# Technology Plan 2015-2018

Prepared for: Central Valley Central School District

Prepared by: John Gillette and Dr. Richard Hughes

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# Contents

## District Mission Statement

The Central Valley Central School District is a recently merged school district encompassing the former Ilion and Mohawk school districts. Central Valley is a large rural school district of approximately 2,400 students located along the I-90 corridor 85 miles west of Albany and 14 miles east of Utica. Central Valley is the largest school district in the Herkimer-Fulton-Hamilton-Otsego BOCES.

The communities that reside within the Central Valley Central School District are committed to the education of our children.  As such the Board of Education recently adopted the following as our new mission statement:

**"The Central Valley Central School District will provide a relevant progressive educational and social foundation to graduate all students as lifelong learners prepared for career and/or college."**

## Executive Summary

The basis for establishing a technology partially rests in that a district technology plan is required by the New York State Department of Education along with state and federal technology grants. In addition, future technology funding is driven by a well thought out and developed district technology plan. Most importantly, a district technology plan provides a guide to enhance learning through the use of technology.

"A technology planning document is to technology planning as a road map or navigational chart is to a journey but the planning document is neither the journey nor the adventure. It is a devise that helps explain the various points of interest and destinations to travelers involved in the process of realizing their dreams. The purpose of technology planning is not just to produce a document, but to produce continuous action that creates and maintains a technology-rich educational environment. The plan is a clear, written description of the plan that is put into action by members of the community."

*Guidebook for Developing an Effective Instructional Technology Plan*, Mississippi State University, 1996.

To successfully carry out the educational tenets of our mission, in partnership with all stakeholders, we seek to provide:
- An atmosphere conducive to learning, for all children, which is both challenging and safe.
- Information, role models, and opportunities for appropriate decision-making.
- A diversified program which offers curricular and extra-curricular activities and encourages productive use of leisure time and development of the whole child.
- Information, role models, and opportunities for appropriate decision-making.
- An educationally sound system of assessment, feedback and evaluation.
- Training to continually support and enhance the professional expertise of all staff.

## Instructional Technology Mission Statement

To meet the requirements set forth by state and federal agencies, in addition to the district mission statement, **"The Central Valley Central School District will empower all students to be life-long learners and responsible citizens prepared with the critical skills to enter the technological society of today as well as tomorrow."** The implementation of this mission statement is based on the following philosophies and beliefs:

- Use technology to motivate and inspire students to create, think, problem solve, question, evaluate, and connect to real-world experiences.
- Facilitate communication and collaboration between classmates, peers, educators and members of the global community.
- Empower students and employees by integrating interactive technology into the daily learning process.
- Address the instructional needs of all students through technology to create a personalized learning experience in an equitable manner.
- Prepare students with the skills to not only master the latest technology but to use those skills to continually further their understanding and application of technology in our world.
- Provide technology in a manner that is cost-effective to our local communities and taxpayers.
- Assure that all students, faculty and staff will be provided with and have equal access to minimum standards of hardware and software.

## Purpose of the Educational Technology Plan

The intent of the instructional technology plan is to meet the instructional needs of students while developing digital literacy and strong computer research skills. The instructional technology plan also reflects the district's mission statement and goals:

- Assure that all students, staff and sites will be provided with and have equal access to minimum standards of hardware and software.
- Enable 24-7 access to school learning resources, lessons, assignments, school information and electronic communications for students, parents, staff and community members.
- Reinforce technology integration into the pedagogical practices across all grade levels.
- Identify professional development needs and planning to equip faculty.
- Recognize technical skill sets to ensure student success in both pre and post-graduation.
- Explore, evaluate and apply emerging technologies as they relate to pedagogy.
- Establish an ongoing replacement plan to renew aged and expired equipment within budgetary and logistical considerations.

## Technology Committees

The Central Valley Central School District has a Technology Committees at both the district and building level. The main objective of the district technology team is to address the needs of the district as a whole including creation of the Instructional Technology Plan required for the NYSED Instructional Technology Plan Survey. These committees consist of a well-represented cross-section of our district. Members include: Elementary Principals, Middle School Principal, High School Principal, Library Media Specialist, Teachers representing all content areas and buildings, parents representing all buildings, Director of Technology, Assistant Superintendent

of Teaching and Learning, an Instructional Technology Coach and the Superintendent of Schools.

