



Duanesburg Central School District

Technology Plan

2016 - 2019

Table of Contents

Introduction	2
LEA Information	2
Instructional Technology Vision & Goals	3
Technology and Infrastructure Inventory	5
Software and IT Support	8
Curriculum and Instruction	10
Professional Development	11
Technology Investment Plan	13
Status of Technology Initiatives and Community	13
Instructional Technology Plan Implementation	14
Monitoring and Evaluation	15

INTRODUCTION

Duanesburg Central School District acknowledges that supporting the use of educational technology is an important part of 21st century learning. The purpose of the Instructional Technology Plan is support teaching and learning while determining appropriate needs for investments in technology.

LEA INFORMATION

DEMOGRAPHICS

Duanesburg Central School District is a rural school district with a public school population of approximately 750 students K-12. The district is located in the South Western corner of Schenectady County in New York. The district has one elementary school grades K – 6 and a Jr./Sr. High School grades 7 – 12.

ENROLLMENT

District total for BEDS Day October 1, 2016 = 716

GRADE BAND	ENROLLMENT
Grades K – 2	132
Grades 3 – 5	167
Grades 6 – 8	177
Grades 9 – 12	240

TECHNOLOGY CONTACT INFORMATION

Jeff Rivenburg – (*Business Official & Chief Information Officer*)

jrivenburg@duanesburg.org

518.895.2279

Joe O’Neill – (Management Information Systems Director)

joneill@duanesburg.org

518.895.2279

INSTRUCTIONAL TECHNOLOGY VISION & GOALS

MISSION

To be a socially responsible school community where learning and the pursuit of excellence are valued.

VISION

Duanesburg Central School District will become a model for smaller school districts in New York State. Instructional excellence will be the bedrock of the district characterized by a strong academic core, technology integration and a challenging and stimulating curriculum. Our educational program will include enrichment, interdisciplinary teaching and active roles for students. All students will be challenged and supported to achieve their highest abilities. The district will value its students and staff. The community will value and participate in our mission. Our facilities will promote our mission.

BOARD OF EDUCATION GOAL

The goal of the Duanesburg Central School District's Board of Education is to represent and serve students, district residents, faculty, staff, administrators and district volunteers through policy development, thoughtful planning of academic programming, facilities management and fiscal responsibility to ensure the highest level of achievement and preparation of our student body.

TECHNOLOGY PLAN EXECUTIVE SUMMARY

Duanesburg Central School District will follow and align with educational technology standards set forth by the International Society for Technology in Education (ISTE). In order to prepare staff with proper training the district will take membership with NERIC's Model Schools organization which will offer free instructional technology planning and professional development to teachers. The integration of technology into instruction is the primary goal of the Technology Plan. The plan provides an overview of the basic operations and concepts; social, ethical and human issues; technology productivity tools; technology communication tools; technology research tools; and technology problem-solving and decision making tools that students need to learn to fully apply technology in school. It corresponds closely to the International Society for Technology in Education standards and New York State Learning Standards.

INFORMATION AND INSTRUCTIONAL TECHNOLOGY GOALS

"Support the use of educational technologies which have been proven effective at driving instructional practices for the promotion of 21st century learning."

- Rollout physically interactive input devices throughout school district to aid in creating more engaging lesson plans for teachers. (ex. interactive Mimio devices and "student response systems" remotes for students)

- Encourage use of computer labs in both ES and MS/HS buildings through distribution of technology information to all teachers.
- Continue to offer and take part in distance learning courses to schools across the state. Consider scheduling modifications in order to accommodate more course offerings from Duquesburg.
- Further research additional funding for hardware to be made available district-wide by means of grants and other financial aid.
- Provide in house professional development and a set of resources in the subject of instructional technology.
- Evaluate use of typing application(s) used in district and collect progress related data on typing skills.
- Plan and prepare to utilize newly selected Learning Management System selected through NERIC selection committee.
- Encourage the use of Blackboard technology through faculty training and awareness
- Expand the use of Model Schools as the District's primary source of Professional Development for Information and Instructional Technology
- Select and implement new web design strategies for cost effective district wide communication.
- Evaluate strategies to increase enrollment into Virtual AP courses.
- Implement a plan for instruction on cyber safety including social media.
- District technology staff will research new technology and methods that have proven to be successful in supporting educational goals in other relatively similar districts.

