East Rochester Union Free School District
Instructional Technology Plan
July 1, 2018 –June 30, 2021

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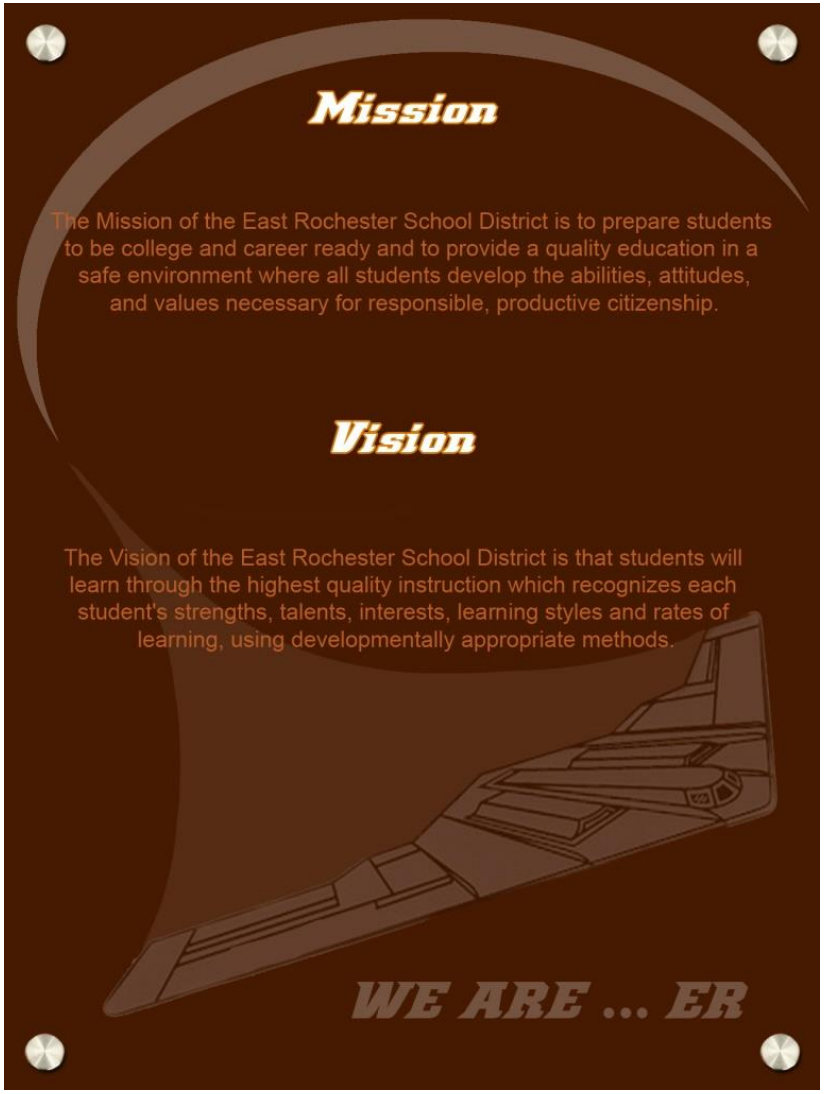
Mission and Vision



Core Values


Core Values
The core values are our beliefs that are understood and shared by every member of our school and the East Rochester community.
S
Students First
Students are our first priority. We dedicate ourselves to holistic student development in a safe, nurturing environment.
O
Opportunities
Providing every student equal access to strong academic programs, clubs, teams, and events that enable students to reach their fullest potential.
A
Achievement
Everyone can improve. We will collaborate to learn, observe, measure, and grow. We proudly celebrate achievements.
R
Responsibility
We are all accountable to ourselves, to our students, and to each other. Our shared responsibility is to be respectful.
S
Strength
Together, we will accomplish excellence.
WE ARE ... ER

East Rochester Union Free School District Instructional Technology Plan

Introduction

The purpose of a technology plan is to guide the decision-making process for the use of technology with instruction. The plan should direct the infusion and acquisition of technologies, professional development, human and other resources to support classroom instruction as well as district operations. The plan should not constrict the decisions and practices the instructional leaders throughout the district. The technology committee of the East Rochester School District will update the technology plan with a three year outlook. As part of the plan, the district acknowledges that it provides for the loan of hardware to nonpublic students.

Mission

The mission of the district technology plan is to ensure enough capacity, infrastructure and resources are allocated and developed to support enriched learning through enhanced technologies. The district will ensure that equal opportunities using modern technologies, are made available to students resulting in increased academic achievement and learning while meeting the needs of students with varied learning styles and needs.

Vision

The vision of the district technology plan is to provide state of the art learning technologies that will enable students to grow as learners. Students will be able to analyze information, solve problems, collaborate, create and communicate using effective, developmentally appropriate technologies. Students will be able to ethically use information and choose appropriate tools based on real world tasks. Teachers will be facilitators of student learning using technologies and will receive professional development in order to integrate technologies into classroom instruction. Instructional strategies will accommodate the learning styles of all individuals. It is essential that all students, at all levels, have equitable opportunities to develop knowledge and skills in using technology; to demonstrate creativity and innovation; to communicate and collaborate; to conduct research and use information, think critically; to solve problems, and to make decisions while practicing proper digital citizenship.

Instructional Technology Committee

Brandon Adler	Student Representative
Yvonne Benson	Professional Development Administrative Assistant
Sam Brown-Steiner	Computer Hardware Installer
Katie DeVito	School Age Parent and Computer Lab Coordinator
Mary Gullace	Executive Director of Curriculum, Instruction and Professional Development
Diana Luce	6-12 Librarian
Margi Linder	Speech Teacher
Amy Martone	Sr. Network Technician
Leanne Menaguale	Computer Lab Coordinator
Pam Narsisan	Alumni and Community Representative
Angela Nelson	Teacher, Literacy Coach
Marisa Philp	Elementary Principal
Colleen Richards	Headmaster, St. John Bosco, non-public schools consultee
Anne Ross	Teacher, Math Coach
David Rovitelli	Director of Technology, Committee Chair
Casey van Harssel	6-12 Principal
Jeanne Winkler	Director of Pupil Services

Goals and Responsibilities of the District Technology Committee

- Develop a 3-year Instructional Technology Plan that addresses human resources, infrastructure, staff development, curriculum and accountability that includes 1-year action steps
- Recommend budget priorities for teaching, learning and technology based on building and District needs
- Oversee the implementation of the Instructional Technology Plan and evaluate progress
- Develop and implement strategies to showcase the results of teaching, learning and technology initiatives in the District
- Problem-solve District issues related to teaching, learning and technology

- Meet regularly

Providing Equity of Technological Access

The committee will ensure that the technology plan reflects equity of technological access, including students with special needs. The committee will ensure the integration of technology into the learning standards and therefore classroom instruction.