Technology Committee objectives include:
- To create a long-term vision for how technology will improve and differentiate learning for our students based on their individual needs. The tool should match the needs of the learning.
- To prioritize resources, including but not limited to infrastructure, device/software, and professional development to support student learning.
- To provide recommendations for Board of Education policy development to support the integration and student use of technology.
- To shift the paradigm that the use of learning and technology occurs separately and away from the regular classroom.
- To provide educators with the necessary support to take risks that will positively impact our students.

Specific measurable goals are developed on an annual basis through a needs analysis at both the district and building levels. Input for goal development is gathered in both formal and informal processes from internal and community stakeholders including but not limited to teachers, staff, students, administrators, parents and other community members. Goals are distinguished and differentiated from wants. All goals are then assessed against the district mission and technology plan. The district and building level technology committees meet at least quarterly with meetings normally every month during the academic school year and at least once during the summer.

| Date | Purpose | Participants | Outcome |
|---|---|---|---|
| March 5, 2015 | Discussion on Smart Bond and implications for Central Valley | District and Building Technology Committees | Created sub-committee to review and complete NYSED Tech Survey |
| April 2015 | District Survey | Faculty, Staff, Students | Provided critical information about the current perceptions of technology needs and use |
| May 7, 2015 | Review Tech Survey Guidance | District Tech Committee, Tech Survey Sub-committee | Clarified survey purpose, developed items that must be finalized to complete Tech Survey |
| May 15, 2015 | Survey and Portal Orientation | MORIC Staff, Tech Survey Subcommittee | Familiarized with the portal, requirements, and exemplars |
| May-June 2015 | Survey Community Members and Organizations | Superintendent, Various community organizations | Determined technology skill expectations and learning necessary for student success in the workplace by attending organization meetings throughout the school district |
| June - August 2015 | Survey Development | Tech Survey Sub-committee | Edited and revised NYSED Technology Survey |
| September 2015 | Revise Tech Survey after MORIC feedback | Tech Survey Sub-committee | Edited and revised NYSED Technology Survey for final submittal |

# Current State of Technology

The current state of technology at Central Valley Central School District is reflective of past budgetary allocations and prioritization. Previously, there was not any formal plans for hardware lifecycle replacement with computers, Smartboards, printers and related equipment. As a result, the district fell into a state of aged computers that needed to be updated.

In the past, the technology short-term needs were minimally met to adequately get staff through the school year. However, this process of making what is available work has rendered the district with extremely aged equipment that is increasingly becoming a bigger and bigger issue. Logistically speaking, this adds to the difficulty of maintenance and support from technical, coordination and pedagogical perspectives. The overall status of classroom technology computers is as stated earlier, in various states of functionality, compatibility and reliability. Classroom Smartboards and Smartboard projectors are beginning to fail and are no longer supported by Smart.

The district infrastructure/network is currently in a sufficient operational state, but does have some outdated switches that need to be addressed in future purchases. Wi-Fi is functioning throughout the district but not at the capacity to allow a 1:1 environment. The wireless controllers have reached an End of Life (EOL) state along with a number of wireless access points. These will need to be upgraded and replaced with future purchases.

# Future Direction for District Technology

## Hardware

Conceptually the understanding of computer hardware consisted of a tower, display, keyboard and mouse. While these characteristics still remain, their convergence into a single form factor has been manifested in laptops and streamlined desktops. The need for these units is dependent upon the intended outcomes of the user such as desktops to be utilized in specific spaces that call for their use in offices and lab spaces. Portable and mobile units will serve as the primary tool for student use in classrooms and specific settings in both a 1:1 and BYOD (Bring your own device) environment. We need to retain the Windows platform for office staff, lab spaces, and instructional mobile devices, while also including iOS for iPad units and possibly the inclusion Chrome OS for Chromebooks. We foresee the removal of classroom cluster desktop computers, with their replacement being iPad/Chromebook carts to address personalized student needs.

