



**Madawaska School Department**  
**Technology Plan**

**2007-2008**

**2008-2009**

**2009-2010**

**Approved by the Madawaska School Committee: June 13, 2007**

## **Madawaska School Department Technology Plan**

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

The **Technology Advisory Committee (TAC)** is involved on a “big picture” basis. The day-to-day, week to week technology program is under the direction of the administration and technology coordinator. The technology plan is drafted by a sub-committee that includes administration, teachers, and technology coordinator who would then meet with the TAC to receive their reaction and input. At the end of the year the TAC would meet to review the progress made toward meeting the plan and the action plan for the upcoming year.

The current local Technology Advisory Committee has been active for many years. Three current members have served concurrently throughout this period. The committee is composed of school administration, the technology coordinator, and teachers representing buildings, school committee members, the adult and community education director, parents, and community and business representatives.

The Madawaska School Department recognizes the importance of parental involvement in the education of our youth. Examples of the inclusion of the community in our efforts include published newsletters, web sites, e-mail links, and staff listings. Our school produces television programming through our own local cable access television station, WOWL- Channel 7. Through the deployment of the parent portal to PowerSchool, parents have unprecedented access to their children’s education through the use of technology.

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

The Madawaska School Department believes that the integration of information technology into the learning environment will assist us in achieving our vision of *success for all students*. Students will utilize various technologies to acquire the skills and knowledge necessary to *achieve clearly stated learning results* in all subjects including computer technology. They will use the same technologies to *demonstrate their knowledge and skills*. Through the use of current and emerging technologies our students will gain the knowledge and skills to become *clear and effective communicators, creative and practical problem solvers, collaborative and quality workers, and integrative and informed thinkers*. The Madawaska School Department recognizes that the responsibility for education is shared by school, student, family and community.

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

Madawaska's educators are expected to comply with the Maine Learning Results. Our current plan for storing this assessment data will be tied in to our K-12 student data management system. Student performance on local assessments will be documented using PowerSchool and reviewed on an ongoing basis to track student progress. The Madawaska School Department will strive to produce clear and effective communicators using a wide variety of tools. Students at all levels will use an appropriate form of advanced technology to produce written, visual, artistic, and technological modes of expression. This will occur across content areas and grade levels.

All students in the Madawaska School Department will use technology as an integrated part of their educational mission. It is expected that all teachers will use the technological means necessary and available to improve the quality of instruction and learning in our schools.

The Madawaska School Department believes in the ISTE Standards for Students, Teachers, and Administrators. Our goal is that students, teachers, and administrators will use the ISTE Standards as a guideline to meet the Maine Learning Results. Please refer to the summary in Appendix A for more information on the ISTE Standards for Students, Teachers, and Administrators.

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

Madawaska Elementary School has over seven hundred computers, printers, and network devices in the building. We have one lab with 23 iMacs that were purchased in 2000 which are due to be replaced in 2007. Teachers have at least one iMac in their classrooms. Our library is running Sagebrush InfoCentre software on its' own server, which is web accessible. Students and staff use a common server for storage and some applications. AppleWorks (versions 6) is in use on most machines in the building, but we are predominantly using Microsoft Office 2004 for their office software suite. We also have 25 wireless laptops on a mobile cart that can be used for a variety of purposes around the building. In 2006, we purchased an MLTI iBook laptop for each of our elementary teachers to increase their technical proficiency and make them more efficient with their work.

Madawaska Middle/High School has over two hundred computers, printers, and network devices in the building. The computers run a variety of operation systems. The business

lab in room 201 has 25 new Pentium 4 computers running Windows XP and Office 2000. We have a high school science lab made of 15 iBook laptops. All 400 students from grade 6 through 12 are using iBooks on a 1:1 basis. We have a number of spare computers in a repair pool to facilitate use by the students. Teachers have a Pentium 4 workstation in their classroom that runs Windows XP and Office 2000 as standards.

GroupWise is the email solution used in this building. All Windows workstations are using Internet Explorer and Firefox as web browsers. On the MLTI laptops, they have Safari and Firefox as web browsers. We have been using Novell NetWare servers for our file storage, mail, and library software. The library server is due to migrate to a Windows server and have the library software updated to become web accessible in 2007.