PLANNING PROCESS AND STAKEHOLDERS – TECHNOLOGY COMMITTEE

The primary tool for involving key stakeholders in the development of the Technology Plan and its updates has been the technology committee chaired by the coordinator of educational technology. The group is an open group and all school staff can participate.

The District Technology Committee comprised of the superintendent, building principals, teachers in various grade levels K-12, and district technology staff meet on a monthly basis to discuss and analyze district technology use and needs. All educator stakeholders are invited to participate including special education leadership and educators.

The technology committee invites student council representatives to participate in discussions related to student technology. This is an invite extended at times when topics of student technologies are proposed on the discussion agenda for a meeting.

GAPS IN FOCUS AREAS

- Provision of devices so that all learners will have access to tools.
- Support staff will need to be increased with increasing technology devices being added.
- A Library Media Specialist is needed in the Elementary School to oversee accomplishments tied to ISTE.

CHALLENGES

- Funding
- Need for Courses specifically in Educational Technology
- Lack of Staffing

TECHNOLOGY AND INFRASTRUCTURE INVENTORY

Summary:

The Duanesburg Central School District makes large purchases of computing and educational technologies through the local BOCES which provides opportunities for more technology at a reduced cost. Technology is tagged and inventoried with BOCES tagging which is maintained on an annual basis. For students that would like to utilize their own technologies there is a Bring Your Own Device policy which allows students to appropriately use their own devices for educational purposes at appropriate times.

Approximately 250 student owned device access the district’s network on a daily basis. The district does not currently own devices that can be loaned to students for 1:1 use or in nonpublic locations.

Network Broadband Bandwidth	Minimum Capacity (Expressed in Mb or Gb)	Maximum Capacity (Expressed in Mb or Gb)
Network Bandwidth: Incoming connection TO district schools (WAN) (Wide Area Network)	200Mb	200Mb
Internal Network Bandwidth: Connections BETWEEN school buildings (LAN) (Local Area Network)	1Gb	1Gb
Bandwidth: Connections WITHIN school buildings (LAN)	1Gb	1Gb

What is the total contracted Internet access bandwidth for your district?	200Mb
What is the name of the agency or vendor that your district purchases its primary Internet access bandwidth service from?	NERIC / Time Warner

WIRELESS CONNECTIONS

WIRELESS PROTOCOLS	Available	In use
802.11a	■	■
802.11b	■	■
802.11g	■	■
802.11n	■	■
802.11ac	□	□

802.11ad	<input type="checkbox"/>	<input type="checkbox"/>
802.11af	<input type="checkbox"/>	<input type="checkbox"/>

Wi-Fi Access

Wi-Fi Points	80 Access Points
Wi-Fi Coverage	100% of Instructional and Administrative
Wireless Controller Usage	Yes
Port speed of the switches that are less than five years old in use in the district	1Gb

Wi-Fi access points to be increased in 2016-2017 school year.

EMAIL COMMUNICATIONS

The district will use [Google for Education](#) service in order to communicate via email effective September 01, 2015. This service will be subscribed and supported through NERIC. Google email communications are in adherence for school communications as per the Data ownership Agreement for not selling or mining education data. All staff must use their district provided email for all work related communications via email with the exception of union related communications.

COMPUTING DEVICES

Computing Devices used only for instructional purposes	Number of devices in use that are less than five years old	How many of these devices are connected to the LAN?
Desktop Computers / Virtual Machine (VM)	277	277
Laptops / Virtual Machine (VM)	33	33
Chromebooks	1	1
Tablets less than nine (9) inches with access to an external keyboard	2	2
Tablets nine (9) inches or greater with access to an external keyboard	0	0
Tablets less than nine (9) inches without access to an external keyboard	9	9
Tablets nine inches or greater without access to an external keyboard	0	0

CLASSROOM TECHNOLOGY DEVICES INVENTORY

Classroom Technology Devices for educational use	Number of Elementary Devices	Number of Jr./Sr. High School Devices	District Total
Mimio Teach	12	5	17
Mimio Vote	6	4	10
Document Camera	11	9	20

ASSISTIVE TECHNOLOGY

Total number of students with disabilities in your district, what percentage of these students are provided with assistive technology as documented on their Individualized Education Programs (IEPs):	100%
Total percentage of students with disabilities in your district, who are provided with assistive technology as documented on their Individualized Education Programs (IEPs):	4%