## Software

Software subscriptions, specialized titles and onboard platform specific applications must be identified and communicated as available toolsets. Each specific software set offers users with multiple outcomes. Standard software sets also need to be identified as such and adopted as universal production tools. Application sets such as Microsoft Office have been a standard suite of production applications for a variety of outcomes. With the rapid development and deployment of application updates, it is difficult to maintain a standard, consistent level of software versioning and compatibility. In addition, software licensing costs are increasing as the needs for computer technology increases. We need to identify a usable suite of applications that are universally utilized across multiple devices and platforms. Alternative and free options exist that replace these toolsets, allowing us to utilize existing revenues in other areas. This can be

accomplished through the adoption of either open source tools such as the Google apps for Education (GAFE) on all student machines. Google apps inherently encourage collaboration by their cloud-based integrated features.

## Learning Spaces

Our classrooms, labs and shared learning spaces must be updated. Most classrooms are outfitted with Smartboards. As we move forward the need for both interactive whiteboards and wireless projection systems will continue to grow. All classrooms should be outfitted with such units, dependent upon the learning needs of the students at the given grade level. Learning spaces themselves need to be outfitted with updated technology and configurations which allow adaptability to provide differentiated activities. Learning environments such as the library also need to be modified in order to accommodate portable and mobile devices, and digitally delivered content for consumption and instruction. In addition, opportunities for students to create and design through the use of technology are needed. This would include maker space areas outfitted with items such as 3-D printers. Lego Robotics, Spheros and other applications should also be including to allow students to learn and apply coding principals.

## Mobility

The ubiquitous presence of mobile devices is undeniably the most commonly utilized device among students and staff. We need to embrace their presence and seek additional ways to expand and harness the affordances of these devices and incorporate them into both policy and practice. This will require an overhaul of our current policy language and inclusion of both personal and institutionally owned devices as a means to address issues in equity and access. Faculty are encouraged to implement personal devices such as iPads and Chromebooks into their instruction as a means to augment current teaching and learning. This also provides additional learning opportunities for students to utilize current and future technologies. We need to encourage student utilization by modeling best practices in order to produce effective instruction with relevant tools. Classrooms need to be outfitted with displays capable of providing interactive content from mobile devices in support of the educational goals associated with the district and technology mission statements.

## Printing

In regards to printing across the district, we need to move to a centralized printing model. Currently we have a mix of ink, solid ink and toner based units. By standardizing on one printer model with printers placed around each school and not in individual classrooms, ordering supplies will be simpler and the consumable parts will be interchangeable. We need to standardize our printers as a whole and reduce the volume of printing within classrooms. This change will result in a reduction of available printers within the district but provide access to a high quality printing solution. In isolated cases, the need for office printing will still occur in classrooms such as printing confidential student and staff information. All bulk printing will need to occur at the building copiers. Color printing will be restricted to office spaces and specialized lab location. Printing from mobile devices should also be incorporated into the existing infrastructure.

## Professional Development

Faculty and staff must be seen as knowledgeable practitioners and positive models of technology utilization. The Central Valley Central School District has a comprehensive professional development plan to assist in this process. With many new changes in policy and regulations, we need to account for their needs in relation to the content, curriculum and students they serve. Faculty need to be provided with options for training in multiple formats. Opportunities currently exist with the Model Schools Program provided by MORIC, the Teacher Center trainings provided by Herkimer BOCES and other specialized content area groups. A teacher on special assignment is our first full-time educator assigned to assist teachers with the search and classroom use of instructional technology. Internal offering needs will be continually researched and expanded by identifying internal trainers to share their knowledge and expertise with their colleagues. Idea sharing and internal collaborations need to be encouraged across the curriculum and district. Methods of delivery include face-to-face, webinars, peer-to-peer, online course. The district utilizes an online program, My Learning Plan, to assist staff in registering for professional development and tracking courses taken.

By utilizing updated equipment (mobile, portable and varied platforms) we broaden student learning experiences and offer diverse learning opportunities that prepare them for greater success no matter their disability. Faculty need to feel confident with these tools and adapt existing curriculum to reflect these updates so that students may benefit. We need to provide consistent Professional Development to provide the staff and students with the necessary knowledge to use provided classroom technology and to integrate the instructional technology into their curriculum and lesson planning.

