# *Technology Plan 2005-2007*

# Hill View Montessori Charter Public School

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### HVM's Mission

The mission of the Hill View Montessori Charter Public School (HVM) is to provide grade K-8 public education that promotes academic excellence using the Montessori philosophy. In partnership with teachers and parents, children attain high levels of academic, personal and social achievement and so prepared, become constructive contributors to our community.

### Technology Vision

HVM students will learn technology. HVM will use technology as a tool to make the learning environment more effective for the entire school community – students, staff, parents and the community. HVM students will use information technology and other technology resources to communicate with each other and the world.

#### Students

HVM students will learn and use a variety of technologies including computers, calculators, educational and productivity software, and various multimedia devices such as DVD/CD players, TV/VCR, digital and video cameras and robotic toys in researching concepts, communicating ideas, solving problems and making decisions. The use of technology is intended to enhance a students learning experience by providing additional tools and resources to aid in their education and enhance their knowledge base.

Using the Massachusetts Instructional Technology Standards as a guide, students will be prepared to participate effectively in our technological society. In particular, HVM has the following goals:

***Table 1 - Standard 1: Demonstrate proficiency in the use of computers and applications as well as an understanding of concepts underlying hardware, software, and connectivity.***

| Grade Level | Exploratory concepts and skills/Performance Indicators | Goals for HVM's Kindergarten Students | Goals for HVM's Grade 1-4 Students |
|---|---|---|---|
| PreK-4 | • Develop basic skills for using hardware and applications.<br>• Use correct terminology for basic components of a computer system and develop understanding of their basic functions.<br>• At district and teacher's discretion explore and develop keyboarding skills.<br>• Explore basic formatting features of a word processing program.<br>• Explore and understand the basic function and purpose of a database.<br>• Explore and understand the basic function and purpose of a spreadsheet.<br>• Collaborate with classmates to use teacher-selected web sites<br>• Collaborate with classmates and teacher to create slide presentations with existing templates.<br>• Explore the use of drawing and painting applications for class projects. | • Learn components of a computer system.<br>• Expose students to use keyboard and mouse. | • Type a report or story using word processing software.<br>• Learn to create spreadsheets to store and display data.<br>• Learn to access and utilize an existing database.<br>• Learn to create basic presentations and slide shows.<br>• Learn to use a drawing/graphics program.<br>• Visit a teacher selected web site and use the information present there for a class assignment.<br>• Use AlphaSmarts to introduce and build keyboarding techniques. |

***Table 2- Standard 2: Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.***

| Grade Level | Exploratory concepts and skills/Performance Indicators | Goals for HVM's Kindergarten Students | Goals for HVM's Grade 1-4 Students |
|---|---|---|---|
| PreK-4 | • Follow classroom rules for responsible use of computers.<br>• Develop understanding of the school's rules for safe and ethical Internet use.<br>• Explore practices for evaluating web sites.<br>• Develop understanding of how the computer is a tool for learning.<br>• Explore issues of ergonomics and safety in using computers. | • Learn and practice the classroom rules to share computing resources and use them responsibly.<br>• Introduce ergonomic factors associated with using computers safely. | • Learn about and follow the school's acceptable use policy.<br>• Learn how to use a search engine for finding facts related to a particular topic of research.<br>• Gather data using the Internet and electronic encyclopedias.<br>• Discuss practices for evaluating the validity of websites and their content.<br>• Demonstrate knowledge of safe and careful computer usage. |

***Table 3- Standard 3: Demonstrate ability to use technology for research, problem solving, and communication. Students locate, evaluate, collect and process information from a variety of electronic sources. Students use telecommunications and other media to interact or collaborate with peers, experts, and other audiences.***

