Greenwich Central School
Greenwich, New York

"A connected campus linked to the world"

District Technology Plan
2010-2013

Introduction

The District Technology Plan for the Greenwich Central School District Plan is a "living document". It continues to evolve in order to guide our students, staff, parents and community in the use of appropriate technologies. It will be continuously updated as our plans mature, our understanding grows and our technological capabilities expand.

Mission and Belief Statements

Mission: To integrate technology to facilitate and encourage learning.

We believe…

- It is our responsibility to prepare our students for their future in rapidly changing technological world.
- Information technology will assist staff and students in restructuring the way we teach and learn. Computers are tools that extend, rather than replace, learning activities demonstrated and envisioned by teachers.
- We must use technology in a fashion that respects the special talents of each individual in the school and helps each one develop new knowledge and skills while becoming a self-directed, independent and confident student.
- We must assist teachers and staff, as well as students, in developing the skills necessary to make this integration possible.
- Technology will play a key role in the administration, management, and communication within the school system.

Vision and Strategy for Student Outcomes

Worksheet A-1

as of *12/11/2009*

Background	Students need to learn about technology, and they can often learn better using technology. As we nurture their development into lifelong learners, the learning outcomes we define and work toward must therefore include (1) the development of technological knowledge and skills as well as (2) the interdisciplinary use of technology in all areas of study. Students need to learn how to operate computer hardware, software, and peripherals. They also can learn using technology as they create, express, capture, record, experience, explore, communicate, collaborate, manage, and organize. This section considers the technology-related learning outcomes which this technology plan is designed to help produce.
Present State & Trends	The National Educational Technology Standards for Students (NETS)and the NYS Learning Standards provide a framework for student outcomes. Technology Benchmarks for K-12 were reviewed/revised in June, 2009. NYSED is currently developing a strategy to assess student technology skills and knowledge. Implmentation of this strategy is expected in 2012.
Preferred Future	Integrating technology and curriculum goals/objectives at the grade/subject level will enable all students to graduate with significant proficiencies to function as an integral part of the community. All students will have the learning opportunities necessary to meet/exceed the NYS MST 1, 2, 5 & 6 commencement standards, the ISTE NETS 2007 and the upcoming NYS guidelines expected in 2012.
Strategy for Change	Benchmarks K-12 will be reviewed/revised as necessary. Learning Community technology-driven goals will be encouraged. Websites related to these standards will be available to staff vis the district web site and/or email. NYS assessment data used by admin and staff to fine-tune curriculum. Examine *SimpleAssessment* as a possible pre-assessment and post assessment tool.

Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
Examine *SimpleAssessment* as a pre-assessment and post-assessment tool.	Dec 2010
Most students use technology each day as an integral part of their learning process	Dec 2010
Revise Technology Benchmarks K-12	Fall 2012

Vision and Strategy for Staff Development

Worksheet B-1

as of *12/11/2009*

Background	Faculty and staff can often teach, learn, and manage better by integrating technology as they work to produce improved learning outcomes among the students they serve. It is a critical yet difficult challenge to provide staff development opportunities that accommodate the broad range of staff learning styles, teaching styles, and technological skill and comfort. The district must balance the limited supply of time and resources against the demand to "cast a wide net" of learning opportunities and incentives. This section describes the staff development strategy and specific opportunities and incentives that will be provided to develop basic staff proficiency and to encourage & support integration of technology into teaching and learning.
Present State & Trends	Staff development is provided to all members of the GCS community via our full-time Technology Integration Specialist, the IT department, tech-savvy staff members as well as training opportunities thru Models Schools. Many teachers demonstrate average to above-average computer skills. A growing number of staff members routinely integrate technology into their teaching.
Preferred Future	Staff members are aware of ISTE's NETS for Teachers and strive to achieve these standards. Individualized and collective staff development opportunities continue so that technology skills and knowledge increase among all staff to a level of proficiency. Individuals within each building will become "experts" who will share their knowledge with others thereby creating an ever-growing population of "go to" people. Staff will take advantage of self-directed online opportunities, building/district workshops, 1:1 sessions with the Technology Integration Specialist to discuss, plan and create classroom activities, visitations and conferences.
Strategy for Change	The Instructional Technologist will coordinate training in order to meet individual grade level/department needs.Teachers will be notified of online-opportunities and conferences via email.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	All teachers (K-12) integrate technology into the curriculum when appropriate. SMARTboard training provided to all SMART teachers as necessary. Create/implement self-assessment tool for staff Create and implement staff training as called for in self-assessment as well as by interest and district need	Dec 2010 2011-2013 Spring 2011 2010-2013