Integrating the Technology Learning Standards

The district will continue to integrate technology into the curriculum that aligns with the Common Core State Standards as a way to prepare students with the skills necessary to flourish in a technologically complex world where learning is a life-long process.

Students will improve their reading, writing, and verbal skills through the increased use of electronic communications and digital tools. Students and teachers will use information through a state-of-the-art network that facilitates access to the Internet and district software applications. Wireless broadband services are made available throughout the campus and technology will be pervasive.

Providing Professional Development to Enhance Teaching and Learning

Professional development to enhance teaching and learning in support of improved student learning will be provided as necessary. Workshops for teachers will be designed and implemented through the staff development office using a needs assessment structure and will align with district goals.

Budgeting

The district will provide a three year outlook on estimated budget expenses for technology. Funds will be used to support the goals listed in the instructional technology plan and to ensure that investments in technology are kept up to date and operational. The district will use E-Rate funds and state-aid to purchase technology for the district. The instructional technology plan will create a roadmap to use for the purchase of technology using Smart Bond money.

Evaluating progress

The technology committee will meet regularly to discuss technology within the district and debate new initiatives as they arise. The technology committee consists of Faculty and Staff of East Rochester Schools with consultation from members of the community, parents, alumni and representatives from local non-public schools.

Current and Desired States

Curriculum

Current State

A district created K-12 Computer Curriculum was last created and reviewed in 2004. The school district's expectation for its computer curriculum is that it will provide both a grade level skill set and a cumulative learning process over years. The district anticipates that students will achieve mastery by graduation.

The curriculum is aligned with National Educations Technology Standards for students and New York State standards and provides a basic framework to prepare students for post-secondary education and the workforce.

The computer curriculum was intended to guide teachers in planning lessons to achieve these goals.

Desired State

Our goals is to develop and implement a technology curriculum which is aligned to the district and CCSS learning standards as it is being infused into all content areas.

Technology committee will contribute to developing and updating technology-integrated curriculum maps and resources. Teachers will regularly integrate technology as defined within their respective curriculum.

All learners will experience and achieve a challenging, relevant, high-level learning environment which will prepare them for 21st Century skills needed for the global society.

To improve the academic achievement, including technology literacy, of all learners, an integrated curriculum will include the following teaching and learning strategies:

- ✓ Students construct knowledge through a variety of processes, such as social networking, human interaction and differentiated learning environments.
- ✓ Students will select from a variety of tools, processes, and information sources that will enhance their own learning.
- ✓ Staff and students will engage in responsible and appropriate behaviors when using technology.
- ✓ Technology tools will be made available anywhere, anytime, for and by everyone.
- ✓ Curriculum will be designed to offer more global opportunities for creative and collaborative problem solving.

- ✓ Students will access a collaborative global community of learners, using tools such as online learning, podcasts, wikis, social networking, etc.
- ✓ Teachers will become facilitators as students are provided opportunities for increased ownership of their own learning.
- ✓ Creative thinking will be encouraged through the use of technology.
- ✓ Students will understand and apply problem-solving conventions within systems, applications, and the learning of new technologies demonstrating an environment which support rigor in learning
- ✓ Students will demonstrate knowledge after locating, organizing, analyzing, evaluating, and synthesizing information from a variety of sources.

Professional Development (PD)

Current State

Current professional development focus is in the revision and development of curriculum units in ELA and Mathematics that are aligned to the CCSS. Resources have been and are continually being reviewed as unit development continues. The PD focus is on the vertical and horizontal alignment in ELA and Math and integration of literacy skills across all content areas.

Workshops and technology training sessions have been provided with some support for new resources and programs. As new technology emerges, more PD opportunities are needed to support the fast growing and changing technological needs. Past professional development sessions which have been offered to support the use of technology in our classrooms and the integration of it into our curriculum have included SmartBoard (beginning and intermediate), eDoctrina, 21st Century Skills, Math Expressions and Math in Focus, Lucy Calkins, Castle Learning, Follett, Flipped Classrooms, Video on Demand, Assessments, JASON Project, Professional Learning Communities, SchoolTool and Gradebook.

Desired State

Professional Development (PD) will be essential so that the integration of technology in teaching and learning is seamless and based on best practices.

- ✓ PD will be a top priority for the success of all learners.
- ✓ PD must be integrated within all content areas and grade levels.
- ✓ PD must be ongoing due to the simultaneous learning of how to use technology, the integration of technology in instruction, and the continual emergence of new and improved technologies and practices.
- ✓ PD must be differentiated to address the needs, aptitudes, and styles of adult learners. All staff members will be held accountable for professional learning within a PD structure that engages, encourages, and empowers all learners.
    - ✓ Teachers will participate in PD that is based on grade level/content area standards and technology standards (integrations)
    - ✓ Teachers will apply and sustain skills/practices learned in ongoing PD
    - ✓ Teachers will be provided with the technology and support needed for inquiry-based learning to foster critical thinking skills

PD needs, design, planning, implementation, delivery, and evaluation will be a collaborative effort amongst various stakeholders. This collaboration will include one or more, but not limited to, of the following stakeholders in any given PD event or initiative.

- ✓ All PreK-12 Grade Levels
- ✓ Principals
- ✓ All Content Areas & All Departments
- ✓ Instructional Technology Specialists
- ✓ Title Funded Initiatives
- ✓ Common Core Related Initiatives
- ✓ District Instructional Plan Initiatives

In addition to offering professional development which will build off of the content provided in the past, we will also be offering options that include online collaboration tools and applications, new online educational tools (for example, IXL Learning, RALLY, GoNoodle), new hardware/device, and more rigorous and creative use of technology in the classroom. Sources for providing this professional development will include instructor led sessions using Content Area Coaches, Lead Teachers, the newly designated Instructional Technology Specialist, as well as our BOCES technology specialists. We will also evaluate options which would allow self-paced instruction through technology and online learning providers.

Infrastructure

Current State

The network is healthy and recently refreshed with networking gear. The network switches and UPS units are only 5 or 6 years old. The district has a fully switched network using Hewlett Packard switches running over 1 gigabit fiber backbone. The internet connection is a 1 gigabit fiber connection that connects to Monroe #1 BOCES and then to the external internet from there. A Cisco router is in between BOCES and the district.