| Grade Level | Exploratory concepts and skills/Performance Indicators | Goals for HVM's Kindergarten Students | Goals for HVM's Grade 1-4 Students |
|---|---|---|---|
| PreK-4 | • Explore and develop understanding of how to gather information from a variety of electronic sources, including teacher-selected web sites, CD-ROM encyclopedias, and automated card catalog.<br><br>• Explore the use of application programs for organizing information into charts, tables, and diagrams.<br><br>• Explore the use of content-specific tools to enhance understanding of curriculum content.<br><br>• Collaborate with classmates and teacher in creating a multimedia presentation to communicate learning with others.<br><br>• Collaborate with classmates and teacher to exchange e-mail with another classroom. | • Use multimedia devices like DVD/CD players, VCR and TV to watch educational shows, literature and movies apart from listening to stories and music. | • Use educational software programs to enhance learning in core academic subjects (Oregon Trail, Where's Carmen, etc).<br><br>• Use a recording device such as cassette recorder to record and critique your own reading.<br><br>• Learn to represent data using charts, tables and diagrams using application programs like excel.<br><br>• Communicate knowledge with classmates using a multimedia presentation.<br><br>• Use computers for goal setting and self-assessment.<br><br>• Use an electronic card catalogue to find resources in the library.<br><br>• Learn to use video/digital cameras to record plays or classroom activities and to make recordings of work for portfolios.<br><br>• Exchange email with a HVM electronic pen pal<br><br>• Use educational software programs like encyclopedias to research concepts. |

## Staff

HVM teachers will receive training necessary to understand the technology needed by our students to succeed in our technological society. Teachers will also use technology as a tool to make the learning environment more effective. All staff will use information technology and other technology resources to help the school run more effectively. In particular, staff will use technology to communicate and to facilitate efficient school operations. The following standards provide guidelines:

### Leadership and Vision

- Create and share a vision for using technology as a tool to enhance the everyday learning experience for all the stakeholders involved.
- Create and maintain a technology plan that implements the vision.
- Use data to make leadership decisions.
- Provide for and ensure that faculty and staff take advantage of quality professional learning opportunities for improved learning and teaching of technology.

### Technology Operations and Concepts

- Learn and understand computer terminology.
- Learn to use productivity software programs like Word for word processing, Excel for creating spreadsheets and PowerPoint for creating presentations.
- Stay current on emerging technologies appropriate for teaching students.

### Planning and designing learning environments and experience

- Identify basic skill development software needed for student use.
- Identify websites for students to research concepts.
- Identify productivity software needed for student use.
- Plan for effective use of technology resources.
- Design and provide a learning environment that promotes continuous innovation with technology.

### Teaching, Learning and the Curriculum

- Teach basic computer terminology.
- Teach good ergonomic practices to provide a safe environment in which to learn technology.

- Teach students about using technology resources ethically and responsibly.

- Teach using application programs and productivity software to create an effective technology-enabled learning environment.

- Teach using basic skill development software.

- Teach students how to use data and technology in decision-making and problem solving.

- Identify, use, evaluate and promote appropriate technologies to enhance and support a learning environment that enables high levels of student achievement.

### Assessment and Evaluation

- Use technology for goal setting and assessment.

- Use technology to analyze results of assessment and identify areas of improvement to maximize student learning.

- Use technology resources to assess staff knowledge, skills and performance to provide opportunities for quality professional development.

- Use technology resources to assess, evaluate and manage administrative and operational systems.

### Productivity and Professional Practice

- Use productivity software programs like Word for word processing, Excel for creating spreadsheets, Access for creating databases and PowerPoint for creating presentations.

- Use technology resources like The Internet and email to communicate with parents, peers and students.

- Use a database to collect and report student and school information to the state and school community.

- Use financial software to develop budgets and maintain fiscal controls.

### Social, Legal and Ethical Issues

- Identify and communicate policies that ensure ethical, secure, safe, healthy and legal use of technology resources.

- Facilitate equitable access to technology resources for all students.

- Identify good ergonomic practices to enable safe and healthy use of technology.

- Identify and communicate policies that ensure effective and equitable access of technology resources for all stakeholders involved.

- Identify and communicate policies that enforce copyright laws and assign ownership of intellectual property developed with school's resources.

Support, Management and Operations

- Identify and implement policies to ensure compatibility of technologies being used.

- Allocate financial and human resources to enable sustained implementation of the technology plan.

- Identify and implement policies that drive continuous improvement of technology systems and technology replacement cycles.

## Parents and The Community

Technology will be used to communicate with parents and the community members so they can better support the school and the learning environment. In particular,

- Digital presentations will be used to communicate with prospective parents, legislators and other community members.

- HVM's website will provide critical information about the school including enrollment and school activities and will be a resource for parents.

- Email will be used to communicate with parents and the community.

- A web-based reporting tool will be provided to give parents more information about their child's learning.

