Pathway
To the Future

Technology Plan

2016 - 2019

Moravia Central School District

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District Overview:

The Moravia Central School District is comprised of three schools: Millard Fillmore Elementary School, Moravia Middle School and Moravia Central High School. It primarily serves the towns of Moravia, Locke, Niles, Sempronius, and New Hope. At this time, 461 students attend the K – 5 Elementary School, 214 students attend the 6 – 8 Middle School, and 292 students attend the 9 – 12 High School.

Our District is centrally located in the midst of the New York Finger Lakes. The District is primarily rural with a strong agricultural base. The District is funded over 50% by state aid.

Mission:

The mission of the educational community of Moravia is to provide all students with a high level of academic skills and to prepare them for lives of vision and consequence in the 21st century. We will provide a positive learning environment, challenging each individual to cultivate the highest traits which are distinctly human: reason, creativity, curiosity, and compassion. This community is committed to:

- Enhancing the intellectual, social, emotional and physical well-being of each student.
- Providing each student with a solid base of knowledge and the skills needed for further inquiry and participation in a global society.
- Preparing each student to confidently address inevitable change.
- Teaching the methods of maintaining peaceful and humane relationships with the world's inhabitants.
- Fostering responsible, effective and creative communication.
- Maintaining a program and environment that draws out the artist, musician and poet in each student.

The staff, Board of Education, students, parents and community share the responsibility for this mission.

Technology Support:

Moravia Central School District is committed to the use of digital resources and information technology to improve curriculum, library services, and the efficiency of school administration to promote student learning. We believe that technology enables easy access for addressing multiple learning styles, varied intellectual abilities and individual socio-economic resources.

We will continue to add and update, computers, hardware, and software at all levels. In addition, we will continue to upgrade our infrastructure to support the increased demands of the digital age. With evolving student and teacher needs, there will be a continued need for innovative technology support including hardware, software, technicians, and integration specialists.

2016-2019 Action Steps:

Curriculum: Teachers will be expected to build lessons which contain effective technology integration throughout their curriculum. Data will monitor how students learn, practice and demonstrate their level of technology skills.

Action Steps:

- ➢ Develop a new technology skills grid and assessment criteria for skill development at all grade levels.
- ➢ Explore options for flexible workspaces for the classroom learning environment.
- ➢ Ensure that all teachers have a digital presence on the district web site. Teachers will be supported and encouraged to use web pages or a Learning Management Tool (Brainhoney, Google Classroom) as part of classroom instruction, and to support learning outside of the school day.
- ➢ Share technology resources through grade level/content area web pages, email conferences and shared folders.
- ➢ Promote the use of video-conferencing, virtual field trips and distance learning through online learning opportunities within and outside the district.
- ➢ Increase the use of digital content through:
  - Maintenance of instructional computer resources
  - Use of electronic textbook resources
  - District supported web pages
  - Instructional use of shared folders and sharing tools such as Google docs etc.
  - Education of students on the use of online resources and accepted computer usage practices
  - Enhanced partnerships with Cayuga-Onondaga BOCES, and local libraries to increase technology access and resources for students

Staff Development: As we increase District use of technology learning opportunities, staff at all levels will need training, practice and support in building their personal technology competencies. The District has hired a Technology Integration Specialist to facilitate the integrated use of technology throughout our system. We are committed to supporting this initiative.

Action Steps:

- ➢ Encourage, train and support teachers in using electronic resources in their instruction (subscription databases, digital books, Learning management systems (Brainhoney,Google Classroom)
- ➢ Expand teacher technology education through a technology mentor program.
- ➢ Establish core staff competencies in technology to increase the consistency of technology skills across the district.
- ➢ Identify teachers who have not integrated technology in their instruction on a regular basis. Support these teachers with ongoing, intensive, job embedded professional development for technology integration.
- ➢ Expand the role of Library Media Specialists to educate students and teachers in information literacy for the digital environment.
- ➢ Train and support administrators in identifying effective technology integration in administrative support functions to free more time for collaborative learning experiences.
- ➢ Train and support administrators in using technology so they may model its effective use and promote integration.

Administrative – The District will use technology to improve efficiency, data collection and analysis of what works to increase effectiveness and productivity at all levels.

