

Hanover Schools' Educational Technology Plan 2007-2011 Addendum to Original Plan

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I. Introduction

It is the pleasure of humankind to label time—to delineate it into as many tangible chunks as possible. Thus, we have the Dark Ages and the Age of Enlightenment; the Stone Age and the Industrial Age; the Middle Ages, teenage, and old age.

For most, our latest is aptly named the information age: the 'movers and shakers' are those who know what is happening, who are linked to sources of information, who can control and manage knowledge. These aren't people who simply make money; these are people who are educated—who know how to get and use information—who know how to think for themselves and be successful—no matter what personal definition he or she uses. If a person knows the facts before acting, he or she will stand a better chance of success; if a person understands the ramifications of his or her actions, he or she will stand a better chance of success. In other words, through knowledge, experience, and critical thinking, any person will increase his or her odds for success and happiness. And isn't this after all what education is about: empowering people; teaching them how to manage information—how to manage a world where information is power—how to be connected—how to be happy?

What continues to come up here is that information is the center around which everything revolves. And perhaps the most powerful tool for processing information, for enhancing critical thinking, for lassoing power, is the computer. Most would agree that within the information age, it is essential for our students to be computer literate in order to compete in college, in the workplace, and in our increasingly complex economy. And the logical extension of this simple observation is that the way we as educators present information—and the methods for interpreting and understanding it—also needs to change. We need to create situations in which students can learn and apply the skills that they will be called upon to use in an economy that is becoming less and less regional, and more and more global.

Ironically, Daniel Pink says that we are now moving from a state of collecting, analyzing, and generating information into a more transformative age that he calls "the conceptual age." Whereas many people within the information age emphasized "left-brain" thinking (logical, sequential, rational, analytical, objective), the conceptual age acknowledges that both sides of the brain (right brain equals intuitive, holistic, synthesizing, subjective) are required for true understanding. No longer is critical thinking separated in practice from creative thinking, instead they are equals in our journey towards truly connected understanding.

Within the conceptual age, project-based and group learning activities that train students to confront problems and obtain solutions through critical and creative thinking become even more important. Thus, we must make sure that our students use computers in meaningful ways—in ways that expand their knowledge of the systems involved in the process and that allow them to grow as individuals and as members of a collaborative group.

And even though our students are considered to be "digital natives," teachers must not simply step "out of the way" and allow kids to explore the digital world. Instead they need to be trained

to give their students guidance in how best to manage research and how to explore and express ideas digitally. Teachers need to get in the way, not out of the way.

Finally, we frequently talk about the total cost of ownership regarding hardware and software, but what we should think about is what is the real cost to give students ownership of their projects, of their thinking processes, of their lives.

II. Technology Mission Statement

The technology plan for the Hanover Schools is designed to direct students and teachers toward the empowerment located at the core of our mission—not an empowerment given by external authority, but rather that attained at the personal level. Thus:

Our mission is to provide superior educational opportunities for all stakeholders through the efficient and innovative use of technology.

III. Technology Vision Statement

Education is built on sharing: of ideas and information; of facts and opinions; of input and output. With this collaboration comes the ability to generate extraordinary change—to make a difference in our own lives and in the lives of others. The Technology Department of Hanover Schools supports the building of learning communities, the pursuit of academic achievement, and the realization of personal fulfillment for our stakeholders through the use of traditional, current, and emerging technologies.

IV. Technology Initiatives

2007-2008

Hardware and Software Deployment

- Replace 20% of the district computers with class A machines; upgrade memory on class B computers; remove class C computers for recycling
- Automate the inventory process via FileMaker Pro Server
- Automate repair ticketing process via FileMaker Pro Server
- Implement Adobe PDF solutions for administrative staff at all schools
- Investigate move to open-source software such as NeoOffice and Nvu
- Increase server capacity at each building
- Replace all hubs with switches
- Upgrade network switches
- Track software licenses
- Move servers from T-1 line to business-class cable

Data Collection and Needs Assessment

- Implement accurate EPIMS reporting through X2
- Survey the students using Hanover's on-line tool: "Kids Assessing Their Technology Skills"
- Initiate staff attendance and accrual tracking through X2

- Survey the staff using Hanover's on-line quantitative tool: "Teachers Assessing Their Technology Skills" (Benchmark 1C)
- Integrate X2 for grading and attendance for all classes at Hanover Middle School
- Pilot the implementation of digital portfolios in technology classes at Hanover Middle School
- Import MCAS data into X2 for analysis
- Explore emergency card data collection through FileMaker Pro Server

The Educational Spiral: Connected Teaching and Learning

- Align technology standards with articulated district curricula
- Standardize computer instruction curriculum between the 2 elementary school campuses
- Implement podcast lessons in high school world language classes
- Develop video conference collaboration between HMS world language classes and classes in foreign countries
- Integrate "personal response systems" into 1 middle school and 1 elementary school classroom
- Investigate using Web 2.0 technologies for augmenting classes at the middle school
- Increase opportunities for project-based learning through integration of emerging technologies
- Create a "technology best practices" on-line exchange center as part of the district website
- Open "student locker" on X2 at all grade levels

