

Ichabod Crane Central School District
Technology Report
May 6, 2014

This report is intended to give an overview of the technology upgrades and improvements in our District. It examines the successes, challenges and future plans for implementing technology in our classrooms.

Capital Project

In the fall of 2012, a Capital Project was approved which included \$1.2 million dollars for technology upgrades and improvements. The upgrades to our system began in the spring/summer of 2013 with the installation of new network servers, core switches, fiber cable runs, wireless access in every school, and backup/data recovery units. Additionally, we were able to purchase 98 desktop computers for teacher and secretary workstations, 30 Macintosh computers for the HS Mac Lab, 210 laptop computers for seven laptop carts (3 at HS, 2 at ES/MS, 2 at PS), 184 iPads for teachers and administrators, Epson short throw projectors and Apple TV for connectivity with iPads.

Infrastructure

As with any structure that is built, the key to its stability and soundness is to have a strong foundation. The improvements in our infrastructure have and will continue to give us that strong foundation for the efficient use of our technologies. We now have 100% wireless coverage in our schools, faster internet speed, enhanced security protocols and streamlined network management. The many “layers” of technology that have been added to our system over the past 15 years created glitches in our network that we continue to resolve. As we continue to peel back the layers and clean up our infrastructure, smoother and uninterrupted service will be the norm.

Laptop Carts

The additional laptops have created a mobile learning environment for students. These environments are vital for technology rich activities which sustain high levels of student engagement and peer collaboration compared to less technology focused activities. As the New York State Education Department continues to debate the implementation of computer based testing in the 2015-16 school year, the laptops help us prepare for this possible mandate by increasing our computer inventory.

Desktop Computers

New desktop computers for teacher and secretary workstations have significantly improved speed and ease of use. Larger monitors allow for easier viewing of multiple documents as well as reduced eye strain. Many of these workstation computers were more than a decade old and not very compatible to new software and web based data management systems. Although we still have some older units, we are planning to upgrade them in the next two years and thereafter establish a five year replacement and upgrade plan.

Epson Interactive Projectors

Epson Interactive Projectors were placed in each teacher classroom at the high school and middle school. This helps classrooms transition from being a lecture based teaching style to an interaction based teaching style with students getting directly involved. Additional benefits include being able to project from an iPad onto any surface, mobility in the classroom and presentations involving the entire classroom. The Smart Boards that were previously implemented in the district were relocated to the elementary and primary school classrooms.

iPads

Every teacher and administrator in the district received an iPad this year allowing them to get acquainted with this technology, to learn how to use it and to begin exploring the many instructional and non-instructional benefits of the device.

Some of these benefits include:

- Compatibility with SchoolTool, our student data management system, allowing for tracking of attendance and grades while being mobile in the classroom.
- Quick access to email, documents, and teaching resources.
- Capable of being displayed with the Epson Interactive Projector
- Over 500,000 education applications to choose from
- 10 hour battery life allowing for minimal down time.
- Intuitive

Some of the major educational benefits will occur when we are able to provide iPads for students. A 1-to-1 iPad initiative can have a tremendous impact on the way teachers teach and students learn.

Consider the following benefits:

- increases student interest and ownership of the learning process
- improves writing skills and depth of students' research
- increases student engagement through interaction with content
- improves communication between student and teacher
- decreases paper consumption by submitting reports, homework, and tests electronically
- provides a mobile learning environment in every classroom
- allows students to display work, assignments, presentations, etc. onto the classroom whiteboard via the classroom projector and Apple TV
- increases interaction based learning over lecture based learning
- allows for the potential of electronic textbooks instead of purchasing hardcover texts
- makes distance learning more accessible
- allows for the use of secure cloud based storage - data is not subject to loss if a device malfunctions

Gmail

This past year we have switched our email provider from GroupWise to Gmail providing our staff with a user friendly email account compatible with iPads and easily accessible from anywhere. Teachers and staff also gain access to Google Apps. Also, as Gmail is free, we are able to save approximately \$12,000 annually (the cost to use GroupWise). Gmail allows us to set up student email accounts without placing additional burden on our on-site servers. Since mid-March we have been piloting the use of Gmail and Google Apps for Education in three high school science classrooms. The teachers have been able to communicate with students as well as being able to distribute, access, and assess student work using these web-based programs. We hope to use feedback from this pilot to make informed decisions for student access next year and in the future.