# Google Apps for Education and Software Infrastructure

As of September 2013, Central Valley Central School was signed up for Google Apps for Education (GAFE). Google Apps for Education (GAFE) (http://www.google.com/enterprise/apps/education/) is a free web-based platform in which students, faculty and staff can communicate and collaborate both during and outside of school hours. The google app suite is included with GAFE and is equivalent to office, but is stored online through Google Drive. Documents, presentations, and spreadsheets that are created in Drive can be shared to other users with either limited or unlimited access. Documents, presentations, and spreadsheets can be edited simultaneously by multiple (invited) editors. There are no costs associated with Google Apps for Education, which includes Google Drive etc. Google mail of Gmail is also included with Google Apps for Education.

Each user is restricted to storage space in Google Drive of 30 GB of space. Confidential or private data should not be stored within the Google Drive space. This would include sensitive materials related to students and staff.

Moving forward, the district could use the Google Apps for Education platform as a standard suite of applications and file storage for students throughout their academic career at Central Valley Central School. Since Google Apps for Education is web based, it is device agnostic and can be accessed throughout either a web browser or app.

The district will likely move away from desktop PC's to conduct research and create content for academic purposes. Since the equipment and OS (XP) are all outdated and are no longer supported by Microsoft (4/8/14) and the Mohawk Regional Information Center (9/1/14), the district will likely move to Chromebooks/iPads for student use outside of Lab spaces. This requires a change in purchasing focus but affords fiscal savings as the cost of these units are far less than the cost of a traditional desktop. Imaging and viruses are no longer an issue as the Chromebooks run Chrome OS with the apps centrally controlled and deployed throughout the Google Admin Dashboard via the web. Compatibility issues between flash and office are nonexistent. Chromebooks can render flash media for video. All files and documents generated in Drive can be exported in standard office formats. The biggest challenge will be the communication and training for staff in relation to understanding the differences between traditional desktop PC's, Chromebooks and cloud-based file storage.

## Technology Replacement Lifecycle Plan

All district technology must be replaced in a planned and consistent way. This has not been done in the past but the Central Valley Central School District is committed to funding the Technology Plan. Pending budget approval by the residents, the following resources will be available:

Budget Plan (3 Year Replacement Plan) – currently being developed in conjunction with Capital Project Strategic Plan

## District Implementation Goals

### Goal 1: Wireless Controller Upgrade

We currently have three EOL wireless controllers in the district managing all our wireless access points. This wireless controller has reached EOF, and any major issues would render our wireless network inoperable. This version of the controller also doesn't support new access points, essentially making it not possible to purchase future access points.

### Goal 2: Personalized Learning

The district has historically utilized a minimal replacement plan and a means of upgrading what we have as best we possibly can for technology as a means of meeting the needs of students and staff. As a result, providing consistent experiences for both students and staff alike. This has also proved to be a challenge in regards to support and service. In addition, a big part of our district has an operating system that was discontinued as of April 8, 2014. With aged equipment and a non-supported operating system, we need to replace existing computers with technology that is not only affordable, but sustainable in contrast to current and future skills. In addition, we need to incorporate Google Apps for Education (GAFE) in order to provide an environment for students and faculty alike to conduct research, create content, collaborate and curate information. We also need to provide consistent, reliable printing services when necessary for all district stakeholders.

The ubiquitous presence of mobile devices is undeniably the most commonly utilized device among students and staff. We need to embrace their presence and seek additional ways to expand and harness the affordances of these devices and incorporate them into both policy and practice. This will require an overhaul of our current policy language and inclusion of both personal and institutionally owned devices as a means to address issues in equity and access. Faculty are encouraged to implement personal devices such as iPads and Chromebooks into their instruction as a means to augment current teaching and learning. This also provides additional learning opportunities for students to utilize current and future technologies. We will encourage student utilization by modeling best practices in order to produce effective instruction with relevant tools. Classrooms will be outfitted with displays capable of providing interactive content from mobile devices in support of the educational goals associated with the district and technology mission statements. Digital connectivity, when fully realized, will allow us to create a personalized learning experience for every student no matter their economic background.

