handle the data management responsibilities of the district.	Install and configure PowerSchool server and PowerGrade clients.	Aug. 15, 2004	Sept. 30, 2004	PowerSchool will be running on a district server and all data will be entered.	Server status	Technology Coordinator	District MIS funds
	Develop a comprehensive PowerSchool support and maintenance plan.	Sept. 1, 2004	Oct. 15, 2004	A maintenance and support plan will be submitted to district administration.	Maintenance and support plan	Technology Coordinator	District MIS funds
	Provide training for all PowerSchool user groups	Oct. 31, 2004	Nov. 30, 2004	All appropriate staff will be trained in PowerSchool.	Training agendas and attendance logs	Curriculum Coordinator Technology Coordinator	District MIS funds
	Work with building administrators to customize PowerSchool to meet building needs.	Sept. 30, 2004	Nov. 30, 2004	Building data reporting needs will be met through PowerSchool.	Customized reports and data processes	Technology Coordinator Head Technician	District MIS funds
3.2 MSAD #50 will use PowerSchool and PowerGrade to allow for immediate assessment of student academic progress to help insure student success and achievement of	Train teachers to use PowerGrade.	Oct. 31, 2005	Dec. 20, 2005	All teachers will be able to use PowerGrade to manage student performance records.	Attendance logs	Curriculum Coordinator Technology Coordinator	District MIS funds
	Train administrators to use PowerSchool to gather data.	Oct. 31, 2005	Dec. 20, 2005	District administrators will be able to access data from PowerSchool to make informed decisions.	Meeting minutes	Curriculum Coordinator Technology Coordinator	District MIS funds

educational outcomes.							
3.3 MSAD #50 will continue to assess current practices, looking for ways that technology can help solve administrative tasks.	Assess administrative tasks on an annual basis to see how technology tools might be used to increase efficiency.	April 1, 2005	June 1, 2005	A plan for using technology to solve administrative tasks will be submitted.	Plan	Technology Coordinator	Technology
	Make recommendations to district administration for implementation of technology solutions.	May 15, 2005	June 1, 2005	Recommendations will be submitted to the appropriate district group	Recommendations	Technology Coordinator	Technology
3.4 MSAD #50 will use all available technologies to improve communication between the school and parents.	Activate the PowerSchool parental portal to allow parents access to their children's performance records in all district schools.	Jan. 1, 2007	June 1, 2007	All district parents will have access to timely information regarding their children's academic progress.	Server logs tracking usage	Technology Coordinator	District MIS fund
	Provide on-line and hard copy manuals for parents to teach them how to use PowerSchool on-line services.	Jan. 1, 2007	June 1, 2007	Parents will know how to access on-line information.	Documents	Technology Coordinator	District MIS fund
	Develop a strategy to publicize available district information such as PowerSchool and the web site.	Jan. 1, 2007	June 1, 2007	Parents will be aware of on-line resources made available to them by the district.	Server logs	Technology Coordinator	District MIS fund

**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 to the district network and the Internet to promote student achievement.  
 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.

<b>Objective</b>	<b>Action Step</b>	<b>Timeline</b>	<b>Review Date</b>	<b>Expected Progress</b>	<b>Progress Assessment</b>	<b>Party Responsible</b>	<b>Funding</b>
4.1 MSAD #50 will provide the bandwidth to all buildings that is required to accomplish the educational goals and assess network usage on an annual basis so that annual budget requests can reflect the need for expanded network capacity.	Review bandwidth usage and create a network plan for increasing bandwidth, if needed.	Dec. 20, 2006	Jan 20, 2007	A plan for network upgrades will be completed.	Plan available for public review	Technology Coordinator Head Technician	Technology E-Rate
	Incorporate the network plan into the budget process.	Jan. 15, 2007	April 30, 2007	The plan will be incorporated into the district budget request process	District budget request	Technology	Technology E-Rate
4.2 MSAD #50 will provide computer workstations necessary to accomplish academic goals equally across the district.	Meet with building committees to develop building goals for technology purchases.	Dec. 20, 2006	June 1, 2007	A building purchase plan will be completed.	Plan available for review on the building level	Building Principal Technology Coordinator	Lease-purchase funds, Title VI grant
	Compile a master district lease-purchase plan and submit during the budget process.	Jan. 15, 2007	June 1, 2007	A budget for lease-purchase will be submitted as a part of the district budget process	Lease purchase budget request	Technology Coordinator	Lease-purchase funds, Title VI grant
4.3 MSAD #50 will provide the peripheral technology necessary to ensure that student and staff technology	Meet with building committees to develop building goals for technology purchases.	Dec. 20, 2006	June 1, 2007	A building purchase plan will be completed.	Plan available for review on the building level	Building Principal Technology Coordinator	Lease-purchase funds, Title VI grant

