Five Year Technology Plan
2013-2018

Prepared for: Herkimer CSD
Prepared by: Jim LaVere, Educational Technology Coordinator
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Herkimer Central School District

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DISTRICT MISSION STATEMENT

The mission of the Herkimer Central School District is to successfully carry out the educational tenets of our philosophy by providing:

- An atmosphere conducive to learning which is at once both challenging and secure
- A variety of curricular opportunities in an organized structured manner
- 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
- An educationally sound system of evaluation and assessment
- To secure this mission of the District is committed to use, support, and enhance the professional expertise of all staff

EDUCATIONAL TECHNOLOGY MISSION STATEMENT

To meet the requirements set forth by state and federal agencies, in addition to the instructional technology mission statement, the Herkimer Central School District will provide cost-effective technologies, which will empower all students to learn and support student academic achievement. This would include preparing our students to be life-long learners who are responsible citizens prepared 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:

- Empower students and employees by integrating technology into the daily teaching and learning process
- Address the instructional needs of all students through the use of technology and enhance learning
- Use technology to motivate and inspire students to learn
- Prepare students with the skills to master the latest technology
- Through the use of technology, assist with preparing our students to be life-long learners who are responsible citizens prepared to enter the global society
- Provide technology in a Cost-effective manner
- Assure that all students, faculty and staff will be provided with and have equal access to minimum standards of hardware and software

To ensure the success of the Instructional Technology Plan, the District uses the District Mission Statement along with the New York State Learning Standards, the No Child Left Behind Act (NCLB), International Society for Technology in Education (ISTE) National Education Technology Standards for Students (NETS-S), Partnership for 21st Century Skills and the Child Internet Protection Act (CIPA) as guiding principals.

PURPOSE OF THE EDUCATIONAL TECHNOLOGY PLAN

The intent of the instructional technology plan is to meet the instructional needs of students and develop strong computer research skills and practices. The instructional technology plan also reflects the district's mission statement and goals within the following outline:

- Reinforces technology integration into the pedagogical practices across all grade levels
- Identifies professional development needs and planning to equip faculty
- Recognizes technical skill sets to ensure student success in both pre and post graduation
- Explore and evaluate emerging technologies as they apply to pedagogy
- Develop an ongoing replacement plan to renew aged and expired equipment within budgetary and logistical considerations
- Establish a lifecycle replacement and renewal plan for hardware, software and related devices

REQUIREMENTS FOR EFFECTIVE IMPLEMENTATION OF DISTRICT TECHNOLOGY

As updates and advancements in technology continue to become accelerated in development and deployment, the repercussions they have upon existing devices and classroom utilizations are equal in parallel. The district needs to be responsive to these changes in both preventative and proactive measures.
The district is then committed to:

- Shared Vision: Technology team members will serve as proactive leaders in the development of a shared vision for the implementation of educational technology among all education stakeholders.
- Empowered Leaders: Technology team members are vested stakeholders that will be empowered to become change agents in the development of what authentic learning looks like across the district
- Strategic Planning and Implementation: Technology team members will cooperatively and collaboratively develop a systemic plan for educational technology implementation. This plan will be closely aligned to the shared vision for school effectiveness and student learning (ISTE) through the infusion of information and communication technologies (ICT) and digital learning resources