In order to meet our goals, we recognize that we must establish a replacement cycle for the replacement of computers within the school system. This will allow us to keep the technology components from becoming completely obsolete and ensure that we have the equipment to meet our goals.

The following needs have been identified:

| Instructional Area     | # of Computers | Rotation              |
|------------------------|----------------|-----------------------|
| MES Computer Lab       | 25             | A                     |
| MMHS Lab 208           | 21             | A                     |
| MES/MMHS Library       | 10             | B                     |
| MMHS iBooks            | 250            | B                     |
| MES Mobile Lab         | 25             | C                     |
| Adult Ed. Lab & Office | 10             | C                     |
| MMHS iBooks            | 150            | Ongoing 4 yr rotation |
| MMHS Labs 201          | 25             | C                     |
| MMHS Teachers          | 30             | D                     |
| MES Teachers/Staff     | 30             | D                     |

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

The Madawaska Middle/High School houses the offices and classrooms of the Madawaska/MSAD #33 Adult and Community Education Program. Included in this suite of classrooms is an adult education learning lab. The lab currently houses eight internet ready desktop computers, one laptop and a laser printer. These computers are available to adults both during daytime hours and evening hours four days per week. Free one-on-one literacy, and English for Speakers of Other Languages (ESOL) instruction, citizenship classes and basic skills remediation are offered as needed to adults

who reside in the communities served by our adult education consortium. These communities include Madawaska, Grand Isle, St. Agatha, and Frenchville.

Our half-time Adult Basic Education Instructor uses a variety of computer applications to enhance literacy instruction in the areas of reading, math, writing, basic computer technology and oral language. (Internet-based activities, Rosetta Stone, Microsoft Office, Inspiration, CHOICES, and Para-Pro Testing are offered. The online PLATO web tutorial service is also deployed for our adult learning programs.)

In many cases our technology is shared with the high school. For instance, the adult education computer lab is used in the early morning hours by the ESOL students enrolled in the 6-12 system. The high school Guidance Counselor also uses the lab for on-line college placement testing.

All Learning Lab computers as well as the administrative computers in the director's office are networked with the high school and share software packages and internet access through the high school. The main labs in the high school are also made available to adult education for adult use for formal classes in a variety of software applications. Parent training has been and will continue to be offered by the Adult Education Program in areas of Family Literacy and Internet Safety.

We plan to keep the technology up to date on a rotating basis. The Adult Education program's technology needs are now reflected in the overall replacement cycle for the school department. The current Adult Ed. Computer lab has eight Pentium 4 computers setup with Windows XP operating systems and running the Office 2000 suite. The 2009-10 year will see most of the lab replaced.

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

Each year, the Madawaska School Department includes a budget developed by the Technology Coordinator and building principals specifically for the purpose of technology support. Technology related areas of the schools are included in this budget. This allows us to financially implement technology related goals that are reasonable and achievable for that year.

Title IID funds were used to fund technology related to staff development. In the 2006-07 school year, our primary focus was in getting more PDA's in the hands of our staff. This device assists our teachers to use technology more efficiently and effectively in our classrooms. In addition, we bought an overhead projector that is being used to deliver classroom instruction. We also used some of that money to purchase a laptop for our Director of Instruction's office. The total amount of Title IID funds was slightly over

\$8,000 for the 2006-07 school year. By using these funds to purchase these items, we're empowering our teachers and administrators with technological tools to improve the quality of instruction. Aside from these funds, the school department has in the past applied for grant monies that are directly related to classroom instruction. In 2006-07, we took advantage of some SMART Grants to the tune of \$2100 which was used to assist in the purchase of digital projectors.

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

Our school department has demonstrated a strong commitment to integrating technology into instruction. At our middle/high school, every student in grades six through twelve are assigned a laptop computer to use in their classes. This project has allowed teachers in all content areas to integrate technology into their curriculum.