Additional assistance or resources that would enhance the district's ability to provide improved access to technologies, including assistive technologies, for students with disabilities:

- Android tablets with Google applications loaded
- Chromebooks for typing and Google tool usage

PERIPHERAL DEVICES

Peripheral Devices	Number of devices in use that are less than five years old
Document Cameras	33
Flat Panel Displays	277
Interactive Projectors	0
Interactive Whiteboards	34
Multi-function Printers	0
Projectors	54
Scanners	5
Other Peripherals	2 Mobile Video Conferencing Units

BRING YOUR OWN DEVICE

Duanesburg Central Schools has implemented a [Bring Your Own Devices Policy](#). Staff and students are allowed to use their own personal devices for educational use within the district. Usage of personal devices must be used for school appropriate material as stated in the computer usage policy.

SOFTWARE AND IT SUPPORT

DISTRICT SUPPORTED OPERATING SYSTEMS

- Windows 7.0
- Windows 8.0 or greater
- Apple iOS 7 or greater
- Chrome OS
- Android

DISTRICT SUPPORTED WEB BROWSERS

- Internet Explorer 9 or higher
- Google Chrome

LEARNING MANAGEMENT SYSTEMS

Schoology

The district will be moving to provide Schoology through NERIC for the 2015 – 2016 school year for all K-12 teachers. Schoology will provide an easy synchronization with eSchoolData of student names, courses, and gradebook information which will ease the use of a Learning Management System. Schoology will also be used for non-course related groups that will enable RTI teachers, district committees, and professional development to be shared amongst stakeholders.

DISTRICT SUPPORTED SOFTWARE AND WEB BASED APPLICATIONS

DEVICE INSTALLED SOFTWARE

- Google Apps for Education
- Microsoft Office
- Autodesk Inventor
- Mimio Studio
- Adobe Photoshop & Premiere

WEB BASED APPLICATIONS

- Schmoop
- Brain Pop
- Think Central (Go Math & Science Fusion)
- Chrome Applications (Google Apps)
- Learning Farm
- Type to Learn
- Gradpoint (Credit Recovery & Supports)

DATABASES

- *Britannica Online School Addition* - <http://school.eb.com>
- *CQ Researcher* - <http://library.cqpress.com/cqresearcher/>
- *Lexis Nexis* - <http://www.lexisnexis.com/hottopics/scholastic/>
- *NoodleBib* - <http://www.noodletools.com/>
- *Gale Databases* - <http://galesupport.com/>
- *Grolier Databases* - <http://go-passport.grolier.com/main?page=passport>
- *ProQuest Databases* - <http://elibrary.bigchalk.com/libweb/k6/do/login>
- *TeachingBooks.net* - <http://www.teachingbooks.net/signin.cgi>
- *World Book Online* - <http://www.worldbookonline.com/wb/Login>

STUDENT INFORMATION SYSTEMS

eSchoolData

The district imported student record keeping into eSchoolData from Star in the beginning of the 2008 – 2009 school year. eSchoolData is a NERIC supported service which includes all data stored at the Regional Information Center. Student information stored in eSchoolData includes all demographic, enrollment, attendance, discipline, scheduling, and assessment record keeping in alignment of NYSED record and reporting requirements. Moving forward in the 2015 – 2016 school year the district will utilize a next generation system of eSchoolData GURU Boards to work in conjunction with data stored in eSchoolData providing a data dashboard that will provide tools for educational practice.

eSchoolData includes access to a parent and student portal for all students K – 12 in the two public buildings within the district. The parent and student portals give access to the following to its stakeholders:

- Attendance
- Assignments
- Grade Reporting
- Student Schedules
- Report Cards (7-12)
- Standards Based Report Cards (K-6)
- Transcripts

Centris Group (IEP Direct, 504 Direct, & RTI Direct)

Special Education records including IEP’s and 504’s along with RTI records are kept within the Centris Group applications. Centris Group applications are a NERIC supported service which includes all data stored at the Regional Information Center.