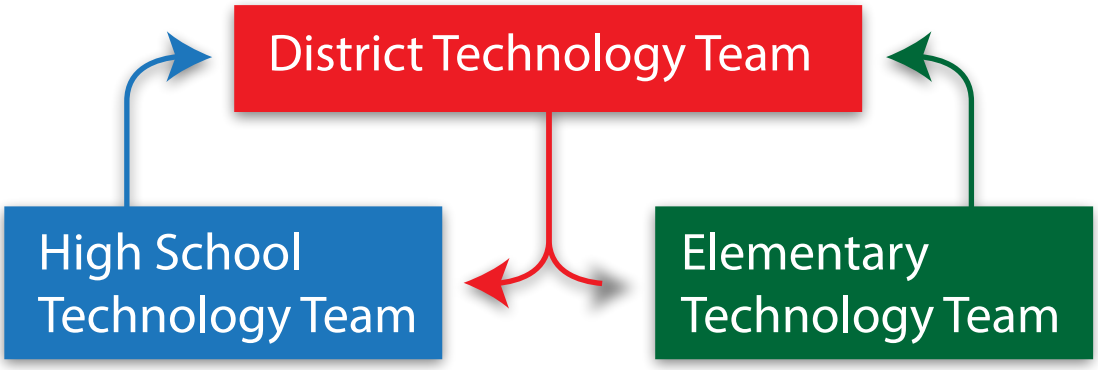
- Planning for Consistent and Adequate Funding: Explore options for potential sources of existing and potential sources of funding to support technology purchases, training and infrastructure.
- Technical Literacy Skills: Ensuring that stakeholders are provided with opportunities to become proficient in the in the selection of and effective use of appropriate technology resources (ICT)
- Ongoing Professional Development: Promotion and practice of continual technology-related professional development opportunities with the expectation of dedicated time to practice and share ideas
- Technical Support: Consistent and reliable assistance for maintaining, renewing, and using existing and emerging technologies and digital learning resources (ICT)
- Curriculum Frameworks: Curricular content standards and related digital curriculum resources will be aligned to support 21st century skills
- Student-Centered Learning: Curricular planning, teaching, and assessment will be centered around the needs and abilities of students
- Assessment and Evaluation: Curricular content will be continuously assessed with the integration of both learning and for learning, and evaluation of the use of digital resources (ICT)
- Engaged Communities: Encourage partnerships and collaboration with professional communities to support the use of and digital learning resources (ICT)
- District and External Policies: All district policies, financial plans, accountability measures, and incentive structures will reflect the support and use of other digital resources for learning and in district school operations (ICT).
- External Policies, Initiatives and Regulations: All policies, initiatives and regulations at the national, regional, and local levels to support schools and teacher preparation programs with the effective implementation of technology for achieving curriculum and learning technology standards (ICT)

TECHNOLOGY **COMMITTEES**

Technology committees at Herkimer Central School have historically been conducted at the building level. Both Elementary and Junior High School buildings have their own committees in which the building principal and educational technology coordinator co-lead each building meeting. Each building team contains member representation of all grade, department and content areas. In addition to having building meetings, a district level committee has been created. The district level team is composed of both building principals, educational technology coordinator and selected members of each building level team. The district technology coordinator leads the district team. The objective of the district technology team is to address the needs of the district as a whole. District objective and goals would include: the vision and future direction of technology in terms of purchasing, utilization and pedagogical design.

Each building level team meets once a monthly, from September through May. Each meeting runs roughly an hour in duration. The district level technology team meets on a bi-monthly basis, running from October through June.

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. Goals are distinguished and differentiated from wants. All goals are then assessed against the district mission and technology plan.



CURRENT STATE OF TECHNOLOGY

The current state of technology at Herkimer Central School District is reflective of past budgetary allocations and prioritization. Until recently, the overall technology budget has not seen an increase in over a decade, There has also not been any formal plans for hardware lifecycle replacement with computers, Smartboards, printers and related equipment. As a result, the district has obtained a multitude of donated classroom computers, network components and related equipment through the efforts of the district audio/video computer technician.

The district audio/video computer technician took the task of obtaining donated equipment upon himself due to a vacancy of a district technology administrator (Coordinator). Through these donations of technology, short-term needs were met. However, these donations being limited in quantity results in a non-standard make and model of classroom computer in terms of hardware. 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.

Last year the district was required to report all computer lab testing spaces to the space to assess computerized testing abilities. The locations included: both building library spaces, all computer labs (102, 122, 203, 205, 207, and B1). All of which passed the minimum requirements, yet all did not pass the recommended requirements. As of April 8th, 2014, Microsoft will no longer support Windows XP as a viable operating system. Windows XP is the primary operating system on faculty and student computers.

There are multiple network connection issues in both the Elementary and High School buildings, which are related to outdated network switches and cabling issues. The network switches alone are fourteen years old, and should have been replaced several years ago. Wi-Fi is functioning throughout the district, however the access points are outdated and restrict the flow of data to 54 mbs (Megabits per Second). The current standards of Wi-Fi access point through put is 300-500 + mbs (Megabits per Second).