By having a 1Gb backbone and a 1Gb connection to the internet, the district meets the goals set by the state in the recent ERate update.

The server infrastructure is somewhat older but not in need of replacement. The district is 95% virtualized in regard to servers and has a mixed environment of Windows Server 2003, 2008 R2 and 2012 R2 servers. The district will be migrating the Server 2003 servers in the summer of 2018 as the platform is designated for retirement by Microsoft.

There are 25 virtual servers providing applications, file and print services to users of the District Computing System. The virtual machines are hosted on site among 2 Dell 605 Hosts.

The servers and data of the district are backed up over the WAN to BOCES nightly and will be redundantly backed up locally by the start of school 2018.

There is currently 13 TB of storage available to the users of the DCS approximately 4 TB is allocated at this time.

Recently 244 Dell 3340 laptops were purchased with 9 Dell Laptop Carts. The laptops dock in the cart simply and are a good method for teachers to keep the laptops charged and up to date.

There is a pervasive wireless network installed in the district with probably 95% coverage throughout. There are 4 different SSID to connect to. The most recently created SSID is called ER-Secure and takes advantage of secure certificates and group policy in conjunction with active directory to ensure only East Rochester devices and users can authenticate to the network. A guest SSID and corresponding viand will be installed during the summer of 2018.

Classrooms are configured with projectors, Smartboard, speakers and the necessary wiring to make the systems work. Many classrooms have document cameras also.

Key Physical Components:

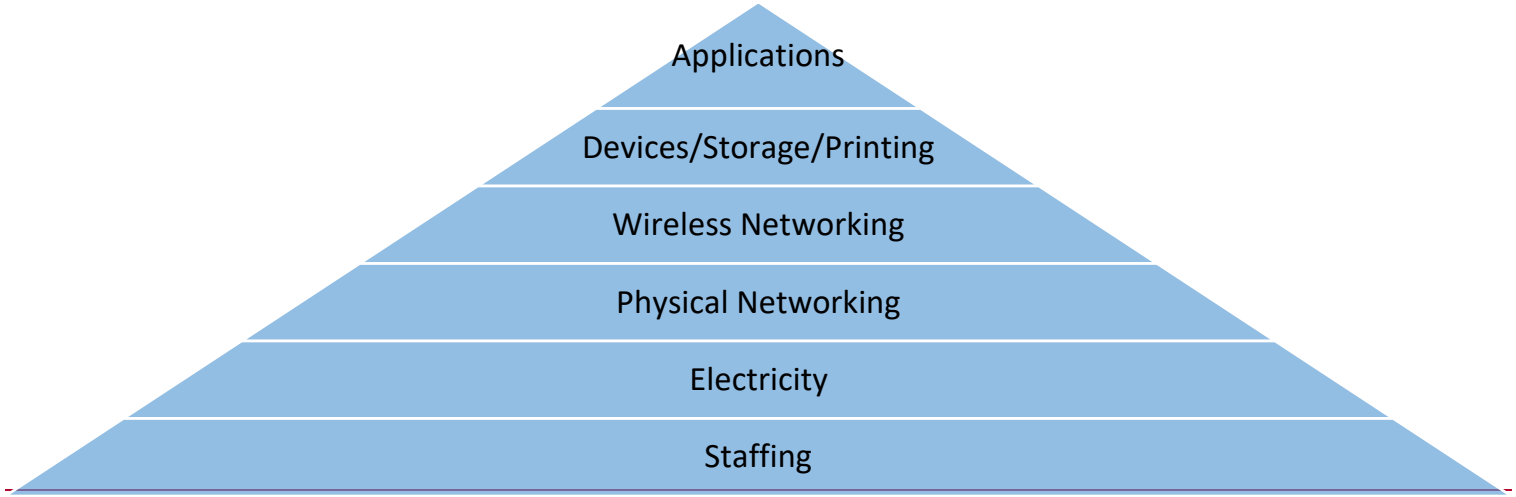
16 Network Switches	5 Physical Servers	342 PC's	33 Tablets
105 Projectors	25 Virtual Servers	490 Laptops	126 Smartboards
59 Document cameras	14 Xerox MFP	11 Laptop Carts	44 Printers
2 Wireless Controllers	95 access points		

Many electrical outlets in the elementary need to be replaced as cords fall out of them rather easily.

Desired State

Getting ready for electronic textbooks, learning management systems, computer based testing and STEM will require a significant investment in the infrastructure of the East Rochester School District. It is essential that the district prepare to provide enough capacity to meet today's demands as well as tomorrow's. There must be enough capacity to handle assessment testing, streaming video, blended learning, bring-your-own-device and anytime anywhere learning. ERate modernization document sets the vision: "Wi-Fi is a transformative technology for education, allowing schools, and libraries to transition from computer labs to one-to-one digital learning."

The future of teaching in the East Rochester School District will incorporate a variety of state of the art learning technologies. These technologies will perform many different tasks. Technologies will be used deliver content to students personally and collectively. Devices that are used may be district owned or personal devices and will require access to the world wide web to be effectively utilized for education. Technologies will be used to increase communications between students and teachers as well as parents and teachers. Security is a paramount concern.



Electricity

All technologies that are currently in use, as well as future ones, require electricity. The building condition survey contains an item to replace electrical panels throughout the district. To date, the panels have been in good working order and haven't received a priority score when assessing items to be included in the recent capital projects. The panels are the original panels to the building and with the expected growth and reliance on the network in the future, the replacement of the electrical panels should become a priority item in the next next capital project. The need to ensure the electrical feed to the building so that our classrooms can support an ever-growing technological landscape is paramount. The potential to increase the number of devices on the DCS by two or three times, and maybe more exists and classrooms need to have sufficient areas and capacity to plug in or recharge the batteries in the devices of the future.

Physical Networking

Backbone and topology

On top of the electrical foundation is the physical networking plant, which is the backbone of the DCS. This layer consists of the wiring, switches, servers, environmental controls and components that allow users to access to the DCS and the internet beyond. The desired state would be the installation of a new fiber backbone that supports 10GB of bandwidth. The topology and configuration of the backbone would allow for redundant communication paths to mitigate downtime in the event of a

hardware failure. As expected demand of the DCS grows and systems converge, it becomes more important to provide increased uptime to the users of the DCS.

Network wiring
Rewiring the district with cat 6E cabling will ensure the fastest speeds possible to the desktop computers in the district as well as to the wireless access points. By providing more network outlets, more devices like phones, printers and laptops can be plugged in directly to the network.