- HVM's website will also be used to advertise job openings to the larger community.

## Implementation Strategy to Achieve the Vision

### Plan to Achieve the Vision

HVM will setup a separate lab space for practical training with the computers. While this provides for effective use of limited resources available, it also reduces disturbances in the classroom environment. Teachers will teach concepts in the classroom using books and Montessori materials. Students will be able to practice at a specific time, scheduled by the teacher. Staff will provide feedback on the technology integration once every three months for the committee to assess the progress and adapt the technology plan as needed.

The following table shows the goal to implementation strategy mapping for each grade level for Kindergarten to Grade 4.

| Standard | Kindergarten | Grades 1 to 3 | Grade 4 |
|---|---|---|---|
| 1 | Teach basics of computers using books like Magic School Bus "GETS PROGRAMMED".<br><br>Schedule once a month practical training on computers for students. | At grade 1 level, strengthen keyboarding skills using AlphaSmart. Expose students to The Internet by visiting teacher selected websites. Expose students to a drawing/graphics program such as Microsoft Paint.<br><br>At grade 2 level, expose students to application concepts such as word processing, and presentations and demonstrate using programs like Microsoft Word and Microsoft PowerPoint. Improve keyboarding skills and practice using drawing programs. Demonstrate to students how resources like the Internet can be used to research concepts by visiting pre selected websites.<br><br>At grade 3 level, students will practice creating word documents and creating presentations. Students | At grade 4 level, students will visit teacher selected websites to research concepts for class assignments. Students will use programs like Microsoft Word and Microsoft PowerPoint to present their work. Students will learn to use spreadsheet programs like Microsoft Excel for data representation. Students will learn about databases by using an existing database like the library catalog. |

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| | | will visit teacher selected websites to research concepts. Students will learn database concepts and spreadsheets for data representation. | |
| 2 | Teach students about responsible and effective use of technology resources.<br><br>Teach students about ergonomic factors associated with using technology resources. | At grade 1 level, students learn about safe use of technology by learning about ergonomic factors, sharing technology resources and by visiting teacher selected websites.<br><br>At grade 2 level, demonstrate to students how to use technology resources such as The Internet and Multimedia encyclopedias to research concepts and reinforce ergonomic factors associated with using technology resources safely and responsibly.<br><br>At grade 3 level, students learn the acceptable use policy. Research concepts using The Internet by visiting pre selected websites and multimedia encyclopedia | At grade 4 level, students learn about practices for evaluating the validity of websites and their contents. Students will apply the acceptable use policy and practices to select websites and multimedia encyclopedias to research concepts. |

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| 3 | Listen to stories and music with a DVD/CD player.<br><br>Watch educational shows and movies with a DVD, VCR & TV. | At grade 1 level, learn to use DVD/CD players, TV and VCRs to listen to stories and watch educational videos.<br><br>At grade 2 level, expose students to application concepts like word processing, and presentations and demonstrate programs like Microsoft Word and Microsoft PowerPoint. Improve keyboarding skills and practice using drawing programs. Demonstrate to students on how resources like the Internet can be used to research concepts by visiting pre selected websites.<br><br>At grade 3 level, students will practice creating word documents and creating presentations. Students will visit teacher selected websites to research concepts. Students will learn database concepts and spreadsheets for data representation. Show students to represent data using spreadsheets and using databases. Show students to use email to communicate with each other. Demonstrate the use of a tape recorder and digital cameras to record audio and video. | At grade 4 level, students will visit teacher selected websites and multimedia encyclopedias to research concepts for class assignments. Students will use programs like Microsoft Word and Microsoft PowerPoint to present their work. Students will learn to use Spreadsheet programs like Microsoft Excel for data representation. Students will learn about databases by using an existing database like the library catalog. Students will use tape player to record and critique reading. Students will use digital cameras to record plays or classroom activities and make recordings of work for portfolios. Use educational software programs (like Oregon Trail, Where's Carmen etc.) to enhance learning. Students will learn to communicate with peers using email. Students and teachers will use computers for goal setting and self-assessment. |

### Current Resources & Future Needs

The following table shows the resources available and needed for HVM to implement the technology plan.