With very limited funding and support (district) in contrast to rapidly expanding need to increase access to technology for mandated testing and college/career readiness, the district is in severe need of a technology overhaul. During the summer of 2013 fifteen network switches were updated, in addition to installing two new wireless controllers. Three network closets were completely redone, organized and rewired. Two of which were at the elementary and one at the high school building. This move allowed us to move forward, yet twenty-five network switches remain to be replaced. All wireless access points also needy to be updated and expanded to ensure building coverage and wireless saturation.

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 such as the iMac. The need for these units is dependent upon the intended outcomes of the user. Desktops will be utilizing in specific spaces that call for their use such as offices and lab spaces. I see portable and mobile units as the primary tool for student use in classrooms and specific settings. I would like to move away from Windows as our primary platform for student and staff member alike, and migrate to the Macintosh platform. There are specific cases which require Windows in order to run and can be accommodated by stand-alone Windows systems or by virtualizing the Windows environment within the Macintosh OS. The district needs to retain the Windows platform for office staff, Macintosh for faculty and lab spaces, iOS for iPad units and possibly the inclusion Chrome OS for Chromebooks.

SOFTWARE

Software subscriptions, specialized titles and onboard platform specific applications need to be identified and communicated as available toolsets. 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. The district needs to identify a single 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 Libre Office or 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 need to be updated. There are many classrooms outfitted with Smartboards and there are also many without. There are also four classroom spaces that have been outfitted with a large flat panel display and Apple TV's to provide wireless mirroring of content. As the district moves forward, the need for both interactive whiteboards and wireless projection systems still exist. Learning spaces need to be outfitted with updated technology and configurations which allow adaptability to classroom 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.

MOBILITY

The ubiquitous presence of mobile devices is undeniably the most commonly utilized device among students and staff. The district needs to embrace their presence and seek additional ways to harness the affordances of these devices and incorporate them into both policy and practice. This will require an overhaul of current policy language and inclusion of both personal and institutionally owned devices. By providing opportunities for students and staff to utilize devices both privately and institutionally owned will address issues in equity and access. Faculty are encouraged to implement iPads into their instruction as a means to augment current teaching and learning, in addition to providing additional learning opportunities for students to utilize current and future technologies. The district needs 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 to communicating content from mobile deices in support of the educational goals associated with the district and technology mission statements.

PRINTING

In regards to printing across the district, the district needs to move to a centralized printing model. Currently there are a combination of printer types, ranging from ink, solid ink and toner based units. By standardizing on one printer model in the classroom spaces, ordering supplies will be simpler and the consumable parts will be interchangeable. This change will result in a reduction of available printers within the district, and place a single printer within each grade level in the elementary and department at the grade 7-12 levels and lab spaces. In isolated cases, the need for office printing will need to 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 also needs to be incorporated into the existing infrastructure. By acquiring xPrintServer boxes and plugging them into our existing network switches, mobile device printing will be available for all users.

PROFESSIONAL DEVELOPMENT

Faculty needs to be seen as knowledgeable practitioners and positive models of technology utilization. With many new changes in policy and regulations e need to account for their needs in relation to the content, curriculum and students they serve. Faculty needs 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. Internal offering needs will be recognized and trainers identified. Idea sharing and internal collaborations need to be encouraged across the curriculum and district. By utilizing updated equipment (mobile, portable and varied platforms) the district broadens student learning experiences and offer diverse learning opportunities that prepare them for a greater success. Faculty needs to feel confident with these tools and adapt existing curriculum to reflect these updates.

DISTRICT TECHNOLOGY **BUDGET**

Current Budget Allotments

The following amounts reflect the current 2013-2014 year allotment to the Technology department, covering the entire district. Please note that in the hardware line that $22,000 is allocated for direct vendor purchases and $60,000 is allocated for BOCES purchases, of which 20% is aided by the state. The software budget is roughly $15,000, which covers software subscriptions, which leaves $21,500 for supplies. Supplies would be defines as ink, toner, and peripheral equipment (e.g. mice, headsets, hard drives, cables, etc). The multi-year through BOCES would be an annual allotment of funds to purchase classroom technology, printers, etc.