Action Steps:

- ➢ Train and support administrators in using technology to increase their effectiveness, productivity and use of data to support teaching and learning.
- ➢ Integrate data collection to increase the efficiency of operations and improve access to data for assessment and performance improvement.
- ➢ Implement integrated inventory management to assure planning, maintenance and purchase of materials when needed.

Technology Committee:

The Moravia District Technology Committee has been tasked with advancing our Technology Goals and action-steps over the next three years. The Technology Committee is responsible for the development and implementation of the district's Long-range Technology Plan. The committee works in conjunction with all other district-wide committees to coordinate their efforts and reports to the Board of Education on a quarterly basis. This Committee has broad participation from technology users across the District and functions as intermediary between the students, teachers and School Board.

Members:
Superintendent: John P. Birmingham
Elementary Principal: Howard Seamans
Middle School Principal: Bruce MacBain
Technology Integration Specialist: John Owen
Network Administrator: Matt Hermann

Director of Special Education: Chris Fisher
Elementary School Teacher Representatives: Sandy Pardee, Kindergarten
Middle School Teacher Representatives: Kristen Kneer, 6th Grade
High School Teachers: Shannon Dunbar, Science; Scott Epperly, Math

The Technology Committee assesses and plans for the development of:

- Technology Infrastructure
- Technical Support
- Professional Development
- Curriculum Integration
- Funding
- Monitoring, Evaluating & Communicating Program Effectiveness

Vision:

Technology provides our students with access to an ever-changing world which is dependent on information. In order to participate in the technological age effectively, Moravia students must be information navigators, critical thinkers and analyzers. Integrated technology instruction, imbedded in our general curriculum will provide Moravia students and faculty with the essential skills to meet state and national learning standards. Education supplies individuals with the skills to secure information for good decision-making. Technology is a key resource in securing quality information.

- Use appropriate technology as a tool for teaching and learning.
- Promote technology as a tool for communication, creative expression, presentation, publication, analysis and problem-solving.
- Use technology to enhance communication, collaboration and project management.
- Create District policies related to technology and the guidelines for digital citizenship.

Material Gains:

Advancements in the last two years include:

- Over 200 new computer systems introduced to the district. Updated many more.
- Purchased and installed ***Promethean Activeboards*** and projectors throughout 90% of district.
- Addition of 12 network switches.
- Addition of two mobile laptop carts (25 laptops in each), two more laptop carts and laptops are purchased and being processed.
- Addition of two mobile iPad carts (25 iPads in each)
- Addition of 300 iPads for 1:1 implementation in four grade levels.
- Addition of 400 Chromebooks for 1:1 implementation in four grade levels.
- Xerox copiers placed on network to be used as a replacement for desktops printers resulting in a savings for the cost of toner and paper.
- Placed duplex units in HS computer lab and Library for additional savings of paper.
- Shared classroom laser printers in many wings of both schools, with purchase of HP laser, networked, double side printers.
- All major servers are virtual offsite with a robust backup plan.

Network Topology/Protocol:

The Moravia Central School District currently employs several different technologies to create an enterprise backbone. The backbone is a combination of Switched Ethernet (802.3) and Wireless (802.11a and 802.11g). Several subnets are created to provide a more efficient and collapsible backbone. The backbone serves approximately 12 servers, 225 workstations and 39 IP networked based security cameras. Connectivity to the Internet is provided by BOCES via a T1 connection. Interconnectivity between the elementary and high school is provided by a wireless connection. Segments or subnets have been created based upon location and function. Currently IPX/SPX and TCP/IP are the main protocols. Both provide a routable connection to file and print services as well as remote connectivity. The district has provided at least 1 home run Switched Ethernet connection to each classroom. Many classrooms at the high school have 3. In areas that contain sealed asbestos, wireless technology is used to provide a connection to the backbone. Wired closets have been created to supply a secure reliable and scalable network infrastructure. These closets include storage racks for servers as well as network products. Backup power is supplied via modular Uninterruptible Power Supplies (UPS).