Vision and Strategy for Workstation Access

Worksheet C-1

as of *12/11/2009*

Background	Workstations come in a variety of forms including desktops, laptops, netbooks and other specialized forms This section contains the district's "baseline" plan for providing students and staff with access to workstations. (If the access levels specified do not meet the needs of your department, office, or classroom, be sure to provide inputs to the technology department regarding your preferences & unique needs.) Additionally, this section contains workstation specifications and inventory, and also addresses planning for obsolescence.
Present State & Trends	In the Primary building there are 3-5 workstations in each classroom plus a teacher presentation workstation. In the Middle Grade building most classrooms have a minimum of 2 student workstations plus a presentation/teacher workstation. There is a 30-work station lab. JSHS classrooms have either a teacher workstation or a teacher presentation station. Some classrooms have student workstations. the Business lab has 25 workstations, the Media Center- 30 workstations, CAD lab-20 workstations and Rm 201-23 workstations.
Preferred Future	Increased student/teacher access to notebooks or netbooks. Smaller, more energy-efficient workstations. Science labs equipped w/ 1 laptop per lab table for student use.
Strategy for Change	Explore teacher/classroom needs for laptops in science labs and devise a plan for purchase. Replace end-of-life workstations with smaller, more energy-efficient ones.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Identify needs and devise plan for science laptop purchasing July 2011 Procure appropriate equipment	Dec 2010 2011-2013

Inventory

Worksheet C-1a

as of *12/11/2009*

475 Computer Workstations
19 District Servers
1 Vmware Server with 6 hosts
19 Laptops
25 Network Switches
22 Wireless Access Points
1 Network Router
1 Network Firewall
1 Data tape backup appliances
1 Storage Area Network
1 Internet Filter/Monitor/Reporter
9 Battery backup power supplies
14 Scanners
16 Digital Still Cameras
4 Mini-DV movies cameras
125 Printers
8 Digital Copiers
24 LCD Projectors
12 Smart Boards

Vision and Strategy for Peripheral Access

Worksheet D-1

as of *12/11/2009*

Background	Computer peripherals are devices which operate physically external to a computer to enable it to interface with users in various ways. Some enable users to provide inputs to the computer (keyboard, mouse, microphone, camera, etc.) while others enable the computer to deliver outputs to the user (speakers, printers, projectors, etc.) As networks enable remote connections between computers and peripherals, classrooms can be connected (carefully) to a world of scientific and exploratory sensors, cameras, etc. Using adaptive devices (vision, hearing, speech, touch, etc.) special needs learners can more equitably access computers. This section describes district needs for access to computer peripherals.
Present State & Trends	All classrooms, labs & offices have B/W printers and access to color printers. All classrooms have either a teacher presentation station (TV/VCR, LCD projector) or a SMARTBoard. The MG lab has a scanner, card reader and teacher workstation with projector. At the JHSH there is a scanner in the CAD lab, art room and Library Media Center as well as a video camera. A webcam is available for check-out as needed. Each building has a multi-function b/w copier/printer/scanner. A digital microscope and scientific probes are available in the JHSH science department. Large group presentation (PC, projector, screen) are in HS Media Center and K2 cafeteria. There are 6 SMART Board setups in the JSHS and 7 in the K6. One multi-media cart (PC, projector, speakers, VCR and DVD) per building. Robotic equipment in the JSHS CAD lab. Digital cameras for each grade level (K-6) and 4 in the JSHS.
Preferred Future	Convenient access to peripherals to meet teachers' curricular needs. At the K6 level one digital camera with card reader per classroom. Presentation workstation with Smartboard and projector in all classrooms.
Strategy for Change	Identify peripheral needs through individual requests and LC goals. Provide necessary staff development. Number of Smartboard/projector per building increased annually as budget and grant proposals allow. Purchase digital cameras as allowed through budget and grants.