The Technology Readiness Funds (TRT) is released over a two-year period. The award amount is directly related to the TRT computer readiness assessment tool that was used to evaluate, record and report the all lab computers to the state. The report evaluation criteria are broken into two categories: minimum specifications and recommended specifications. The lab spaces all passed the minimum specifications, but did failed to pass the recommended specifications. This funding is to be used to address the recommended computer specifications. Since the computers are quite old, the district needs to replace these units in addition to other related components. (e.g. Cluster Computers, Projection Systems, Servers, etc)

Description	Quantity	Unit Price	Cost
Hardware (District) *22K Vendor, 60K BOCES	1	$ 82,000	$ 82,000
Software & Supplies (District) *15K software, 21,5K Supplies	1	$ 36,500	$ 36,500
Multi-Year (BOCES) 2014-15 Annual	0	$ 150,000	$ 0
Technology Readiness Funds (TRT) HES $43,668		$ 43,668	
Capital Projects	TBD	TBD	TBD
Grants	TBD	TBD	TBD
Parent Teacher Association (Elementary) ($15K)	TBD	TBD	TBD
Total			**$ 118,500**

With limited available funding, any future technology purchase needs to be incorporated into a lifecycle replacement plan. This would include, desktop computers, laptops computers, tablets, displays, projectors, printers and interactive display setups. By establishing a lifecycle replacement plan, the district can better plan for and anticipate additional equipment and budgetary increases. An additional consideration would be to alternate

building upgrades each year for multiyear purchases. That way each building can receive updated equipment and reinforce standard devices for both faculty and students.

GOOGLE APPS FOR EDUCATION AND **SOFTWARE INFRASTRUCTURE**

As of January 2014, Herkimer 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. 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. The district is able to migrate the current email system and contacts to Gmail. The district will need to have email archiving in place to be compliant with FOIL. This can be accomplished by current services offered through the Mohawk Regional Information Center.

Each user is not restricted to storage space in Drive, however the district or “Domain” is limited to 100 GB. If files are created or generated within the Google Drive space, the file sizes generated with the associated files does not count against the 100 GB. If files are uploaded into Google Drive, their file sizes will count against the 100 GB. (i.e. Word files, PDF’s, images, etc). At this time, the technology committee does not recommend confidential or private data is stored within the Google Drive space. This would include sensitive materials related to students, staff evaluations, etc. Student files, projects, and lessons I do not see in this same light. Yet there intellectual efforts are equal value, just not to the same extent in regards to security.

Moving forward, the technology committee views the district using the Google Apps for Education platform as a standard suite of applications and file storage throughout their academic career at Herkimer Central School. Since Google Apps for Education is web based, it makes no difference what device and platform is used. Google Apps for Education can be accessed throughout either a web browser or app (iOS, etc). The move to Google Apps for Education is a shift not only in file access and workflow, but a shift in the mindset of how the district creates, communicates and shares content.

The technology committee envisions the district moving 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), a need for more flexible and reliable hardware and software exists. For the 2014-15 school year the technology department is ordering 150 14” HP Chromebooks, which will be stored in five carts for use in the Junior High School Building. The cost of the units is far less than the cost of a traditional desktop. Imaging and viruses are no longer an issue as the Chromebooks run Chrome OS and the apps are 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 I see is communication and training in relation to understanding the differences between traditional desktop PC's, chrome books and cloud-based file storage. It would behoove the district to obtain insurance on all mobile and portable technologies (i.e. iPads, MacBook Pros, Chromebooks, and various Laptops) in the event of theft or damage should occur.

The district currently utilizes Novell for user authentication for all district computers. Novell uses eDirectory services as a means of user authentication. eDirectory does have its imitations in regards to third party application compatibility and even less information technology management abilities in contrast to current and future trends of educational technology. With that said, the technology department recommends that Herkimer Central Schools move to Microsoft's Active Directory authentication services in the 2015-2016 school year. Microsoft's Active Directory will improve information technology management through enhanced capability and compliance with third party applications.

TECHNOLOGY **REPLACEMENT LIFECYCLE PLAN**

All district technology needs to be replaced in a planned and consistent way. In regards to limited budget allotments and logistical constraints for equipment installation and deployment, the district will need rollout equipment in waves. Through the wave or staggered installation method, equipment can be received, configured and installed with minimal disruption to the educational process. With the maximum allotment of funding available (district funds and multiyear monies) the district will not have enough to cover the needs of the entire district. The technology department recommends focusing upon each building every other year beginning with the Junior and Senior High School Building for the 2014-2015 school year. However in the cases of printers and other peripheral equipment, these items can be folded into the yearly plan regards of location, due to lower cost and need for consistency.