Network Security:

Network security is provided by two firewall technologies. Application and packet based. The firewall product used by the Moravia Central School District is Cisco ASA5520 unit, a service supplied and maintained at CNYRIC. All connections from the backbone are routed through the firewall. Due to remote access requirements such as School Information Systems (SIS) and IEP writer, the ASA5520 also provides Network Address Translation (NAT) to create file and print access points i.e. email via copiers. Internet access is filtered via the R3000Sl server from marshal86 and located at CNYRIC maintained and backed up by the RIC, but controlled by Moravia CSD Network Admin. This is a rules based server that intercepts all HTTP and FTP requests. The intercepted traffic is analyzed. Traffic is then cached to the proxy for peek optimization of the T1 line. The cached page information is then passed on to workstations if no rule is violated. The district has installed an in-house filter to support internet safety as well.

Virus Protection:

Virus protection is provided by ***Symantec's End point Antivirus Enterprise edition software***. This software is resident on all servers and workstations. Updates are provided automatically on a daily basis.

Hardware:

The standard computer system of choice will be a PC-compatible system. The standard computer system will be the type of system for all future purchases in the Moravia Central School District. Exceptions to this guideline will be in an area where the industry standard would dictate otherwise. Those who use non-standard systems will do so with the understanding that some features available to others on school owned systems and networks may be unavailable on these non-standard systems.

In general, new computer systems purchases will be made with the following priority list in mind:

1. Upgrade to a robust infrastructure
2. General technology hardware updates based on hardware rotation
3. Expansion of 1:1 classroom iPads and tablets
4. Tablet laptops and iPads/ classroom mobile-lab expansion

Action Plan:

1. Create staff development modules to
   - Teach classroom strategies that focus on integrating technology into existing instructional plans.
   - Seek new ways to transform the teaching and learning process using technology as a critical vehicle

2. Refine existing technology competencies to include:
   - Demonstration of introductory knowledge, skills, and understanding of concepts related to technology (as described in the ***ISTE National Educational Technology Standards for Students***).
   - Integration of technology into classrooms.
   - Communicating and collaborating with colleagues.
   - Monitoring, analyzing, and adjusting instruction to meet student-specific outcomes.

3. Based on the National Educational Technology Standards for Teachers, we will identify data indicators to implement district-wide technology benchmarks for all teachers.

4. Planning and Designing Learning Environments and Experiences:

   Teachers will:

   - Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
   - Apply current research on teaching and learning with technology when planning learning environments and experiences.
   - Identify and locate technology resources and evaluate them for accuracy and suitability.

- Plan for the management of technology resources within the context of learning activities.
- Plan strategies to manage student learning in a technology-enhanced environment.

5. Teaching, Learning, and the Curriculum:
Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers will:
- Facilitate technology-enhanced experiences that address content standards and student technology standards.
- Use technology to support learner-centered strategies that address the diverse needs of students.
- Apply technology to develop student's higher-order thinking skills and creativity.
- Manage student learning activities in a technology-enhanced environment.

6. Assessment and Evaluation:
Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers will:
- Apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

7. Productivity and Professional Practice:
Teachers use technology to enhance their productivity and professional practice. Teachers will:
- Use technology resources to engage in ongoing professional development and lifelong learning.
- Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
- Apply technology to increase productivity.
- Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

8. Social, Ethical, Legal, and Human Issues:
Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply that understanding in practice. Teachers will:

- Model and teach legal and ethical practice related to technology use including academic honesty.
- Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
- Identify and use technology resources that affirm diversity.
- Promote safe and healthy use of technology resources.
- Facilitate equitable access to technology resources for all students.

Software:

The standard application package in the district is currently ***Microsoft Office version 2013 for PC*** and ***Version X for Apple***. Additional software purchases will be approved as part of the normal purchasing process. Purchase approvals will be prioritized by their alignment with curricular goals and maximizing the number of students impacted by the purchase. Building principals will be consulted in the purchase priorities of software package to determine curriculum alignment.

Under no circumstances will the district tolerate unauthorized installations of software packages. Neither students nor staff members have the legal right to install software brought from home or duplicated without proper licensing from the software publisher.

Needs Assessment:

Technical development over this next cycle will focus on application of technology skills in the classroom. The Technology Committee has been responsible for assessment over the last eight years. This committee meets quarterly to assess the technology and educational needs of the district. To date, training outside and internally has been dramatically increased. Numerous hardware and software upgrades have been implemented as per committee findings.