Google Apps

Google Apps for education is a new addition to the district. This robust system comes with the use of Gmail and is similarly free of charge. Benefits by application include:

Google Docs:

- Collaborate on lesson plans
- Create a shared lesson plan repository
- Improve the writing process
- Publish student work
- Translate letters home to parents
- Track student homework
- Personalize flashcards
- collect, share, and analyze data
- Use slides to create dynamic and engaging presentations

Google Forms:

- How to submit answers in a form and see results
- Administer assessments
- Survey your students interests
- Collect observation feedback
- Submit reading records online
- Automatically grade forms with Flubarro

Google Calendar:

- Manage your schedule effectively
- Share calendars
- Check out shared resources
- Map out the standards you are teaching
- Create appointment slots
- Teach time management

Copiers

Most of our copiers were old and in constant need of repair. This year we were able to purchase six new copiers, two in each school building for staff and office use. A plan to replace the existing copiers was presented earlier this year and includes the purchase of four new copiers for the 2014-15 school year.

Professional Development

One of the most important aspects of increasing instructional technology and encouraging the efficient use of that technology by staff is to provide meaningful professional development. This year we offered a number of related professional development topics and will continue to expand those offerings in the coming years. Attached to this report is a full listing of professional development dates and technology topics offered during the 2013-14 school year. Additionally, we offered a few technology workshops after school as an option for staff who wanted further training.

Technology Survey

In early March 2014, we surveyed our teachers to identify their use of technology and to help us identify the areas they need additional support and attention. The results of the six question survey are summarized here:

1.) On a weekly basis, how often do you use your projector during instruction?

115 Responses	0 days	1 day	2 days	3 days	4 days	5 days
HS (54)	11%	7%	2%	9%	2%	69%
MS (25)	8%	4%	4%	4%	12%	68%
ES (15)	0%	0%	7%	7%	0%	87%
PS (21)	14%	0%	5%	5%	0%	76%
Total	10%	4%	4%	7%	3%	72%

2a.) Do you use the interactive pens with your Epson Projector? (HS & MS only)

	<u>Yes</u>	<u>No</u>
HS	46%	54%
MS	52%	48%
Total	48%	52%

2b.) If you answered "No" to question 2a, please explain why you do not use the interactive pens.

- Sometimes they don't work well
- Don't know how to use it

2a.) Do you use the Smart Board pens along with your projector? (ES & PS only)

	<u>Yes</u>	<u>No</u>
ES	60%	40%
PS	71%	29%
Total	67%	33%

2b.) If you answered "No" to question 2a, please explain why you do not use the interactive pens.

- Sometimes they don't work well
- Don't know how to use it

3.) On a weekly basis, how often do you use your iPad during instruction?

115 Responses	0 days	1 day	2 days	3 days	4 days	5 days
HS	20%	24%	15%	13%	6%	22%
MS	36%	28%	8%	16%	0%	12%
ES	7%	7%	33%	27%	7%	20%
PS	29%	24%	10%	10%	5%	24%
Total	23%	23%	15%	15%	4%	20%

4a.) Do you use your Apple TV during instruction?

	<u>Yes</u>	<u>No</u>
HS	42%	58%
MS	36%	64%
ES	13%	87%
PS	13%	62%
Total	38%	62%

4b.) If you answered "No" to question 4a, please explain why you do not use the Apple TV.

- Sometimes they don't work well
- Don't know how to use it

5.) What do you need in order to help you use technology to enhance your instruction?

- Better whiteboards
- Basic training & more training
- Technology that consistently works
- Time to learn the technology
- Better interactive pens

6.) Do you have any specific requests for future training or technology?

- More Google training
- More iPad training
- More Apple TV and Epson training

Survey Summary

The implementation and use of new technology into instruction is a process. Although some of the percentages of technology use may appear low, I believe the results are positive. Teachers were encouraged to use the new technology this year and get acclimated with it. They were not required to use it.