As a standard, all computers need to be replacement every four years. All printers, projectors and peripheral equipment need to be replaced every three years. All projection and interactive units need to be replaced every five years. In the case where an Apple TV is being utilized, the Apple TV media hub and possibly the AirPort need to be replaced as needed.

DISTRICT **IMPLEMENTATION GOALS**

Goal 1: Update Network Infrastructure and Expansion of Wireless Coverage

During the last building project fifteen switches were installed to replace aged components, twenty-five switches still remain throughout the district. Both core switches were replaced, in addition to installing two new wireless controllers, which enabled use of the existing wireless access points. While the access points are were not used until the 2013-14 school year, they were purchased and installed years prior. All access points should be replaced and expanded to ensure wireless coverage for increased use. The current network authentication system is Novell, which uses eDirectory services. This too should be replaced with Active Directory in order to compatible with current and future systems which span computer use, imaging, access and security, in addition to printing services.

Action Steps:

- Conduct a network analysis of current network infrastructure: 2013-14 School Year
- Identify necessary equipment and components to upgrade existing systems: 2013-14 School Year
- Purchase and install network upgrades: 2014-15 School Year
- Purchase and install Active Directory system: 2015-16 School Year

Goal 2: Improve Access to Technology for both Students and Staff

The district has historically utilized donated computer 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, the main operating system that has been the standard environment is being discontinued as of April 8, 2014. With aged equipment and a soon-to-be non-supported operating system, the district needs to replace existing computers with technology that is not only affordable, but also sustainable in contrast to current and future skills. In addition, the district needs 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. The district also needs to provide consistent, reliable printing services for all district stakeholders.

Action Steps:

- Research computing options in contrast to available funding, needs and 21st century skills: 2013-14 School Year
- Identify, purchase and deploy equipment: Summer 2014
- Provide training for students and faculty: Late Spring 2014 (Faculty), Fall 2014 (Students)
- Purchase and install standard monochrome and color printers: Summer 2014

Goal 3: Enhance Faculty Technology Skills

After providing faculty, students and staff with an updated and expanded network infrastructure, new computer equipment, Google Apps for Education and printers. Support will be needed to updated 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 will need to be identified and delivered 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. The district needs to assess how they are currently using existing district time in which to provide additional opportunities for faculty to collaborate and enhance curriculum. The district needs to partner with MORIC and communicate our needs and upcoming Model Schools Program trainings and workshops.

Action Steps:

- Identify training topics and develop trainings for staff: Late Spring - Summer 2014, On-Going
- Schedule trainings and staff development days for upcoming school year: Late Spring - Summer 2014, On-Going
- Identify and communicate training offerings that include internal and external resources: Late Spring 2014 (Faculty), Fall 2014 (Students), On-Going

Goal 4: 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.

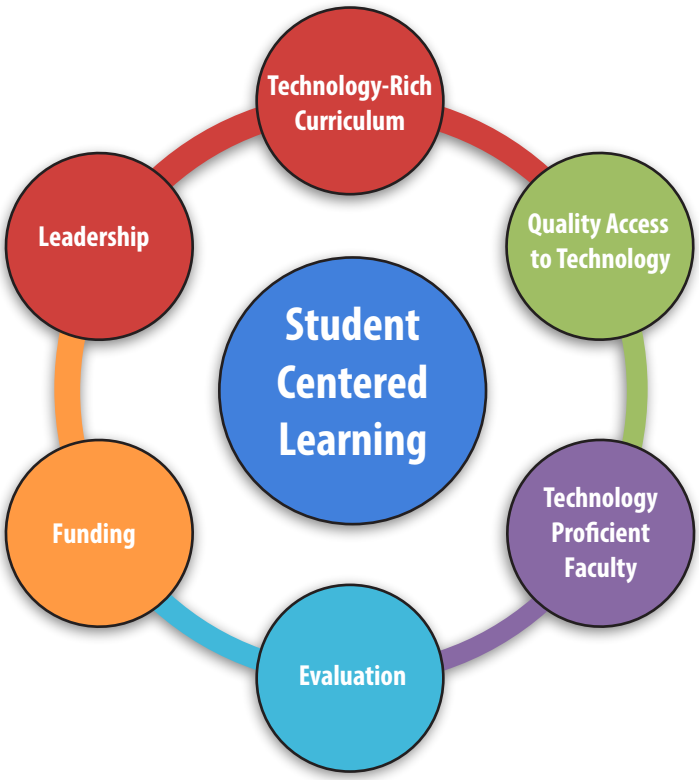
Action Steps:

- Identify training topics and develop trainings for staff: Late Spring - Summer 2014, On-Going
- Schedule trainings and staff development days for upcoming school year: Late Spring - Summer 2014, On-Going
- Identify and communicate training offerings that include internal and external resources: Late Spring 2014 (Faculty), Fall 2014 (Students), On-Going

STUDENT CENTERED **LEARNING**

Student-centered teaching methods shift the focus of activity from the teacher to the learners. These methods include active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class; cooperative learning, in which students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability; and inductive teaching and learning, in which students are first presented with challenges (questions or problems) and learn the course material in the context of addressing the challenges. Inductive methods include inquiry-based learning, case-based instruction, problem-based learning, project-based learning, discovery learning, and just-in-time teaching. Student-centered methods have repeatedly been shown to be superior to the traditional teacher-centered approach to instruction, a conclusion that applies whether the assessed outcome is short-term mastery, long-term retention, or depth of understanding of course material, acquisition of critical thinking or creative problem-solving skills, formation of positive attitudes toward the subject being taught, or level of confidence in knowledge or skills. (Dr. Richard Felder,)

The following diagram is designed to focus district instructional technology around the student.



Leadership - Modeling both the expectation and practice needs to start at the top. District administration needs to united and consistent in their utilization of technology. Technology utilization would include but not be limited to: communication, collaboration, presentation and a productivity tool. Leadership in this case is action relative to position, regardless of building location.

Technology-Rich Curriculum - Technology utilization within the curriculum needs to be transparent. Technology should not replace classroom instruction, but augment what currently occurs and foster ways in which to deepen student learning and engagement. Curriculum should not be written around a specific tool, but should incorporate the affordances that each tool offers. That way as technology continues to advance, the curriculum is not limited to a specific technology.

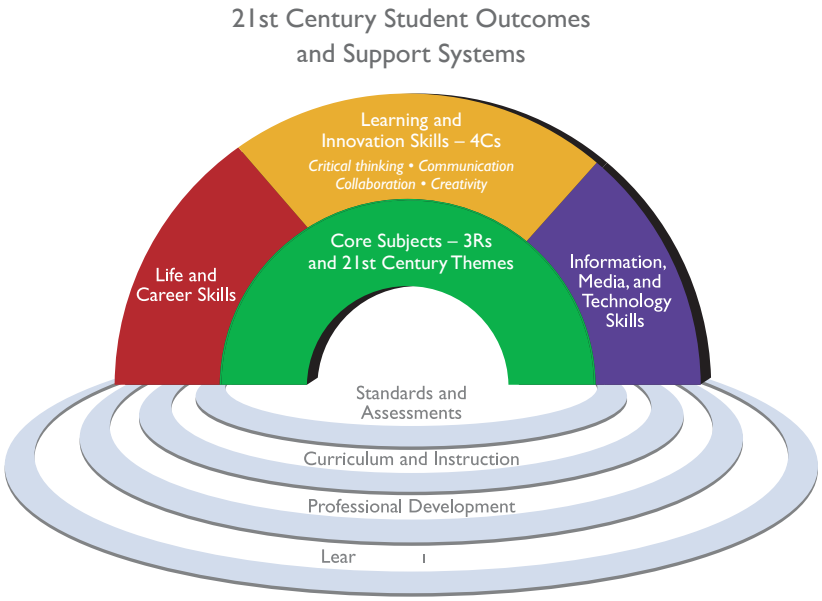
Quality Access to Technology - Students should not be taken to a location to have access technology. Technology is not a destination, but rather a means in which users are able to perform specific tasks, create content and collaborate on projects. Technology should be readily available within classrooms in addition to specific labs and mobile carts. All technology access and activities need to be driven by the classroom teacher. Through a technology-rich curriculum, students should be provided with activities utilizing technology.

Technology Proficient Teacher - Having technically a proficient faculty is essential to the success of an educational institution. Faculty needs to be confident with the tools readily available and need opportunities to grow professionally. Students are naturally drawn to technology; the district needs to provide support to faculty in regards to professional development opportunities both within and outside of the district. By providing consistent and diverse training opportunities, faculty will readily incorporate technology into the everyday classroom practices and curriculum.