Switches
In order to run a 10GB backbone, new switches will need to purchased and installed. Switches will need to have the appropriate POE (Power over Ethernet) to support next generation wireless access points.

Servers
Servers are virtualized. Running on premise, but will probably be migrated to the cloud over the next 3 to 5 years.

Wireless Networking

According to the FCC ERate Modernization plan, "Wi-Fi is a transformative technology for education, allowing schools, and libraries to transition from computer labs to one-to-one digital learning." This statement represents the a goal for the instructional technology plan.

New standards are being developed with increased capacities that will support additional devices on the network and position the district well for one-to-one computing. These Wave 2 802.11 AC access points will boost network capacity and strengthen Wi-Fi signals. It will serve more clients while increasing throughput for them.

The wireless network should be upgraded with technologies that meet Wave 2 802.11AC standards.

Devices/Storage/Printing

Devices
The district will replace PC's in the classrooms during the 2018-2019 school year. The district will begin to explore other technologies to be used by teachers in the classroom and beyond. These technologies include iPads, Chromebooks, Surface Pro tablets and other devices. The idea is to pilot different technologies to determine which platforms will be used and supported in the district.

The decision on devices cannot be made in isolation. Part of the information that is needed to decide hardware platform comes from the decision on what cloud services the district would subscribe to.

Servers may be migrated to a cloud service provider in the future also.

Storage

Classically we think of storage on the network as being a local device, but increasingly cloud services are available to be used. The district will begin to pilot cloud services from Microsoft, Google and possible Apple. The technology committee will weigh the pro's and con's of each and make a decision on which one to use. The cloud service provider may have input on what devices are used in the district in the future.

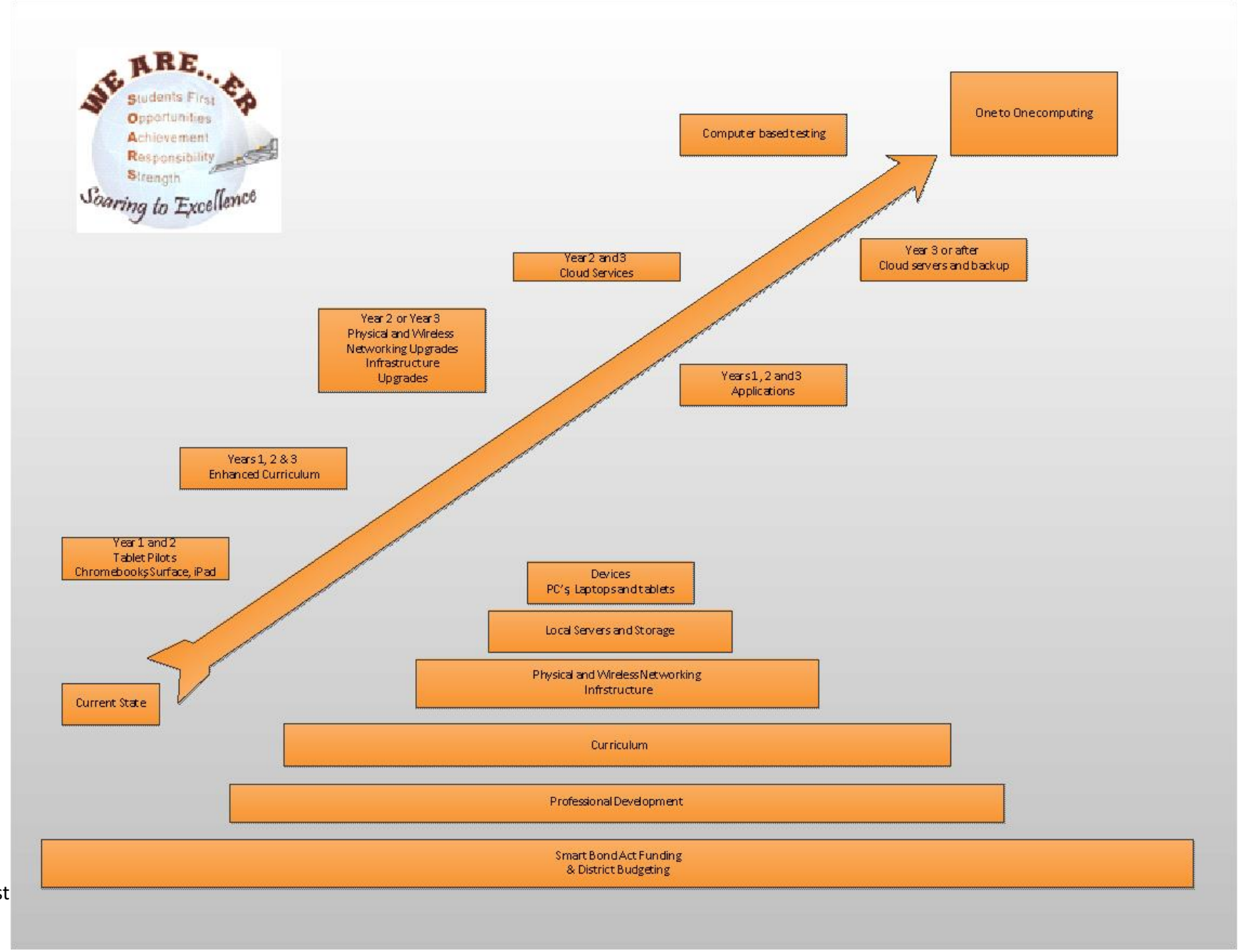
Printing

The implementation of the Common Core State Standards has caused a healthy volume of paper copies to be produced on the fleet of Xerox multifunction printers. Document production would be greatly enhanced by converting the media center to a copier/teacher work center with appropriate climate controls and a copier operator. The district would be able to reduce approximately 2-4 copiers from our fleet and provide better service and uptime by having an appropriate print center.

Additionally, as the district gets closer to one-to-one implementation, the reliance on copies should begin to decrease slowly at first, then greater as the technologies continue to develop.

Applications

Applications that the district uses should be assistive to the educational goals outlined in the district curriculum. Applications are currently purchased and installed on iPads, desktops and laptops throughout the district. Many applications are web based and it is assumed that most applications, over time, will be provided from the internet and require a subscription. Subscriptions to applications is an area that will grow with each budget year for example, Google Apps for Education or Microsoft Live 365.