## Goal 3: Improve Equitable Access to Technology for Students with Disabilities

The needs of students with disabilities will be addressed to ensure equitable access to instruction, materials, and assessments. During meetings of the Committee on Special Education, the needs of students who receive services in both general and special education classrooms for a universal design for learning, assistive technology, and assessable instructional materials are considered, determined, and written into their Individualized Education Plans. The Committee on Special Education, in conjunction with the District Technology Committee will research new resources and professional development opportunities regarding assistive technologies. This information will be shared with the full faculty during professional development opportunities.

During meetings of the Committee on Preschool and Special Education, the assistive technology needs of students who receive services in both general and special education classrooms, whether they are placed at Central Valley Central School District, at Herkimer BOCES or another approved program, or in a non-public school by their parents will be considered, determined and written into their Individualized Education Plans. The Committee on Special Education, in conjunction with the District Technology Committee will research new resources and professional development opportunities regarding assistive technologies. This information will be shared with the full faculty during professional development opportunities.

## Goal 4: Enhance Faculty/Staff Technology Skills

Training for faculty, students and staff will be crucial as an updated network infrastructure, new computer equipment, Google Apps for Education and printers are purchased and installed. Support will be necessary to update and integrate these technologies into pedagogical applications. Trainings will need to be developed, delivered and supported throughout the learning process. Trainings need to focus upon the 21st Century Skills which include: New applications, resources and best practices to be identify and deliver in multiple formats throughout the year. Providing training opportunities will foster the need for curricular development in which to apply these new tools in meaningful ways. We need to look at how we are currently using existing district time in which to provide additional opportunities for faculty to collaborate and enhance curriculum. We need to partner with MORIC and communicate our needs and upcoming Model Schools trainings and workshops.

| Topic | Audience | Method of Delivery |
|---|---|---|
| Google Apps for Education | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| iReady | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Personalized Learning including Blended and Online Learning | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Smart Notebook | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Assistive Technologies | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Microsoft Office | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| New Teacher Induction | Teachers, Staff, and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Flipped Classroom | Teachers and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |
| Curriculum Writing | Teachers and/or Administrators | Face-to-Face; Blended Learning; Peer-to-Peer; Webinars; |

## Goal 5: Update Existing Technology Polices

As technology continues to become more integral in the delivery, assessment and communication of the educational process, the policies which outline and govern the use of technology needs to be updated. Technology is a dynamic and amorphous necessity. The needs which currently exist will not be the same in the future. Our policies need to clearly outline expectations of use, but also be flexible enough to adapt and incorporate new technologies.

## Instructional Technology Plan Implementation

| Dates | Actions | Desired Outcomes |
|---|---|---|
| Summer 2015 | • Replace teacher laptops<br>• Install HS Computer Lab for Computer Science Sequence<br>• Summer technology workshops<br>• Install and setup additional Chromebooks, iPads and laptops | • Replace antiquated classroom technology based on life cycle district replacement plan.<br>• Build mobile carts to begin equipping all buildings with technology that is mobile.<br>• Begin the initiative to provide a personalized learning experience for each and every child.<br>• Continue promotion of technology integration based on district priorities such as Google classroom, Smart Notebook, Castle Learning, iReady and formative assessment tools. |
| Summer 2015-Fall 2015 | At Central Valley Academy<br>• Upgrade District Wireless Controller<br>• Add Security features to Wireless<br>• Implement Radius Authentication | • A more secure wireless infrastructure, with a 3 to 1 device/user coverage<br>• Create the infrastructure to provide a personalized learning experience. |