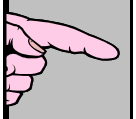
	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Identify needs and procure necessary equipment	2010-2013
	Adjust/appropriate budget funds for SMARTBoard/LCD projector for every K-12 classroom where appropriate	2010-2013

Vision and Strategy for Software and Data Access

Worksheet E-1

as of *12/11/2009*

Background	An ever-increasing number of software programs are available for use by students and staff. When wisely integrated into teaching and learning, many of these programs can become valuable educational tools. Similarly, there is also an increasing amount of electronic data that is or can be available. Students, staff, parents, and community members can benefit from appropriate access to district information such as student records, schedules, homework, and library resources. With so many options, it is important to balance individuals' unique needs against broader needs for standardization, security, privacy, and low costs. This section describes how access to software and data will be managed.
Present State & Trends	Students (grades 3-12) and all faculty/staff have unique individual logins with appropriate network access. Students, faculty and staff have access to the local intranet for software programs, district information and collaborative projects. Parents and community have access to district information via the district web site. Teachers can access their accounts from outside the district via the district's remote-access server. Parents have access to their child's information via schooltool from the district web page. Use of curriculum-mapping software enables staff to work together to meet curriculum goals. Greater use of virtual servers; some aging server hardware.
Preferred Future	Standardized software and data will continue to be conveniently available to staff and students. Individual student data will be available to parents/guardians in an appropriate and secure manner. Increased security to data thru advanced technologies such as operating systems and biometrics.
Strategy for Change	Continue with standardization of key software and data systems. Increase district use of *schooltool* , *IEPDirect, AISm* , *RTIm* and *Atlas* curriculum mapping software. Increase data-access from home for students, parents and guardians.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Home-to-School access widely available to students. Increase virtual server technologies	Jan 2012 June 2013

Vision and Strategy for Connectivity

as of *12/11/2009*

Background	Workstation capabilities can be greatly enhanced by connecting them to local and wide area networks, on-line services, distance learning networks, and the Internet. This section describes preferred access to connectivity along with specifications for associated network wiring, hardware, and software.
Present State & Trends	Gigabit workstation access available in all district classrooms. Wireless access 90% across district. 20 MB TimeWarner fiber links to NERIC. Network backbone switches replaced Spring 2009.
Preferred Future	VOIP available in all classrooms and offices via upgraded network.
Strategy for Change	Develop a financial plan for upgrading to VOIP thru BOCES. Manage/monitor bandwidth usage.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Maintain LAN/WAN hardware for optimal performance	2010-2013
	District converted to VOIP	Dec 2012
	Continue appropriate staff development on network usage	2010-2013

Vision and Strategy for Policy

Worksheet G-1

as of *12/11/2009*

Background	Technology requires a unique set of policies & formal procedures to ensure that it is properly purchased & maintained, equitably accessible, appropriately safeguarded, and responsibly used. Of course, policy is only effective where it is understood and implemented. This section reviews the content and effectiveness of existing policies & formal procedures and assesses the need for modifications and additions.
Present State & Trends	Computer Network for Education/Computer Usage Policy and the Consent to Publish Student Information on the Internet Policy are in place. Formal procedures for the selection & purchase of instructional hardware and software are in place. All hardware is tracked via the district's asset management system.
Preferred Future	Technology acquisition, access, use and disposition policies are broadly understood and implemented. As technology progresses, we will adjust our hardware and software procurement standards to meet or surprass current trends.
Strategy for Change	Create Computer Usage Policy (CUP) for staff Review/modify Student Computer Usage Policy (CUP) Continually review and adapt policies to reflect changing district goals and needs.

Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
Meet frequently with district administration to review/oversee technology usage and demands throughout the district	Ongoing 2010-2013
Create/Implement Computer Usage Policy for staff	Dec 2010
Review student Computer Usage Policy	Sept 2010
Modify Student Computer Usage Policy as needed	Spring 2011

Vision and Strategy for Support

Worksheet H-1

as of *12/11/2009*

Background	Technology is largely ineffective without an adequate and properly trained support staff. Technology responsibilities that must be handled include planning, designing, purchasing, installing, maintaining, troubleshooting, training, grant writing, assessment, and more. This section charts how these responsibilities are assigned presently and identifies changes that will be made.
Present State & Trends	District Administration, Network Analyst, Microcomputer Specialist and Technology Integration Specialist share handling of all responsibilities.
Preferred Future	Maintain our professional team of full-time personnel to support our staff development, technical, and network administration needs.
Strategy for Change	Provide goals, training, and opportunities for our technology staff. Examples: online webinars, technology conferences and workshops, TAG (Technology Advisory Group) and Model Schools meetings.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Professional development opportunities	2010-2013
	NYSCATE	Each Fall 2010-2013
	NERIC Technology Awareness Day	Each Dec 2010-2013
	NECC	Alt Jun 201-2013
	Model Schools (WSWHEBOCES) meetings	Quarterly 2010-2013
	Technology Advisory Group (TAG) - WSWHEBOCES meetings	Monthly 2010-2013