WE ARE...ER
Students First
Opportunities
Achievement
Responsibility
Strength
Soaring to Excellence
Computer based testing
One to One computing
Year 2 and 3
Cloud Services
Year 3 or after
Cloud servers and backup
Year 2 or Year 3
Physical and Wireless
Networking Upgrades
Infrastructure
Upgrades
Years 1, 2 and 3
Applications
Years 1, 2 & 3
Enhanced Curriculum
Year 1 and 2
Tablet Pilots
Chromebooks, Surface, iPad
Devices
PC's, Laptops and tablets
Local Servers and Storage
Physical and Wireless Networking
Infrstructure
Current State
Curriculum
Professional Development
Smart Bond Act Funding
& District Budgeting

East

Instructional Technology SMART Goals

CURRICULUM

Goal 1: Adjust technology curriculum across all grade levels to ensure the growth of technological literacy among students.

Strategy	Measure	Responsible	Timeline
A committee will review the current technology curriculum and re-write it to ensure that it aligns with common core and district goals	A completed technology curriculum	Executive Director of Curriculum, Instruction and Professional Development	2018-2021

Goal 2: Review current common-core curriculum for opportunities to integrate technology into instruction

Strategy	Measure	Responsible	Timeline
Grade level teachers will review the common core curriculum to determine opportunities to integrate technology into their lessons.	Observations of teachers using technology in their classrooms	Executive Director of Curriculum, Instruction and Professional Development , Principals, Teachers	2018-2021

Goal 3: Prepare students for computer based testing and improve digital literacy

Strategy	Measure	Responsible	Timeline
Ensure that students have appropriate time with the laptops	Teachers will incorporate time into their daily schedules for students to work with laptops.	Executive Director of Curriculum, Instruction and Professional Development, Principals, Teachers	2018-2021
Ensure that typing skills are improved at the lower grade levels	Students will use the computer lab or laptops to practice their typing skills	Teachers	2018-2021

Goal 4: Integration of Technology through the Common Core Anchor Standards

Strategy	Measure	Responsible	Timeline
<u>Reading</u> Integration of Knowledge and Ideas Standard 7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.	Observation of student results Observation of classroom lessons Assessments	Executive Director of Curriculum, Instruction and Professional Development, Principals, Teachers	2018-2021
<u>Writing</u> Production and Distribution of Writing Standard 6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. Research to Build and Present Knowledge Standard 8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	Observation of student results Observation of classroom lessons Assessments	Executive Director of Curriculum, Instruction and Professional Development, Principals, Teachers	2018-2021
<u>Speaking and Listening</u> Comprehension and Collaboration Standard 2. Integrate and evaluate information presented in diverse	Observation of student results Observation of classroom lessons	Executive Director of Curriculum, Instruction and Professional Development, Principals, Teachers	2018-2021

media and formats, including visually, quantitatively, and orally. Presentation of Knowledge and Ideas Standard 5. Make strategic use of digital media and visual displays of data to express information and enhance understanding	Assessments		

PROFESSIONAL DEVELOPMENT

Goal 1: Ensure that teachers, staff and administrators are proficient in the use of and integration of technology through **professional development.**

Strategy	Measure	Responsible	Timeline
Review My Learning Plan to determine if it is an adequate replacement of PD Express	Contact MLP for overview Pilot MLP in district Costs Quoted	Office of Teaching and Learning, Director of Technology	2018-2021
Provide professional development to close Learning Gaps	After surveying teachers, tailor PD to current needs and offer appropriate PD	Executive Director of Curriculum, Instruction and Professional Development	2018-2021
Explore eDoctrina as a LMS	EDoctrina webinar or presentation	Cabinet	2018-2021
Explore electronic methods of PD delivery	Some PD is implemented using webinars or online learning	Office of Teaching and Learning, Director of Technology	2018-2021
Align Professional Learning outcomes based on Common Core Learning Standards with imbedded practices from ISTE NET sta ndards and the standards for College and Career Readiness	Staff Survey Data Driven outcomes Measuring student engagment Assessing student learning	Executive Director of Curriculum, Instruction and Professional Development	2018-2021
Establish clear expectations of integrating technology with instruction and support teachers with technology access and skill development for implementing best practices	Observing uses of technology in the classroom. Feedback from instructors on use of best practices	Executive Director of Curriculum, Instruction and Professional Development, Principals	2018-2021

PROFESSIONAL DEVELOPMENT

Many of the professional development offerings from 2018-2021 will be offered again over the next few years. As the technology plan develops and tightens up, professional development offerings will be tailored to the needs of the district users. For example, as we pilot Chromebooks in the classroom during the 2018-2021school year, some professional development will be offered to teachers using the Chromebooks.

Some new professional development courses for 2018-2021 may be:

- Creating Digital Stories Using Photo Story
- Windows Movie Maker
- District Technology Resources to Support Curriculum
- Collaboration in the Classroom with Google Docs

PROFESSIONAL DEVELOPMENT

- Chromebooks in the Classroom
- Screencasting: The Nuts and Bolts
- Creating Your Own Games In Smart Notebook Using Technology as an Evaluative Tool
- Let Data Tell the Story
- Web 2.0 Tools in 2.0 Hours
- Ensemble
- eBooks and Audiobooks – Navigating the Overdrive Digital Library
- iPad basics

INFRASTRUCTURE

Goal 1: Ensure that the district has the **staffing** necessary to prepare students for computer based testing and to ensure that the integration of technology into the classroom is as seamless as possible

Strategy	Measure	Responsible	Timeline
Develop a job description for an instructional technologist. Target technology to close learning gaps and provide instructional support through instructional technologist. Certified teacher is preferred.	A completed job description.	Executive Director of Curriculum, Instruction and Professional Development Principals, Director of Technology	2018-2021
Work with district and business office to plan for the acquisition of an instructional technologist during the budget process. Certified teacher is preferred.	Allocate funds for the acquisition of an instructional technologist	Executive Director of Curriculum, Instruction and Professional Development, Principals, Director of Technology, Assistant Superintendent for Finance and Operations	2018-2021

INFRASTRUCTURE

Goal 2: Ensure that the district has the **capacity and infrastructure** necessary to prepare students for computer based testing and anytime/anywhere learning. Prepare to build capacity for potential Bring Your own Device (BYOD) support and one-to-one computing to ensure that the integration of technology into the classroom is as seamless as possible for teachers, especially for distance learning opportunities.