DISTRICT UTILIZED TOOLS FOR PUBLIC COMMUNICATIONS & SOCIAL MEDIA

- District Website
- School News Notifier
- Facebook
- Twitter
- Teacher websites

DESCRIPTION OF INFORMATION TECHNOLOGY DEPARTMENT

TITLE	PRIMARY RESPONSIBILITY
Management Information Systems Director (1 FTE)	<ul style="list-style-type: none"> • Device support, research, purchasing, and maintenance • Network systems • Technical and End-User support
Teacher aide (2 FTE)	End-User Support

CURRICULUM & INSTRUCTION

DIGITAL CONNECTIVITY AND TECHNOLOGY FOR IMPROVED TEACHING AND LEARNING

The district plans to utilize Chromebooks to provide 21st century style learning. Tools that the district has decided to implement are Google Apps For Education, Schoology, eSchoolData GURU, and Google Classroom. The district plans to expand the technology toolbox by deploying Chromebooks when affordable to replace current laptop devices. Duanesburg Schools will be utilizing Smart Schools Bond funds to expand wireless and networking capabilities district wide along with purchasing Chromebooks with carts.

TECHNOLOGY FOR STUDENTS WITH DISABILITIES

Children with learning disabilities often have better technology skills than their teachers and are drawn to computers and other gadgets, so using them in the classroom can greatly improve their educational outcomes. For children with physical disabilities, technology can give access to learning opportunities previously closed to them. E-readers help students turn book pages without applying dexterity, and voice adaptive software can help students answer questions without needing to write. It can also read to the students with severe dyslexia. This technology can follow the student home to participate in more of the independent work assigned.

Technology needs for students are assessed on an individual basis. Students with disabilities are provided with technologies as required in Individualized Education Plans. The district makes every effort to make sure that students with disabilities are provided with technology needs that assist in their learning as required by IEP.

PROVISION OF ASSISTIVE TECHNOLOGY

The district does not keep stock of Assistive Technology but will provide purchase after evaluation and upon requirement. Special Education classrooms are equipped with either one or two additional computers to enable student access while working with educators. Students with disabilities may also use Android tablets located in the library of the high school to utilize the multiple assistive applications available in Google Play.

GENERAL ALIGNMENT WITH ISTE

The district recognizes a need to form committee that supports a digital curriculum for all grade levels. Digital Literacy will be supported through the Library Media Specialist. The district digital literacy coursework aligns with ISTE curriculum.

DIGITAL LITERACY & INTERNET SAFETY

The district recognizes the necessity of instructing internet safety and digital literacy in order to educate students on the dangers lurking online. Students must also be educated in digital literacy to enable the increased need to use technology to communicate in the current state of how people communicate, complete work, and learning tasks on a daily basis. Before the completion of grade eight all students must have been taught internet safety and cyber security. Instruction on internet safety and digital literacy may be led by regular classroom

teachers as an addition to the curriculum developed and delivered by the Library Media Specialist.

Resources that the district uses for internet safety are the FBI.gov website in addition to materials and games on Brain Pop.

FBI Kids Page:

<https://www.fbi.gov/fun-games/kids/kids>

A Parent's Guide to Internet Safety:

<https://www.fbi.gov/stats-services/publications/parent-guide/parentsguide.pdf>

SafeGov:

<http://safegov.org/>

ACCESS FOR STUDENTS WITH DISABILITIES

Technology needs for students are assessed on an individual basis. Students with disabilities are provided with technologies as required in Individualized Education Plans. Students who may have temporary needs are provided with cost effective solutions that are legal to follow student IEPs.

The district does not keep stock of Assistive Technology but will provide purchase after evaluation and upon requirement. Special Education classrooms are equipped with either one or two additional computers to enable student access while working with educators. Students with disabilities may also use Android tablets located in the library of the high school to utilize the multiple assistive applications available in Google Play.

ACCESS FOR ALL LEARNERS

All students have regular access to the district labs in a number of ways. The media centers in both buildings are equipped with up-to-date hardware. The secondary library media center is open until 5 PM daily which allows full access after school to secondary students. Highlights include the following:

- *Two open ES labs (30 Workstations in each); one open secondary (24 Workstations); secondary library (18 Workstations)*
- *Every classroom has at least one computer and many have several.*

PROFESSIONAL DEVELOPMENT

Duanesburg Central School District participates with the Capital Region BOCES Model Schools (<http://modelschools.neric.org/>). Model Schools provides an opportunity for the district to participate in best practice workshops based on instructional technology integration. District staff are offered professional development through the Model Schools program and have the option to teach a shared course through the Model Schools program at BOCES. This professional development is offered to district staff for free.