| | • Increase and Upgrade Access Points | |
|---|---|---|
| Fall 2015-Spring 2016 | • Technology workshops | • Support the growth of wireless connectivity throughout the district<br>• Support the growth of a personalized learning experience for each and every child.<br>• Continue promotion of technology integration based on district priorities of Google classroom, Smart Notebook, Castle Learning, iReady and formative assessment tools |
| Winter 2015-Spring 2016 | At Fisher and Barringer Elementary Schools<br>• Add Security features to Wireless<br>• Increase and Upgrade Access Points | • A much more secure wireless infrastructure, with a 2 to 1 user/device coverage<br>• Create the infrastructure to provide a personalized learning experience. |
| Spring 2016 | • Technology workshops<br>• Create and finalize District BYOD and 1:1 Policies | • Support the growth of a personalized learning experience.<br>• Continue promotion of technology integration based on district priorities.<br>• Allow for staff and students to use their personal devices in the district for educational purposes. |
| Summer 2016 | • Replace desktops, laptops, iPads, etc.<br>• Install some video endpoints.<br>• Summer technology workshops<br>• Install and setup additional Chromebooks, iPads and laptops<br>• Begin transition to centralized printing.<br>At Jarvis MS<br>• Increase and Upgrade Access Points | • Replace antiquated classroom technology based on life cycle district replacement plan.<br>• Build mobile carts to begin equipping all buildings with technology that is mobile.<br>• Continue promotion of technology integration based on district priorities.<br>• A more secure wireless infrastructure, with a 3 to 1 user/device coverage<br>• Create the infrastructure to provide a personalized learning experience. |
| Fall 2016 | Begin 1:1 initiative<br>• Provide individual devices to students aligned with curriculum | • Students able to learn anytime and anywhere regardless of means. Teachers becoming turnkey trainers to expand personalized learning. |
| Fall 2016-Spring 2017 | • Technology workshops | • Support the growth of a personalized learning experience.<br>• Continue promotion of technology integration based on district priorities. |
| Summer 2017 | • Replace desktops, laptops, iPads, etc.<br>• Install additional video endpoints.<br>• Summer technology workshops | • Replace antiquated classroom technology based on life cycle district replacement plan.<br>• Continue promotion of technology integration based on district priorities. |

| Fall 2017-Spring 2018 | • Technology workshops | • Support the growth of a personalized learning experience.<br>• Continue promotion of technology integration based on district priorities. |
|---|---|---|
| Summer 2018 | • Replace desktops, laptops, iPads, etc.<br>• Install additional video endpoints.<br>• Summer technology workshops<br>• Complete transition to centralized printing. | • Replace antiquated classroom technology based on life cycle district replacement plan.<br>• Continue promotion of technology integration based on district priorities. |

## Technology Standards - ISTE

| | |
|---|---|
| Students | http://www.iste.org/standards/iste-standards/standards-for-students |
| Teachers | http://www.iste.org/standards/iste-standards/standards-for-teachers |
| Administrators | http://www.iste.org/standards/iste-standards/standards-for-administrators |
| Coaches | http://www.iste.org/standards/iste-standards/standards-for-coaches |

Computer Science Educators  http://www.iste.org/standards/iste-standards/standards-for-computer-science-educators

## Technology Plan Evaluation Process

An important component in the development of the Central Valley Central School District Technology Plan is the evaluation and assessment of Technology Plan. This process will be both formal and informal.  Feedback and suggestions will continuously be solicited from building technology committees and all stakeholder groups. Data collected through various evaluation processes will be compared to this document. As an example, bi-annual assessment of the yearly goals will be developed and electronically distributed to all stakeholders. This will take place after the second marking period and at the end of the year. The developed survey will include questions focused upon the planned technology goals for the given year. Questions will also focus upon how well each goal was implemented, how faculty use of technology in teaching and learning and ways in which to improve. This information would then serve as a feedback mechanism for the District Technology Committee to assess and make revisions accordingly.

| Survey given at end of second marking period | Distribute survey link to staff, and give appropriate time to complete survey. Go over survey results with District Technology team, and advise building level technology team on goals, directions, and obtained feedback | Outcome would be to review results, assess goals, and make adjustments for the following marking period. |
|---|---|---|
| Survey given at the end of the year | Distribute survey link to staff, and give appropriate time to complete survey. Go over survey results with District Technology team,and advise building level technology team on goals, directions, and obtained feedback. | Outcome would be to review results, assess goals, and make adjustments for the following marking period. |