Strategy	Measure	Responsible	Timeline
Implement Casper to support iPads for instruction	Casper is used to manage district iPads	Director of Technology, Senior Network Technician	2018-2021
Migrate Windows 2003 Servers to Server 2008 R2 or 2012 R2 to ensure capacity for shared storage, resources and network management. Upgrade SQL Server	Windows 2003 servers are migrated to Server 2008 or Server 2012 SQL Server is upgraded to SQL 2012 or greater	Director of Technology, Senior Network Technician Director of Technology	2018-2021 2018-2021
Bright Bytes survey to determine community and student capacities at home	Survey of community conducted	Director of Technology, Executive Director of Curriculum, Instruction and Professional Development	2018-2021
Survey of faculty to determine capacity and interest	Survey of faculty conducted	Director of Technology, Executive Director of Curriculum, Instruction and Professional Development, Principals	2018-2021
Explore N-Computing and a more in depth look at desktop virtualization	Site visit to Spencerport to look at N-Computing as well as N-Computing research	Director of Technology	2018-2021
Explore a comprehensive network monitoring system including intrusion detection.	Researched the capabilities of the software below.	Director of Technology	2018-2021

• IP Monitor • Solarwinds • Brainshark • Azure • Dynatrace • PRTG network monitor			
Strategy	Measure	Responsible	Timeline
Pilot cloud based technologies and work with key stakeholders to develop a plan for cloud based services integration (example: Office 365 or Google Docs)	A pilot will be established with the 5th grade teachers and students as well as a subgroup of students at the HS level facilitated by Diana Luce	Director of Technology Teachers Building Principals	2018-2021
Include electrical panel upgrade in next capital project with physical network upgrade in mind.	Electrical panels upgrade is included in the next capital project	Business Department District Office Director of Technology Architects and Engineers	2018-2021
Upgrade physical network (minimize downtime) • 10 Gigabit Fiber backbone • Cat 6e wiring from classroom to data closets • Upgrade network switches upgrades to prepare for increased capacity in wireless network by providing support for 10 Gig backbone and proper Power Over Ethernet for future access points	• 10 Gb fiber backbone installed • Cat 6e wiring installed • • Switches Upgraded	Business Department District Office Director of Technology Architects and Engineers	2018-2021
Upgrade wireless network • Support increased device density. Probable access point per classroom • Prepare for one-to-one learning	Wireless network upgraded using Wave 2 access points	Business Department Director of Technology Engineers	2018-2021

Explore server and storage migration to BOCES or cloud provider	This is an exploration to understand the costs and benefits of moving our server infrastructure to BOCES or a cloud provider.	Director of Technology	2018-2021

Goal 3: Ensure that the district has the **equipment** and **applications** necessary to prepare students for computer based testing and ensure that the integration of technology into the classroom is as seamless as possible

Strategy	Measure	Responsible	Timeline
Replace Teacher PC's Explore Windows 10 as the base operating system	Classroom PC's replaced and fully operational Test Windows 10	Director of Technology Director of Technology	2018-2021
Replace Lab 441 PC's	Lab PC's replaced and fully operational	Director of Technology	2018-2021
Replace administrative PC's and laptops	39 PC's and 9-11 laptops replaced for Staff and Administrators	Director of Technology	2018-2021
Phone system upgrade	Mitel Phone system installed and fully operational	Director of Technology	2018-2021
Pilot Chromebooks with 5th grade. This is a pilot program to determine the platform and cloud services that the district will use in the future.	Chromebooks acquired Plan of action with teachers Use of Chromebooks in the classroom during the 15-16 or 16-17 school year	Director of Technology Teaching and Learning 5th Grade Teachers Elementary Principal	2018-2021
Acquire, plan and implement cutover to School Messenger which will replace Blackboard Connect	School Messenger is implemented during year 1	Director of Technology	2018-2021
Review of educational tools and applications	Coaches and principals will review applications in use and	Teaching and Learning Math & ELA Coaches	2018-2021

to determine application in district learning environment	recommend new applications that support the curriculum and instructional goals.	Principals	
Strategy	Measure	Responsible	Timeline
Implement 15 new iPads purchased from RTTT funds.	5 iPads are used by Jr-Sr High Literacy Coach with students to close literacy gaps 5 iPads to be used by Jr-Sr High Math Coach with students to close math gaps 5 iPads will be used in the elementary school to support instruction at elementary principal discretion	Director of Technology Literacy Coach Math Coach Elementary Principal and teacher TBD	2018-2021
Expand Chromebook pilot if feasible	If Chromebook pilot is successful, expand Chromebook pilot to all 5th grade classrooms	Director of Technology Building Principals	2018-2021
Pilot BYOD to determine the scope of items needed for a potential full implementation	A subset of students in the Jr. Sr. High will pilot BYOD and results will be studied	Director of Technology Building Principals	2018-2021
Determine Cloud Service Provider Strategy ● Google? ● Microsoft? ● Hybrid/BOCES?	The district will choose a cloud services provider	Director of Technology Cabinet	2018-2021
Review IEP's to determine what assistive technologies are needed. Work with technology department and BOCES to implement technologies to support students with special needs	A report of needed assistive technologies	Director of Pupil Services Director of Technology Special Education Teachers BOCES OATS	Continuous

Ensure the timely implementation of assistive technologies for students with special needs.	Assistive technologies are acquired and implemented in a timely manner according to IEP's.	Director of Technology BOCES OATS	Continuous
Replace equipment according to lifecycle plan	Review inventory list for items that are ready for surplus and plan and implement replacement	Director of Technology	Continuous

Goal 4: Communications and Community relations

Strategy	Measure	Responsible	Timeline
Full roll out of SchoolTool Parent and Student portal	All parents and students 6-12 will have access to student and parent portal	Director of Technology	2018-2021
Migrate to School Messenger and use enhanced communications systems for communication to parents and community	School Messenger implemented	Director of Technology Communications Department	2018-2021
Pilot electronic report cards and progress reports	Parents and students will retrieve report cards and progress reports online	ID Department and Jr-Sr HS Principal	2018-2021

BUDGET

Equipment Expenditures

Category	2018-2019	2019-2020	2020-2021	Total
Computer Equipment	$ 111,000.00 + $45,000 SmartBond – Chromebook Pilot	$ 115,000.00	$ 118,000.00	$ 344,000.00
Software	$ 83,000.00	$ 86,000.00	$ 88,000.00	$ 257,000.00
Telecom and Internet	$ 160,000.00	$ 165,000.00	$ 170,000.00	$ 495,000.00
Miscellaneous Replacement and Repair	$ 17,000.00	$ 18,000.00	$ 18,000.00	$ 53,000.00
Professional Development	$ 7,000.00	$ 7,000.00	$ 7,000.00	$ 21,000.00