Evaluation - A new technologies become available, the district needs to be cognizant of the opportunities and challenges they present in education. Both the building and district technology teams need to identify new technologies and develop an evaluation system in which the district could look at incorporating. Currently utilized tools need to be communicated and evaluated in terms of their effectiveness. In addition, if current toolsets are not deemed effective for either classroom or budgetary concerns, alternative solutions need to be identified and tested.

Funding - As faculty and curriculum become more dependent upon technology, the district needs to be able to maintain a stable level of support and develop a lifecycle replacement plan. Securing technology for current and projected needs are projected to increase as classrooms continue to adopt and expand existing units. With expansion in mind, the district needs to increase current budget allotments for technology and in addition to seek out other sources of funding to expand current purchasing.

21ST CENTURY **SKILLS**



Learning and Innovation Skills

Learning and innovation skills are what separate students who are prepared for increasingly complex life and work environments in today's world and those who are not. They include:

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

Information, Media and Technology Skills

Our culture today lives in a technology and media-driven environment, marked by access to an abundance of information, rapid changes in technology tools and the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers must be able to exhibit a range of functional and critical thinking skills, such as:

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

Life and Career Skills

Today's life and work environments require far more than thinking skills and content knowledge. The ability to navigate the complex life and work environments in the globally competitive information age requires students to pay rigorous attention to developing adequate life and career skills, such as:

- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

Core Subjects and 21st Century Themes

Mastery of core subjects and 21st century themes is essential to student success. Core subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into core subjects:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

FACULTY **PROFESSIONAL DEVELOPMENT PLAN**

Diverse and effective professional development opportunities for faculty and staff need to be continually offered. Offerings are currently available by both internal and external stakeholders. Members of the technology team have developed specific trainings to meet the needs of the HCSD community. Members of the Model Schools team from MORIC have also provided both in-person and virtual training sessions. All trainings have occurred during the school day, after school, superintendents days and over summer break.

Herkimer Central school district realizes that the ability to effectively use technology is essential for success in the world today. To meet this reality, HCSD will provide safe and equitable access to digital tools as an integral part of the learning and work environment.

Accordingly, staff will use technology to:

- Access and evaluate a variety of information resources
- Explore content in engaging ways
- Inspire creativity, productivity and innovation
- Communicate and collaborate
- Extend learning beyond the classroom and workplace
- Contribute to society as responsible digital citizens

STUDENT **EXPECTATIONS AND OUTCOMES**

Students at all grade levels will be provided with dynamic learning opportunities. Students will be exposed to a variety of technologies that will equip them with skills that be cumulative. Their newly acquired skillets will not only meet their immediate needs, but will enable them to grow throughout their academic experience at Herkimer.

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- Extend learning beyond the classroom and workplace

- Contribute to society as responsible digital citizens

TECHNOLOGY PLAN **EVALUATION PROCESS**

An important component in the development of the Herkimer Central School District Technology Plan is an annual assessment of the yearly goals. The District Technology Team proposes that at the end of each year a survey be developed and electronically distributed to district stakeholders. The developed survey would 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 Team to assess and make necessary adjustments for the following year. The District Technology Team can then best advise the building level teams in regards to goals, directions and obtain feedback. With surveys being completed each year, the District Technology Team can better track goal implementation make better judgments for the future.

TECHNOLOGY **POLICIES**

All district policies including technology, are located on the MOBOCES servers. Click this link to access all board of education approved policies.

http://www.moboces.org/districtpolicies/?public=herkimer

REFERENCES

Child Internet Protection Act
http://www.fcc.gov/guides/childrens-internet-protection-act

Framework for 21st Century Learning
http://www.p21.org/storage/documents/1.__p21_framework_2-pager.pdf

International Society for Technology in Education
https://www.iste.org/

National Education Technology Standards for Students
http://www.iste.org/standards/standards-for-students

New York State Learning Standards
http://www.p12.nysed.gov/ciai/standards.html

No Child Left Behind Act
http://www2.ed.gov/nclb/landing.jhtml

Student-Centered Teaching and Learning - Dr. Richard Felder
http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Student-Centered.html