| Category | Have | Need | Time frame |
|---|---|---|---|
| Hardware & Accessories | 11 Classroom Computers (Configuration: 933MHZ Intel Pentium III Desktop, 256MB RAM, CD-ROM, Floppy, 10-20GB Hard Drive, 15" DELL CRT Monitors).<br><br>1 Video Camera (Canon Mini-DV Camcorder)<br><br>1 Tripod<br><br>2 Digital Cameras (HP Digital 4 MP Point – And – Shoot Camera)<br><br>2 Admin Computers (Configuration: 2GHZ Dell Intel Pentium IV Desktop, 512 MB RAM, DVD-ROM/CDRW, Floppy, 40-60GB Hard Drive, 15" LCD Monitor)<br><br>2 Laptop Computers (Configuration: 1.2GHZ Dell Laptop, 256 MB RAM, 20 GB Hard drive, 15" LCD Screen)<br><br>2 Dell Server Computers (Configuration: 2GHZ Intel Pentium IV, 512 MB RAM, 60-80 GB Hard Drive)<br><br>LCD Projector<br><br>Network - Comcast Cable connection with a Static IP. One Hardware router in the basement, connected to a 24-port Switch.<br><br>2 VCRs and TVs<br><br>7 CD/Tape player.<br><br>Phone System – Inter-Tel phone system with 11 executive phones, 55 Standard phones and 6 basic phones. | Computer for library catalog access.<br><br>Two computer carts complete with laptops/AlphaSmarts.<br><br>A second copier for the second floor.<br><br>TTY device<br><br>Little Step-by-Step Communicator<br><br>Math Pad<br><br>Touch Window<br><br>Sound Screen<br><br>Spirit Learning Center<br><br>Classroom Listening Center<br><br>Lexia Learning Products/ software | By 2006<br><br>1 cart by 2005 and the other one by 2006<br><br>By 2005<br><br>2005-2006<br><br>2005-2006<br><br>2005-2006<br><br>2005-2006<br><br>2005-2006<br><br>2005-2006 |

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| Software | Windows XP on every desktop computer.<br><br>Microsoft Office 2003 on every computer. This includes Access and Excel.<br><br>Windows 2003 Server on the two server computers. Mail server software is Argosoft Mail Server, File Server is Windows Active Directory/Permissions. Calendar (Outlook Shared Folder) server program, running on the Fileserver machine. | Cataloging software for library.<br><br>Filter programs.<br><br>Spam and Spyware killers and anti virus programs update<br><br>Creating class websites. | By 2006<br><br>By 2005<br><br>2005-2006<br><br>By 2006 |
| Books & Internet Resources | Scholastics Tech Tutor website at http://teacher.scholastic.com/technology/index.htm has information on technology integration for teachers.<br><br>The EdTech website at http://www.doe.mass.edu/edtech/etreport/2004let.html<br><br>OSHA ergonomic solutions website at http://www.osha.gov/SLTC/etools/computerworkstations/index.html | Identify books to be purchased and purchase them.<br><br>Identify websites and software programs to be used. | 2005-2006<br><br>2005-2006 |
| Professional Development and Training | Onsite training to use email and calendar programs by IT Staff.<br><br>Training attended by IT Staff: iSAFE | Training in Microsoft Word, Microsoft Excel, Microsoft PowerPoint and Microsoft Access.<br><br>Training to build class websites.<br><br>Training to use digital cameras | 2005-2007 |

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| | | and other resources needed to support technology plan implementation. | |
| Policy | Staff technology use policy | Need to develop and implement an acceptable use policy for technology resource use. | 2005 |
| People, Money & Space | Tech Support<br><br>Received a grant for LCD projector. | Teacher to provide practical training.<br><br>Money for buying hardware and software and to support the teaching position.<br><br>Need to identify space for setting up lab or space to keep the carts (if kept in cart). | 2005-2007 |

## References


1. Hill View Montessori Charter School of Haverhill, Technology Visioning Session Charts.
2. Local Technology Plan Benchmark standards for the year 2003 – Massachusetts Department Of Education, May 2000
3. Massachusetts Recommended PreK-12 Instructional Technology Standards – Massachusetts Department Of Education, October 2001
4. ISTE National Educational Technology Standards for Students
5. ISTE National Educational Technology Standards for Teachers
6. ISTE National Educational Technology Standards for Administrators
7. Montessori Elementary Charter School Technology Plan 2003-2004