Professional Development: Face-2-Face and On-line

- Train Hanover Middle School staff on proper grading techniques within X2
- Utilize course management system for the delivery of a minimum of 2 professional development workshops
- Integrate a course management system into the Administrative Council
- Encourage further use of MassONE for professional development opportunities
- Develop an on-line, in-district web design course that delivers instruction on how to use iWeb and Nvu for the development of staff websites; the goal of this is to enrich the delivery of content to students as well as increase home-school communication

School-Community Connections

- Make all required forms available as on-line downloads that can be completed digitally (PDF)
- Collect e-mail addresses from all parents for transmission of communications through ConnectEd
- Continue surveying stakeholders for technology growth and change feedback
- Open "family portal" of X2 to high school parents

- Negotiate a contract with Verizon that will support fiber optic data delivery to all Hanover schools
- Negotiate a contract with Verizon that will support Hanover's digital communications efforts, i.e., expanded creation and delivery of in-house multimedia projects

2008-2009

Hardware and Software Deployment

- Replace 20% of the district computers with class A machines; upgrade memory on class B computers; remove class C computers for recycling
- Automate ticketing for maintenance department
- Assess networking needs and implement corrective actions
- Deploy Comcast Business Class Cable Service at each school site
- Deploy Verizon FiOS at each school site
- Investigate Joomla for the delivery of dynamic content management and web page management

Data Collection and Needs Assessment

- Create more opportunities for on-line data collection of necessary information
- Survey staff regarding technology professional development needs
- Integrate X2 for grading and attendance for all classes at Hanover elementary schools
- Import other student test data into X2 for analysis
- Test the collection of Individual Professional Development Plans through X2

The Educational Spiral: Connected Teaching and Learning

- Expand implementation of digital portfolios at Hanover Middle School to other classes
- Pilot digital portfolio integration at the elementary schools
- Integrate Web 2.0 technologies into a minimum of three classes per school
- Connect classrooms within and among schools using Skype and video-conferencing
- Implement customized learning environments, i.e. RSS feeds and PageFlakes/iGoogle
- Create the Hanover Film and Music Festival
- Create a task force to explore the use of blogs within Hanover's educational environment and other way of building networked-learning communities

Professional Development: Face-2-Face and On-line

- Utilize Moodle for the delivery of technology "how-2s" for district staff
- Continue face-2-face professional development Tuesdays
- Implement Google Apps for collaboration among staff members
- Deliver training in optimizing collaboration among Google Apps
- Help staff to develop their own professional development either individually or collaboratively

- Create a social bookmarking system for sharing educational articles and websites

School–Community Connections

- Make the “parent portal” area of X2 mandatory for high school
- Open X2 “parent portal” for middle school and elementary students
- Integrate RSS news feed into Hanover Schools website
- Renegotiate a contract with Comcast that will support Hanover’s digital communications efforts, i.e., expanded creation and delivery of in-house multimedia projects

2009-2010

Hardware and Software Deployment

- Replace 20% of the district computers with class A machines; upgrade memory on class B computers; remove class C computers for recycling
- Automate school community usage tracking and billing

Data Collection and Needs Assessment

- Collect and evaluate Independent Professional Development Plans through X2
- Track all student activities through X2
- Continue to import other student test data into X2; extend analysis
- Expand data collection opportunities through FileMaker Pro Server; implement full communication between FileMaker Pro databases and X2
- Maintain and expand Hanover’s ability to collect and report data for the DOE through X2

The Educational Spiral: Connected Teaching and Learning

- Pilot digital portfolio integration at the elementary schools
- Create content for Flash-based on-line learning collaborative for students to teach other students
- Implement QuickTime Broadcaster in order to allow live “TV” broadcasts between and among classrooms
- Create Hanover Schools on-line radio station

Professional Development: Face-2-Face and On-line

- Expand Moodle for the delivery of technology “how-2s” for district staff
- Continue face-2-face professional development Tuesdays

School–Community Connections

- Open X2 “parent portal” for elementary students
- Explore methods of using community members as “adjunct” faculty for delivering on-line classes or remediation to students and staff

2010-2011

Hardware and Software Deployment

- Replace 20% of the district computers with class A machines; upgrade memory on class B computers; remove class C computers for recycling
- Continue integration of open source software into curriculum

Data Collection and Needs Assessment

- Create rubrics and benchmark assessments for digital portfolios for each grade level
- Implement student digital portfolios system-wide
- Maintain and expand Hanover's ability to collect and report data for the DOE through X2
- Implement database features of Adobe Acrobat Pro within on-line forms

The Educational Spiral: Connected Teaching and Learning

- Make the training of students as producers and consumers of digital content a goal of all teachers
- Fully implement a digital environment that:
 - supports authentically engaged learners
 - promotes project-driven instruction
 - encourages independent problem-solvers
 - sustains a collaborative learning community

Professional Development: Face-2-Face and On-line

- Continue face-2-face professional development Tuesdays

School–Community Connections

- Make the X2 “parent portal” area mandatory for all Hanover students
- Implement “student-as-expert” training to community through on-line teaching