- Teachers are using technology (72% projectors)
- iPad “instructional” use (39% of teachers use it three or more times per week) is good for the first year.
- The number of teachers using iPads for non-instructional uses is significant. Many teachers have reported how much easier and more efficient the iPad is for taking attendance, reporting grades, checking emails, etc.
- Biggest obstacle to teacher use has been frustration when things don’t work as expected
- More professional development is needed

Due to some issues with the technology improvement goal implementation, some teachers and staff had partially stopped utilizing some of the technology equipment. With proper procedures in place and a solid plan moving forward, we are now seeing a much more steady use of equipment and technology in general. Additionally, we see an increase in technology use as a result of the data from this survey being used to drive out technology professional day offerings on March 21st.

Next Steps

- Continue to clean up our infrastructure
- Offer more Professional Development
- Student iPads looking forward: Consider a 1-to-1 at the high school first, then at the middle school. The elementary and primary schools would utilize cart based iPads per grade level. A full report on the benefits and implementation plan of a 1-to-1 iPad initiative will be presented next school year as we further consider all aspects of this initiative.
- Additional analysis of technology services purchased through NERIC to ensure that we are being efficient and prudent with our selected outsourced services.
- As a result of the district’s Strategic Plan, we have an Action Planning Committee addressing the Technology Initiative. They are currently developing action steps for future technology needs and initiatives.
- Develop a 5 year computer replacement plan
- We are researching speaker systems within the classroom. These systems provide a high level of speech intelligibility and evenly distribute sound throughout the classroom. They also provide help for struggling students and improve student behavior.

Professional Development on Technology Topics: 2013-2014 School Year

I. Summer and After School Offerings

- Summer 2013: (August 15 and 22, 2013)
 - Introduction to ipad (2 sessions – 2 hours each)
- After School 2014: (January/February)
 - Organize your Gmail (January 27 and 28, 2014)
 - Use of Google Calendar (February 3 and 6, 2014)

II. Superintendent Conference Days

- September 3, 2013:
 - School Tool training (sessions for each building)
 - Mandarin training for Librarians
- September 27, 2013: (1/2 day)
 - Technology Training for components of new ELA program (Grades 4-8)
 - School Tool training for Guidance Dept.
- October 25, 2013:
 - AutoCAD training for Technology Department
 - Fitness Gram training for PE Department
 - SMARTBOARD training “BASIC PLUS” for Elementary Teachers
 - Epson Projector : Introductory Training for Middle School and High School Faculty (3 two hour sessions)
 - Google Tools for Schools (3 two hours sessions)
 - Basic ipad use
 - Technology Training for components of new ELA program (Grades K-3)
 - Ipad applications for Primary Teachers (2 sessions)
 - SMARTBOARD training for Primary Teachers (2 sessions)
 - I-ready program applications for MS teachers
 - Editing Photos in Photoshop
 - Microsoft Office applications
 - Graphing Calculator
 - Ipad Accessibility Features and Productivity Apps for Students with Special Needs
 - Website Development for Current Users
- January 17, 2014:
 - Google FORMS (3 two hour sessions)
 - Ipad Crackerbarrel
 - SMARTBOARD Crackerbarrel (Grade 2)
 - Useful Websites, District Databases, ebooks and Audiobooks
 - Applications for ipad use in Special Educations (2 sessions)

- Introduction to Webpage Development (for new users)
- Microsoft EXCEL
- Ipad Applications for Primary Teachers
- March 7, 2014: (1/2 day)
 - School Tool training
 - Pearson Q-Interactive and Access software training
 - Application of Technology by HS Depts (Social Studies and Science)
 - Google FORMS (Part 2)
- March 21, 2014:
 - Google DOCS for Beginners (two sessions)
 - Google DOCS for Advanced Users
 - Technology Exploration: Use of Apple TV, ipad applications, and sharing of information (3 sessions)
 - Primary School use of Google Tools for grade level score sheets, use of Apple TV, and ipad applications
 - ADVANCED Webpage Development
 - Development of Science Lab Materials using Google Tools
 - INTERMEDIATE Webpage Development
 - Journeys' Technology Components for Student Use (Grades 4-6)
 - Introduction to Webpage Development for BEGINNERS
 - Use of Technology in Social Studies
 - MS Team Webpage Development