Students in our elementary school can take advantage of our laptop cart when technology is being integrated directly into their lessons. This is in addition to their regularly scheduled computer lab time.

Technology is already integrated into the curricula and instruction in a variety of ways. One example of this is our Communications class at the high school. Students are using computers, digital cameras, and editing equipment to produce programming for our student run local access television station. Inspiration software is being used in all schools within a variety of content areas to help students classify thoughts and ideas in an appropriate manner. Apple's iLife series is being used in a variety of ways from kindergarten to high school. Various components of the curricula require integration of technology in the instruction to meet communication requirements of the Maine Learning Results.

Our school department has worked to fully comply with NCLB and Maine's Learning Results. The assessment components are continuing to be developed and implemented. Continued development of the PowerSchool system will continue through the next several years to handle a variety of our data management needs. The 2007-08 school year will see continued expansion of the capabilities of this system at all levels. Training for staff on the use of this system will be ongoing.

Technology at our elementary school continues to thrive. The 2007-08 school year will bring a new state of the art computer lab to the building, loaded with quality academic material. The continued use and expansion of the laptop cart will enable classroom teachers to integrate technology over extended periods of time.

8. **Technology Type and Costs, and Coordination with Funding Resources-** *Develop a step-by-step action plan, with timeline, that includes goals, activities, required hardware and software, costs, and funding sources. Describe the type and costs of technology to be acquired and how it fits within the current structure (use the list developed in the technology assessment in #4, above.). Designate sources of funding, specifically Ed. Tech. Funds, E-Rate funds, and funds from other Federal programs, and state and local sources that support technology acquisition and integration. (show a chart of the predescribed items)*

We will be continuing to apply for grant monies to facilitate the goals of continuing and/or increasing the use of technology in the school department. The following items all help meet this goal for the 2007-08 school year.

| Type   | Cost              | Funding              | Timeline                      |
|--|-------------------|----------------------|-------------------------------|
| ATM/ Access                                      | \$25,000 annually | E-Rate reimbursement | Ongoing yearly                |
| Communications                                   | \$5000 annually   | E-Rate               | Ongoing yearly                |
| Multimedia projectors                            | \$2500            | Title IID, Title V   | 2007-08                       |
| Software licensing                               | \$1500            | Title IID            | 2007-08                       |
| Ad. Ed. workstations                             | \$2000            | Ad. Ed. funding      | 2007-08                       |
| Technology Budget<br><br>(Hardware and Software) | \$208,000         | Local funds          | 2007-08<br><br>Ongoing yearly |

9. **Supporting Resources-** *Describe the supporting resources such as services, software, other electronically delivered learning materials, and print resources that will be acquired to ensure successful and effective uses of technology.*

**Support-** The Madawaska School Department uses a variety of strategies to support the effective uses of technology in its schools. The department's Technology Coordinator is primarily responsible for the planning, maintenance, and performance of the district's technology infrastructure. The department currently employs one full time and one part time Computer Technician to provide primary hardware and software maintenance and support for the district's computers. The Madawaska School Department recognizes increased demands placed upon the technology staff may require additional staffing in the upcoming years. The vast majority of all server work is done in house, while a small portion of the work is supplied by selected vendors. Most of the laptop maintenance is also done in house.

## **Software-**

The district is using PowerSchool as a student data management system for all grades. This work began in the 2004-05 school year. The necessary initial planning, training, and support provided to ensure the success of this deployment.

The middle/high school, district office, and adult education program have standardized their office software with Microsoft Office 2000. All computers in these departments are running antivirus software. All of the computer labs in the schools have networked printers to facilitate the printing needs of users. In addition, each classroom in the district has a networked printer.

**Networks-** With the addition of the ATM distance learning room at the middle/high school, the data transmission services were upgraded to a T3 line. All classrooms are hard wired to a 10/100 Fast Ethernet network, and there are several wireless access points deployed in areas where they are needed.

The elementary school also has a 10/100 Fast Ethernet backbone, with wireless access in targeted areas of the building. To facilitate laptop use, wireless access points have been deployed to provide sufficient coverage in all instructional areas.