The district also offers professional development from teachers within the district advanced in topics and skills of instructional technology.

Duanesburg is additionally committed to providing professional development for teachers during the transition to Google email, Google Docs, and GAFE.

Professional development in the area of Educational Technology is overseen by the Coordinator of Educational Technology. This administrator is also the coordinator for model schools professional development as the representative between the district and NERIC.

2016 - 2017

- We expect to have 25% of our K-12 teaching staff and students utilizing Chromebooks, Google apps, & Schoology and having been trained to use them for instruction by November 2016. Professional Development Day: November 08
- It is anticipated that we will have a total of 50% of K-12 staff and students using Chromebooks, Google apps, & Schoology by March 2017
Professional Development Day: March 17
- We intend on utilizing our Library Media Specialist as an Ed Tech Coach to support classroom implementation. We anticipate teachers trained in 2016-2017 will be turnkey trainers in 2017-2018.

2017 - 2018

- Fall 2017 - Elementary will be 100% teachers and students utilizing Chromebooks, Google apps, & Schoology for instruction.
- Fall 2017 - High School should be 75% - 100% usage of Chromebooks, Google apps, & Schoology amongst staff and students all dependent on infrastructure with capital project.
- Continue utilizing Library Media Specialist as support at the High School and explore possible opportunities for an Elementary School coach.

2018 - 2019

- Fall 2018 - Full implementation of usage Chromebooks, Google apps, & Schoology.
- Provide additional Professional Development in the Fall and Spring as needed to support additional growth in educational technology usage.

Identified focus areas of continued professional development needs include:

- Teacher websites
- Google tools
- Mimio technology & Mimio applications
- Flipped/Blended classrooms
- Teacher blogs
- Social networking

TECHNOLOGY INVESTMENT PLAN

Item	Area of Investment	Estimated Cost	One-time or Annual	Potential Funding Source
1	Wired Network Infrastructure	\$250,000	One-Time	Smart Bond
2	Professional Development	\$7,000	Annual	Annual Budget
3	Chromebooks	\$54,000	Annual	Smart Bond & Annual Budget
4	Desktop Computers	\$50,000	Annual	Smart Bond & Annual Budget
5	Wi-Fi Expansion	\$40,000	One-time	Installment Agreement

STATUS OF TECHNOLOGY INITIATIVES AND COMMUNITY CONNECTIVITY

Duanesburg Central School District has made the following developments since the last Instructional Technology Plan:

- Changes in staffing
- Changes in funding
- Developments in technology

Further advancement in instructional technology developments will be made over the next three years because the district will be implementing Google Apps for Education over the summer of 2015. Training and support has been arranged with the local regional information center NERIC.

COMMUNITY CONNECTIVITY

The Management Information Systems director attended a meeting with Time Warner Cable for a discussion on expanding high speed internet services in the community. The district technology staff are taking action to be involved in planning and discussions at Capital Region BOCES & NERIC. The district technology committee will offer more input for forward planning. The community public library provides free open Wi-Fi while many homes in the district do not have Wi-Fi access. While this continues to be a roadblock in the district high speed internet access will continue to be a component of discussions over the next three years in anticipation of making advancements of finding more ways to provide access to students and families off school campus.

INSTRUCTIONAL TECHNOLOGY PLAN IMPLEMENTATION

TIMELINE

Date	Action	Desired Outcome
Summer 2011	Wi-Fi installed district wide to provide access to 100% of all instructional areas. Outdoor coverage near buildings is made possible.	Provide internet access to all staff and students for the purpose of educational access and communication in 21 st century.
Summer 2014	PLTW computers replaced in 101 and 108	Provide up to date Engineering computers for Project Lead The Way Specifications.
Summer 2015	Set of 15 Chromebooks	Provide an update and Google based solution to transitions made during the summer.
2016 - 2017	Purchase class sets of Chromebooks for all of K-12 classrooms.	<ul style="list-style-type: none"> - Usage of Schoology and Google Apps on a regular basis for group work, discussions, and projects. - 30%-45% of teachers using Chromebooks on a regular basis.
Spring 2017	Instruction involves regular usage of devices and applications in class. Restrictions include not having high speed internet available on a majority of town roads	<ul style="list-style-type: none"> - 40% - 80% of teachers using Chromebooks on a regular basis. - Normal practices include students creating a multimedia presentation accessible on a Google Site. Group collaboration and discussion boards used on a regular basis.