Vision and Strategy for Communication and Cooperation

as of *12/11/2009*

Background	As in most endeavors, communication and cooperation are critical to the successful integration of technology into teaching and learning. All stakeholders, including faculty, staff, students, parents, boards of education, and other community members must be kept reasonably well informed about plans, opportunities, and developments. Meanwhile, collaborative opportunities often exist with other schools, agencies, corporations, etc. These can help leverage technology investments and provide additional funding and/or support. This section describes present and planned communications and cooperative efforts related to technology and this plan.
Present State & Trends	Teacher-created web pages have been received well by parents as a tool that enables them to track their child's assignments and activities in the classroom. Regular attendance at WSWHE BOCES school support meetings. District webpage has increased communications among students, staff and community. Our intranet is used for district-wide projects such as Learning Communities, BOE presentations and analysis of student assessment results.HS Library Media Center is open to the public one evening per week.
Preferred Future	Staff, students, parents and community members continue to understand and support our Technology Plan. An easy-to-use and reliable method of acquiring/assessing staff ideas/input towards tech use in the classroom exists (our Instructional Technology Vision document) and is used to make technology-related purchasing and staff development (as related to tech integration) decisions.
Strategy for Change	Maintain an open line of communication via the District newsletter, local newspapers, email and the Technology section of the GCS website. Provide technology training opportunities. Create/purchase tool for acquiring staff ideas/input to generate the Instructional Technology Vision (ITV) document for the district.

Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
Continue Community Technology Workshops and HS Media Public access	Fall 2010
Automated district notification system implemented. Training completed	Fall 2010
Explore/experiment/create survey possibilities (Tech staff)	Fall 2010
Select best survey method and create Instructional Tech Vision document	Winter 2011
Implement Instructional Tech Vision plan	Spring 2011
Use resulting data to order software/hardware peripherals and coordinate training opportunities	2011-2013

Vision and Strategy for Funding

as of *12/11/2009*

Background	To enable technology to effectively improve teaching and learning, adequate resources must be allocated on a regular basis. Funds are needed for capital costs such as hardware & software acquisition & installation. However, industry standards estimate that these up-front costs represent only 30% of the life-cycle cost of technology. Substantial funds are also needed to cover operating costs such as ongoing training, upkeep, support, consumables, upgrades, connectivity fees, etc. While recognizing the inherent uncertainties of forecasting technology costs, this section projects technology-related costs by year and identifies appropriate funding sources. It will be kept as accurate as possible through periodic updates.
Present State & Trends	Funding via district commitment: Title I, Tittle IID, BOCES aid, State aid and ARRA funds. Additional funding through grants and awards.
Preferred Future	Increased support through grant-writing, state and federal funds, ARRA monies and local budgetary commitment.
Strategy for Change	Prioritize purchasing Extend usage window of allowable technologies Leverage various funding sources for highest/optimum benefit and return Use of BOCES aid funding, build community support for local budget commitment and referenda.

Key Objective *(specific, achievable, scheduled, and*	**Target Date:**
District administrators & Tech staff responsible for funding support	2011-2013
Explore grant possibilities	2010-2013

Vision and Strategy for Funding

Worksheet J-1a

as of *12/11/2009*

Plan Year:	2010-2011	2011-2012	2012-2013
Personnel:	182,841.48	188,326.72	193,976.53
Staff development:	5,463.12	5,627.01	5,795.82
Hardware			
Upkeep & Upgrades:	21,735.06	22,387.11	23,058.73
Software			
Additions & Upgrades:	23,463.40	24,167.30	24,892.32
Consumable Materials:	16,480.00	16,974.40	17,483.63
Connectivity Fees:	54,590.00	56,227.70	57,914.53
Computers			
BOCES Lease:	67,980.00	70,019.40	72,119.98
TOTAL:	372,553.06	383,729.65	395,241.54

Vision and Strategy for Implementation

Worksheet K-1

as of *12/11/2009*

Background	Monitoring progress improves the likelihood of successful implementation of a plan. This is often accomplished by a technology committee composed of a representative cross-section of district personnel. Because of the plethora of technical issues and details, implementation of a technology plan requires an organized yet flexible approach. This section contains implementation tracking tools such as a multi-year timeline, a quarterly calendar of tasks & events, a schedule of technology committee meeting focus areas & agendas, and a key objectives report card.
Present State & Trends	The District Technology Coordinators are actively implementing the Technology Plan.
Preferred Future	Our Instructional Technology Vision (ITV) process monitors, collects and assesses technology effectiveness across the district.
Strategy for Change	Create our Instructional Technology Vision process and plan its implementation.

	Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
	Create Instructional Technology Vision (ITV)- District Tech Coodinators Implement Instructional Technology Vision Assess both the process and the data gathered	Fall 2010 Winter 2011 Spring 2011

Vision and Strategy for Assessment

Worksheet L-1

as of *12/11/2009*

Background	This technology plan is successful if it helps the district accomplish its mission. Unfortunately, measuring progress towards the mission and correlating it with some or all of the specific actions in this plan is difficult at best. However, attempting to assess such progress is the key to learning and growth, and result-oriented feedback is the primary requisite for making technology planning a process. A variety of methods can be used to assess knowledge and performance outcomes, such as monitoring specific results within standardized tests, building a portfolio of authentic works, tracking trends in periodic surveys, and so on. This section contains evidence of results in terms of staff and student
Present State & Trends	The District Technology Benchmarks state specific goals for each grade level K-12. It was developed as a collaborative effort of our district technology staff, teachers and administrators.The Benchmarks are posted in the District Technology section of our district website.
Preferred Future	A process exists for gathering/compiling common themes among classroom technology instructional needs.
Strategy for Change	Develop the process for information gathering as described above.

Key Objective *(specific, achievable, scheduled, and delegated)*	**Target Date:**
Review/revise Technology Benchmarks K-12	Winter 2011
Create Benchmark assessment component to insure Benchmark effectiveness	Spring 2011
Review computer usage in labs/classrooms to determine future purchases	2011-2013

GREENWICH CENTRAL SCHOOL TECHNOLOGY BENCHMARKS K-12

GENERAL RULES FOR COMPUTER USE

- **Follow Acceptable Use Policy**
- **No Food or Drink**
- **Clean Hands**
- **Care for technology equipment & use it safely**
- **Understand the impact of technology**

Kindergarten

- Identify parts of computer: keyboard, monitor, disk drive and printer
- Run simple programs (basic instructions on screen)
- Use keyboard and mouse
- Exposure to impact of technology
- Type first name

Grade One

- Practice and extend competencies of previous grade levels
- Introduce keyboarding concepts (including posture & hand position)
- Begin to read and follow on-screen directions
- Awareness of how to load and remove disks/CDs
- Use backspace and shift keys
- Type first and last name

Grade Two

- Practice and extend competencies of previous grade levels
- Run program from a menu (within the program, start button, etc.)
- Use basic word-processing programs
- Use printer
- Introduce the concept of opening/closing programs
- Introduce proper Shutdown procedure
- Load & remove disks/CDs
- Practice keyboarding concepts

Grade Three

- Practice and extend competencies of previous grade levels
- Use word-processing skills
- Name, save, open and print documents
- Practice keyboarding
- Insert graphics

Grade Four

- Practice and extend competencies of previous grade levels
- Practice word-processing and editing skills
- Use the Internet to support curriculum

Grade Five

- Practice and extend competencies of previous grade levels
- Plan and create a multimedia project.
- Extend word-processing skills
- Explore the Internet
- Evaluate intent and usefulness of informational resources

Grade Six

- Practice and extend competencies of previous grade levels
- Practice word-processing skills
- Practice using the Internet effectively
- Continue to develop keyboarding skills

Grades Seven thru Twelve

- Practice and extend competencies of previous grade levels
- Explore web page design
- Be able to use the keyboard proficiently
- Know and apply copyright and privacy rights
- Demonstrate ability to use current technologies
- Format personal and business documents and reports (outlines, multi-page reports)
- Cite references from a variety of sources
- Conduct efficient, sophisticated information searches using logic-based search strategies
- Create criteria for distinguishing between reliable and unreliable media sources and/or information
- Integrate information accessed electronically into classroom projects
- Create effective multimedia presentations/videos
- Utilize electronics for assistance and transition to post-high school training
- Analyze information collected through data probes
- Organize and manipulate data through various applications in order to interpret and present the data
- Create spreadsheets to organize data
- Create graphics to present data.
- Apply creative graphic concepts and skills
- Understand real world opportunities and applications for technology

Revised 12/1009