*10. **Steps to Increase Accessibility-** Describe the steps being taken to ensure that all students and teachers have increased access to technology. The description must include how Ed. Tech. Funds, if applicable, will be used to help students in high-poverty and high-needs schools, or in schools identified for improvement or corrective action under Section 116 of Title I; and how the steps taken will ensure that teachers are prepared to integrate technology effectively into curricula and instruction.*

All teachers have access to a laptop, provided either through the MLTI project or local funding. As previously stated, our middle/high school has a 1:1 laptop to student ratio. Our elementary school has at least one computer per classroom, and has access to the laptop cart.

The Madawaska School Department has not qualified for funds as high poverty or high need schools in the past. We are specifically looking at doing some training to assist teachers with integrating technology into their classrooms for the 2007-08 school year. We anticipate this being a continuing effort.

*11. **Promotion of Various Curricula and Teaching Strategies that Integrate Technology-** Describe how various curricula and teaching strategies that integrate technology effectively into the general curriculum and instruction will be identified based on a review of relevant research, and promoted to lead to improvements in student academic achievement.*

Curricula and teaching strategies that integrate technology are brought into our system in a variety of manners. The Technology Coordinator is partially responsible for keeping up to date on a variety of technology issues as they relate to our schools. Teachers who attend workshops or conferences are also supported when they bring back new ideas and share them with staff members. Administrators instructional objectives are addressed during the budget process as well as during the planning for professional development.

Examples of how this has been done are numerous. Our high school guidance department is using the PLATO software to provide essential support for students at risk. Our ATM room is being used more recently to provide services in support of instruction in a variety of areas. Our school department uses Rosetta Stone at the elementary school for French language reinforcement, and our ESL teacher uses Rosetta Stone's English version to support that service. Our high school math instructors have subscribed to AgileMind to deliver integrated activities for that area of the curriculum.

Our middle school teachers have also had some successes with the 1:1 model of instruction due to experience with the MLTI program. Sharing these methods within instructional teams allow these methods to be emulated. Each classroom in our elementary school has assigned lab times every week. At the middle school, classes in keyboarding and information technology have been added to our curriculum to ensure that our students have the necessary skills to integrate technology in all content areas. Creative Writing, Publishing, and Communications are examples of high school courses which extensively integrate technology into their program.

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

New employee orientation will include some time for professional development to ensure that new employees will have a basic understanding of the technological tools at their disposal. This will continue each year.

In the past, the Madawaska School Department enter into a collaborative training program with MSAD #27 for the purposes of PowerSchool training. With the use of PowerSchool in MSAD #1, the Caribou School Department, and MSAD#29, we envision the pooling of resources in this area to continue to grow so as to facilitate specialized training needed for the student information system.

Our local adult and community education department has an existing record of offering instruction in areas of interest to the school department. This cooperation will continue in the upcoming years.

With the addition of the PowerSchool package in our K-12 schools, the one to one laptop project at MMHS, and the ongoing demands for technical proficiency, the school department recognizes that professional development must occur. To that end, we have committed to professional development in these areas.

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

Madawaska Middle/High School started up their ATM distance learning classroom in the fall of 2002. This classroom offers two way audio and video to classrooms all around the state. This offers the potential of classes, meetings, and instructional workshops that can be offered at our site. We have the potential to deliver high quality instruction from our site as well as the ability to receive programming from other sites. Inservice offerings have already been delivered through this medium.

Teachers are using the school web site to provide access to lesson plans, notes, and lists for student and parent access. Some middle school teachers are using StudyWiz to do online course work with students. We have the availability of white board technology to assist in meeting some of our Special Education goals. We are continuing to have our AP Language and Composition students use blogs to share their work. Our juniors are also using some online tutorials for SAT preparation.

Our adult education program offers a variety of online distance learning offerings. These are done through the ITV program. These are offered to students as well as adults throughout the day and evening. Some of our students have also taken distance learning classes for credit through the CyberSchool program. We also are using the PLATO program to support student needs in the high school and Adult Education.