Personnel Expenditures

Category	2018-2019	2019-2020	2020-2021	Total
Director of Technology	$ 104,402.00	$ 106,751.00	$ 109,420.00	$ 320,573.00
Sr. Network Technician	$ 63,310.00	$ 64,576.00	$ 66,514.00	$ 194,400.00
Computer Hardware installer	$ 32,076.00	$ 32,718.00	$ 33,700.00	$ 98,494.00
Summer Help/Interns	$ 2,600.00	$ 2,600.00	$ 2,600.00	$ 7,800.00
Media Center Operator	$ 18,956.00	$ 19,335.00	$ 19,915.00	$ 58,206.00
Instructional Technologist	$ -	Future - plan, estimate $40,000	Future - plan $41,540	$81,540

Appendix A

New York State Technology Plan

Vision

High quality learning technologies will be available in all of New York State's classrooms. Learning technologies will be widely and equitably used in every school building in New York State to support the engagement of students, teachers, administrators, parents and the community in helping all students to achieve high standards.

Educational technology applications will deepen student engagement and improve student achievement by enabling them to access and analyze information, solve problems, collaborate with others, and communicate their thoughts and ideas. Effective use of learning technologies will allow students to become self - directed, self-motivated and lifelong learners.

Teachers will increasingly be facilitators of student learning through proficient use of learning technologies, all teachers will receive intensive, job-embedded, ongoing professional development in integrating technology into curricula and instruction. Teachers will incorporate high quality information resources in their teaching strategies to address multiple learning styles, to motivate and engage students, and to support student exploration and growth.

Learning technologies will be available to all teachers to support their own learning and professional development. Resources for teachers, available at any time and any place, will include:

- Samples of effective curricula and lesson plans aligned with New York State Learning Standards;
- Samples of student work and assessments;
- On-line professional development;
- Opportunities to engage in dialogue and virtual mentoring relationships with colleagues;
- Student learning data disaggregated to the individual, classroom, school or district level;
- Web-based applications that allow teachers and administrators to build relationships with parents and communities; and
- Management tools that expedite administrative tasks, freeing up more time for direct student interaction.

Mission

The New York State Education Department will collaborate with education stakeholders to develop, implement, maintain, and evaluate an educational technology infrastructure that provides teachers, administrators, parents, students, and other members of the education community with the technology resources needed to support all students in achieving high standards.

Goal 1: Every student will have the opportunity to use learning technologies to access and analyze information in ways that develop higher order thinking skills, increase their ability to use technology as a tool in solving problems, and support their confident use of the technology skills they will need for success in their future study and employment.

LEA Objectives

> 1.4 LEAs will equitably allocate fiscal, staff and professional development resources to ensure that the acquisition, maintenance and use of high quality learning technologies support all students in achieving New York State technology standards.

Goal 2: Every teacher and prospective teacher will meet technology competency standards that ensure their ability to use learning technologies effectively in supporting student achievement of the New York State Learning Standards.

> 2.10 LEAs will allocate sufficient professional development resources to ensure that all teachers are adequately supported with the resources and skills they need to confidently integrate high quality learning technologies into curricula and instruction.
>
> 2.11 LEA applications for technology funds will describe appropriate professional development activities for integrating technology into curricula and instruction through ongoing, sustained, intensive and high-quality professional development.
>
> 2.12 LEAs will develop appropriate processes and evaluation measures to ensure that all teachers meet the technology standards identified in 2.1 and 2.2 above.

Goal 3: Every administrator and prospective administrator will be technologically literate; will provide leadership in integrating technology into curricula, instruction, and student learning activities; and will have access to technology resources that support them in developing management systems and in creating a school climate and culture that results in high student achievement for all population groups.

3.10 LEAs will allocate sufficient professional development resources to ensure that all teachers are adequately supported with the resources and skills they need to confidently integrate high quality learning technologies into curriculum and instruction.

3.11 LEA applications for technology funds will describe appropriate professional development activities for integrating technology into curricula and instruction through ongoing, sustained, intensive and high-quality professional development.

3.12 LEAs will develop appropriate processes and evaluation measures to ensure that all students and teachers meet the technology standards identified in 1.1,
2.1, and 2.2 above.

3.13 LEAs will use student and other local teaching and learning data to inform curricula and instruction.

Goal 4: In order to support parents in monitoring and reinforcing the instruction their child receives at school, parents will have the opportunity to access web-based information about their children's learning environment, climate, and outcomes, as well as a wide range of student activities that can help them to assist their children at home.

4.7 District technology plans will incorporate plans to engage parents through the development of electronic school-parent-community communications mechanisms, including the provision of such information as students' course-taking options, curriculum, assignments, learning standards and assessments, teacher credentials, and other factors that impact children's learning opportunities, learning climate, and learning outcomes.

Goal 5: Every district will develop, implement, and evaluate a plan for technology use that a) supports the achievement of high performance standards, including those for technology literacy, by all students, teachers, and other education professionals; b) includes Federally mandated protection from inappropriate materials; and c) ensures that every school library media center is an electronic doorway library with Internet access, library and other electronic content, and training in the use of technology.

5.9 In accordance with NCLB Section 2414, each local educational agency applying for funds under this Act will submit to the State an updated local long-range strategic educational technology plan consistent with the objectives of the statewide educational technology plan.

5.10 Districts and BOCES will collaborate to ensure that district technology plans are consistent with Chapter 793 plans.

5.11 District technology plans will be based on a needs assessment that a) incorporates disaggregated data; b) is focused on ensuring that all students have the opportunity to meet New York State technology standards identified in 1.1 above; and c) involves classroom teachers and school library media specialists in the development of such plans.

5.12 District technology plans will demonstrate how planned technology uses will support all students in achieving New York State technology standards.

5.13 District professional development in integrating technologies into curriculum and instruction will be high quality, intensive and sustained.

5.14 District technology plans will ensure that allocation of technology resources, including software and hardware acquisition and maintenance, and teacher an administrator professional development, is focused on any high need/low resources schools within that district.

5.15 District technology plans will focus on providing equitable technology access for all students for the purpose of a) ensuring equity in students' learning opportunities, climate and outcomes, and b) eliminating discrepancies between buildings and population groups.

5.16 District technology plans will have in place a policy of Internet safety for minors that includes the operation of a technology protection measure for any of its computers with Internet access that protects against access to visual depictions that are obscene, child pornography, or harmful to minors; and will ensure that such technology protection is enforced during any use of such computers by minors. Further, similar protection against visual depictions that are obscene, or child pornography, must be ensured for such computers even when used by adults.