competencies and educational goals are met.	Compile a master district lease-purchase plan and submit during the budget process.	Jan. 15, 2007	June 1, 2007	A budget for lease-purchase will be submitted as a part of the district budget process	Lease purchase budget request	Technology Coordinator	Lease-purchase funds, Title VI grant
4.4 MSAD #50 will provide through grant funds, technology funds or building curriculum funds the software necessary to achieve academic goals.	Develop a review process to insure that curricular software is compatible with district technology.	Oct 15, 2005	Dec. 20, 2005	The process will be shared with appropriate district groups.	Process plan	Technology Coordinator	Building and curriculum funds, Technology
	Audit the installed district software to insure that all software is appropriately licensed.	Oct. 31, 2004	Dec. 20, 2004	A software audit report will be submitted to district administration.	Software audit report	Technology Coordinator	Technology
	Review the district approved software list and create a software purchase request to be part of the budget process.	Dec. 20, 2004	Jan 15, 2005	The annual technology budget will incorporate software needs.	Technology budget	Technology Coordinator	Technology, Title VI

**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 provide all buildings with adequate bandwidth for Internet connectivity to the district network and the Internet to promote student achievement.  
 B. MSAD #50 will deliver timely, ongoing technical expertise and maintenance necessary to support the teaching and learning process  
 C. MSAD #50 will continue to explore ways to create computer curriculum and allow students to be involved in district technical support for authentic learning.

<b>Objective</b>	<b>Action Step</b>	<b>Timeline</b>	<b>Review Date</b>	<b>Expected Progress</b>	<b>Progress Assessment</b>	<b>Party Responsible</b>	<b>Funding</b>
5.1 MSAD will provide the technology staff necessary to maintain and support the technology used within the district.	Evaluate the performance of technology support and develop recommendations for additional support if necessary.	Dec. 20, 2004	Feb. 15, 2005	Recommendations will be developed and shared with district administration.	Recommendations	Technology Coordinator	Technology
	Incorporate these recommendations into the district budget request process.	Jan. 15, 2005	Mar. 30, 2005	Recommendations will be incorporated into the district technology budget request.	District budget request	Technology Coordinator	Technology
5.2 MSAD #50 will provide an on-line technology support system for students and staff.	Develop and implement a plan for providing on-line support for technology issues.	Oct. 31, 2005	Jan. 15, 2006	A funding plan will be developed, approved and implemented.	Plan	Technology Coordinator	Technology training grant
	Meet with staff and student groups to instruct them on how to use this technology.	Dec. 20, 2005	Jan. 15, 2006	Staff will be given short training sessions on how to use on-line support.	Training Documents	Technology Coordinator	Technology training grant
5.3 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, 2004	Mar. 15, 2005	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

5.4 MSAD #50 will provide through grant funds, technology funds or building curriculum funds the software necessary to achieve academic goals.	Meet with district and building administration teams to discuss the creation of computer technology classes.	Dec. 20, 2004	Mar. 15, 2005	The district will, on an annual basis, examine the possibility of adding computer technology classes.	Discussion documentation	Building Principals Technology Coordinator	Building and district funds
	Develop process to allow students enrolled in these classes to use district technology support situations as an opportunity for authentic learning.	Mar. 31, 2005	Aug. 15, 2005	A plan which includes strategies for authentic learning will be developed to add computer technology courses into the curriculum.	Comprehensive curriculum plan	Building Principals Technology Coordinator	Building and district funds