ACTION PLAN

Utilize the Technology Committee to evaluate areas to integrate educational technology into core curriculums K – 12. Form a technology curriculum committee to adopt a K-12 curriculum aligned with the ISTE standards.

ACCOMPLISHMENTS

- The district has decided to move forward to provide a cost effective means to capture student data and use interactive technology in the classroom. We have selected and continue to purchase Mimio brand interactive whiteboards and student response systems in order to achieve this goal.
- *Virtual field trips conducted with purchased extended Distance Learning units.*
- *Expanded the extended Distance Learning usage with virtual AP grant 2013-2014 school year.*
- *Distance learning classes have been a mainstay of the district through the BOCES distance-learning network for over 15 years.*
- *Both schools conduct live on air TV networks for morning news.*
- *Mobile learning labs are used in both buildings.*

MONITORING AND EVALUATION

STRATEGIES

As a part of teaching observations and the APPR teachers will be evaluated on a regular basis. Duanesburg Central School District uses the Danielson Framework for Teaching for teacher evaluation. Using this tool there are domains that allow the observer to evaluate instructional usage of educational technology. Areas in which teachers can be evaluated are: 1e: Designing Coherent Instruction, 2e: Organizing Physical Space, 3e: Engaging students in Learning, and 4e: Growing and Developing Professionally.

Using the Danielson model the administrative staff in the district are able to identify areas in which teachers are doing well and in need of extra support. Additionally observations using the Danielson model have given administrators a look at possible needs where new technology tools could be added to particular teacher instructional practice.

Duanesburg Central Schools continues to observe needs and usage of technology used in instruction. Teachers that are noted as needed assistance are given additional support through either technology staff or teachers who are willing to coach each other and work to accomplish goals. Devices that have been distributed over the past five years have been utilized more and desired more as increased number of teachers become familiar with newer and easier User Interfaces.

Frequently in Administrative Cabinet meetings technology is a part of the conversation on needs or advancements in instructional practice. The Coordinator of Educational Technology is a part of the administrative cabinet and able to communicate needs of technology to buildings and IT staff.

POLICIES

A public forum with the subject of Internet Safety and Cyberbullying was held on January 20, 2011. This session was facilitated by Capital Region BOCES.

Acceptable Use Policy-AUP

(6470) Internet: Acceptable Use Policy:

http://duanesburg.org/district/board/PDFs/Policies/6470_Internet_Use.pdf

Year Adopted: 2004

Internet Safety/Cyberbullying

(8271) Internet Safety/Content Filtering Policy:

http://duanesburg.org/district/board/PDFs/Policies/8271_Internet_Safety.pdf

Year Adopted: 2012

(7315) Bullying Peer Abuse in Schools:

http://duanesburg.org/district/board/PDFs/Policies/7315_Bullying.pdf

Year Adopted: 2009

Parent's Bill of Rights for Data Privacy

Parents' Bill of Rights for Data Privacy and Security:

http://duanesburg.org/district/publications/PDFs/Parents_Bill_of_Rights_for_Data_Privacy_and_Security.pdf

Year Adopted: 2014

Bring Your Own Devices (BYOD)

(7316) Personal Use of Student-Owned Technology Devices in School:

http://duanesburg.org/district/board/PDFs/Policies/7316_Personal_Devices_Policy.pdf

CYBERSECURITY PROCEDURES

The district has adopted Acceptable Use, Internet Safety, and Personal Electronic Device policies. Copies are provided on the district website. Codes of conduct include basic summaries of Internet usage guidelines. Every student and each parent are required to annually access the Internet based document or may be provided copies in the event of not having access outside of school. Students and parents of the student are required to sign the agreement in order to utilize district technology. The district follows state regulations on maintaining filters for content. Internet Traffic and Filters are maintained by the systems administrator in coordination with NERIC. Administrative action will be taken for violations of security.

TECHNOLOGY DISPOSAL SECURITY

Hard drives from computers tagged for disposal are destroyed before being recycled.

October 2016