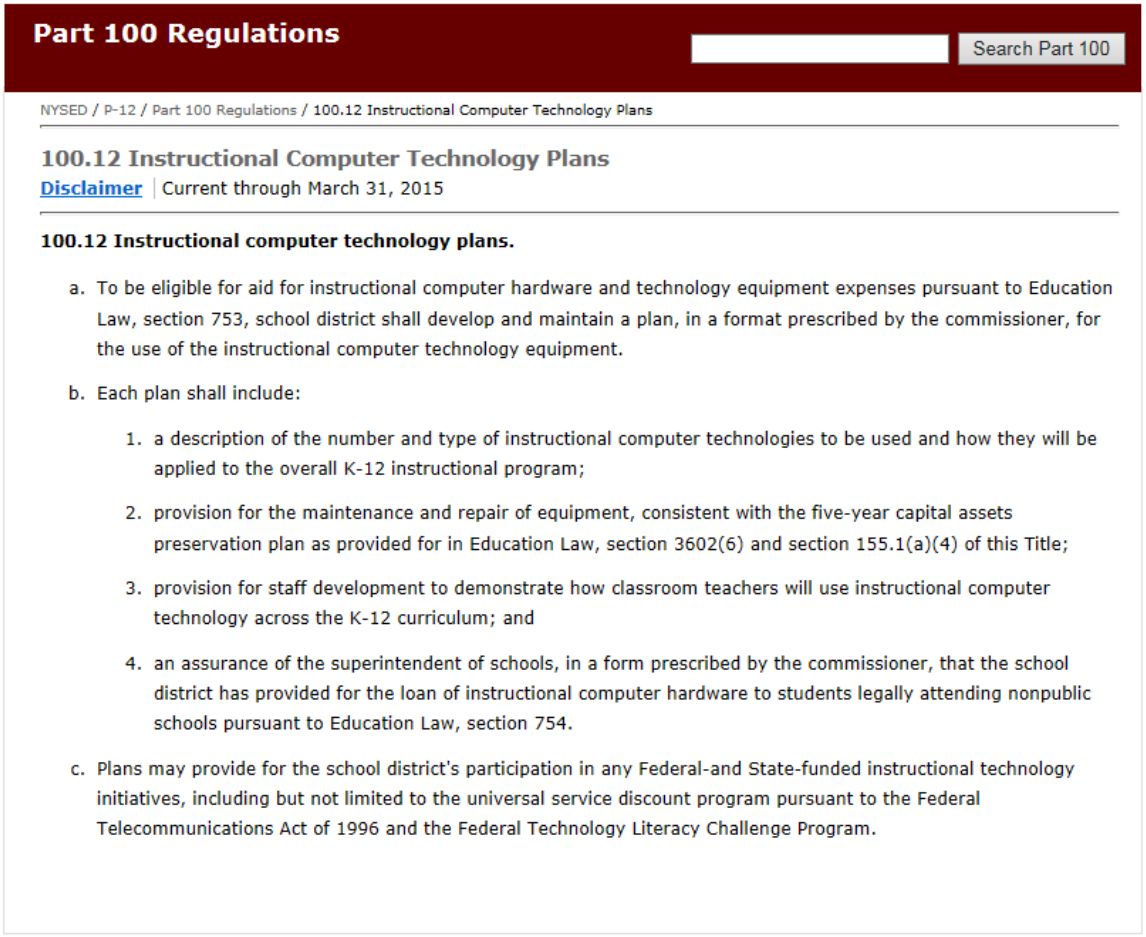
5.17 District technology plans will include strategies to ensure that all school library media programs achieve electronic doorway library status.

Goal 6: The State of New York will seek ongoing input, feedback and assistance from representatives of all sectors of the education community (PreK-adult school teachers and administrators, postsecondary teacher preparation program faculty, parents, students, and community members/business partners) to collaboratively develop, implement, evaluate, and revise the educational technology plan for New York State, to continue to build educational technology capacity, and to ensure the most relevant and highest possible quality of support for all members of the teaching and learning community.

Goal 7: The State of New York will support equitable access to high-quality learning technologies in the State's high need/low resource districts and schools to ensure that teachers, administrators, students and families have equitable access to high-speed connectivity, up-to-date hardware and software, and intensive and ongoing professional development to support high quality use of learning technologies.

Appendix B

Part 100 Regulations



Part 100 Regulations

Search Part 100

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100.12 Instructional Computer Technology Plans

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100.12 Instructional computer technology plans.

a. To be eligible for aid for instructional computer hardware and technology equipment expenses pursuant to Education Law, section 753, school district shall develop and maintain a plan, in a format prescribed by the commissioner, for the use of the instructional computer technology equipment.

b. Each plan shall include:

1. a description of the number and type of instructional computer technologies to be used and how they will be applied to the overall K-12 instructional program;
2. provision for the maintenance and repair of equipment, consistent with the five-year capital assets preservation plan as provided for in Education Law, section 3602(6) and section 155.1(a)(4) of this Title;
3. provision for staff development to demonstrate how classroom teachers will use instructional computer technology across the K-12 curriculum; and
4. an assurance of the superintendent of schools, in a form prescribed by the commissioner, that the school district has provided for the loan of instructional computer hardware to students legally attending nonpublic schools pursuant to Education Law, section 754.

c. Plans may provide for the school district's participation in any Federal-and State-funded instructional technology initiatives, including but not limited to the universal service discount program pursuant to the Federal Telecommunications Act of 1996 and the Federal Technology Literacy Challenge Program.

Appendix C

Board Policies

Relevant board policies to the use of technology in the district.

3320	Confidentiality of Computerized Information
5322	Use of Personal and District Cell Phones and/or Residential Internet Connections
5671	Disposal of Consumer Report Information and records
5672	Information Security Breach and Notification
5673	Employee Personal Identifying Information
5674	Computer Controls for Financial Network and Systems
5675	Data Networks and Security Access
5675R	Board Regulations Password Guidelines
5685	Use of Surveillance Cameras in the School District
5687	Technology Security Management
6450	Theft of Services or Property
6410	Staff Use of Computerized Information Resources (Staff AUP)
6411	Use of Email in the School District
7243	Student directory Information
7243	Student Data Breaches
7250	Student Privacy, Parental Access to Information and Adminiistration of Certain Physical Examinations to Minors
7315	Student use of Computerized Information Resources (Acceptable Use Policy)
7316	Student use of Personal Technology