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

We are very fortunate to have the use of our Administrative Team and our Technology Committee for the purpose of evaluating our Technology Plan. Our school's administrative team has significant representation on both groups, and this will allow us to meet the needs of our Technology Plan as they relate to Maine's Learning Results.

Constant assessment of student achievement in meeting our technology goals is done on an ongoing basis. This is done through the following methods:

- Analysis of external student performance data yearly (MEA, PSAT, SAT, etc.)

- Analysis of internal (local) student performance data yearly (Ex: common writing prompts, local rubrics)
- Gathering and analyzing data on technology use from students, staff and community members.
- Reviewing Technology Plan annually as it pertains to district budgets
- Making adjustments to Technology Plan as necessary resulting from budgets and district priorities
- Gathering and storing student data (PowerSchool/MEDMS) for easy accessibility
- Improved communication between students, parents and teachers online through use of the school web site and PowerSchool
- Easy administrative reporting system for parents students and teachers (Report cards & Progress reports online)

Samples of their products can demonstrate the successful integration of technology into their work. We have seen the integration of technology occurring successfully in all content areas.

We are required to have our local school committee approve our Technology Plan. This will ensure that all parties have a common vision for technology's role in the learning process for the Madawaska School Department.

# ISTE National Educational Technology Standards for Students (NETS-S)

1. BASIC OPERATIONS AND CONCEPTS
  - Students demonstrate a sound understanding of the nature and operation of technology systems.
  - Students are proficient in the use of technology.
2. SOCIAL, ETHICAL, AND HUMAN ISSUES
  - Students understand the ethical, cultural, and societal issues related to technology.
  - Students practice responsible use of technology systems, information, and software.
  - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
3. TECHNOLOGY PRODUCTIVITY TOOLS
  - Students use technology tools to enhance learning, increase productivity, and promote creativity.
  - Students use productivity tools to collaborate in constructing technology enhanced models, prepare publications, and produce other creative works.
4. TECHNOLOGY COMMUNICATIONS TOOLS
  - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
  - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
5. TECHNOLOGY RESEARCH TOOLS
  - Students use technology to locate, evaluate, and collect information from a variety of sources.
  - Students use technology tools to process data and report results.
  - Students evaluate and select new information resources and technological innovations based on the appropriateness of specific tasks.
6. TECHNOLOGY PROBLEM SOLVING AND DECISION MAKING TOOLS
  - Students use technology resources for solving problems and making informed decisions.
  - Students employ technology in the development of strategies for solving problems in the real world.

# ISTE National Educational Technology Standards for Teachers (NETS-T)

## 1. TECHNOLOGY OPERATIONS AND CONCEPTS

- Teachers demonstrate a sound understanding of technology operations and concepts.

## 2. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES

- Teachers plan and design effective learning environments and experiences supported by technology.

## 3. TEACHING, LEARNING, AND THE CURRICULUM

- Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

## 4. ASSESSMENT AND EVALUATION

- Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

## 5. PRODUCTIVITY AND PROFESSIONAL PRACTICE

- Teachers use technology to enhance their productivity and professional practice.

## 6. SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES

- Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply that understanding in practice.

# ISTE National Educational Technology Standards for Administrators (NETS-A)

## 1. LEADERSHIP AND VISION

- Educational leaders inspire a shared vision of comprehensive integration of technology and foster an environment and culture conducive to the realization of that vision.

## 2. LEARNING AND TEACHING

- Educational leaders ensure that curricular design, instructional strategies, and learning environments integrate appropriate technologies to maximize learning and teaching.

## 3. PRODUCTIVITY AND PROFESSIONAL PRACTICE

- Educational leaders apply technology to enhance their professional practice and to increase their own productivity and that of others.

## 4. SUPPORT, MANAGEMENT, AND OPERATIONS

- Educational leaders ensure the integration of technology to support productive systems for learning and administration.

## 5. ASSESSMENT AND EVALUATIONS

- Educational leaders use technology to plan and implement comprehensive systems of effective assessment and evaluation.

## 6. SOCIAL, LEGAL, AND ETHICAL ISSUES

- Educational leaders understand the social, legal, and ethical issues related to technology and model responsible decision-making related to these issues.