Staff Development/Curriculum Integration

The Moravia District is committed to supporting technology within the classroom setting. This commitment entails a continuous improvement process for building a strong technology infrastructure, ongoing technical support and investment in technology integration within the classroom.

a. Technology Integration Specialist:

The technology integration specialist is an information technology professional that is charged with assisting classroom teachers in the incorporation of technological hardware and software into lesson plans and helping teachers effectively integrate technology into the curriculum by:

· Learning the basics of using technologies

· Using technologies to support instruction
· Integrating new technologies into classroom practices
· Discovering new uses for technology tools
· Designing projects that combine multiple technologies
· Focusing on cooperative, project-based and interdisciplinary work with technology being just one of the many tools that students use.

This human resource position supports all special technology pilot projects (i.e. 1:1 iPad initiative in the elementary building and 1:1 tablet initiative in the high school). In addition, the TIS supports all teachers in the district to improve their ability to integrate technology into the teaching and learning process in their classrooms. The Technology Integration Specialist reports directly to the Superintendent of Schools and is also responsible for coordinating his efforts with each of the building principals for the programs in their buildings.

b. Network Administrator:

- Will maintain all administrative servers (e.g. District data, Student Information Systems and Finance Server).
- Will maintain the authentication server for the administrative network
- Will maintain all user accounts on the network.
- Maintains the hardware for administrative network and all administrative workstations
- Assists in providing instruction to administration staff on computers, the programs, and peripherals used at their workstations.
- Provides primary maintenance of the network hardware on the instructional network.
- Trains students and teachers on how to access accounts for terminal services.
- Provides support for upgrades of software for teachers instructional use.
- Provides the primary installation, deployment and repair of Windows workstations for teachers.
- Ensures disaster recovery procedures are in place.

d. District Technology Committee:

This committee is responsible for the development and implementation of the district's Long-range Technology Plan. The committee will work in conjunction with all other district-wide committees to coordinate their efforts. The committee is comprised of

- The Superintendent
- The Business Manager
- The Director of Special Education
- The Technology Integration Specialist
- Network Administrator

• Two representatives of each building. These members will include a diversity of faculty and administrative staff. The members of the building technology committees will be represented in this body.
• This committee will meet quarterly.

Curriculum Planning:

At Moravia, we believe that the integration of technology throughout all areas of the curriculum is a critical component of an engaged learning environment. Research consistently shows that teacher knowledge and ownership are critical factors in determining whether school technology programs achieve their desired results. Teachers should not only be introduced to the technology, but also provided with models and guidance in how to effectively integrate technology resources into their instruction. The improvement of teaching and learning is the single most important goal in our district's technology plan.

Goal:

Teachers will use technology as an instructional tool to promote student learning and achievement in all areas of study.

Currently:

Moravia Central School has created a technology curriculum team that is developing benchmarks for K-12 which is in alignment with the New York School Standards and Assessments. The committee using the National Education Technology Standards for students created a working document for teachers to integrate technology in to the current curriculum. The document is grade based benchmarks. (see appendix A)The committee will deploy the document to teachers starting in the year 2005-06. This committee will monitor the progress and make adjustments to better spread the use of technology in the district.

Action Plan:

1. Our district-wide technology committee will work closely with each building to:
   - Solicit ideas, directly from teachers, on how technology can assist their curriculum goals.
   - Identify technology skills needed to develop and share curriculum documents.

2. Monitor www.mylearningplan.com and document staff participation in professional technology development activities. This process will provide the

district with an understanding of the level of competencies and information needed to support our staff.

3. Build a stronger evaluation process. A user survey will be developed and distributed on an annual basis. The Technology Committee will review findings, identify problems and needs and make recommendations.

Training for Teachers, Administrators & Instructional Support Staff:

Moravia Central School believes that it is critical to provide teachers with the equipment, training and support to effectively use technology in their classrooms to support curriculum.

Goal:

Moravia teachers will demonstrate core competencies in using technology to facilitate student learning.

Currently:

Moravia Central School District supports integration of technology into the educational setting with staff development for all teachers. The current Curriculum Plan for the Moravia Central School District includes technology training competencies. Currently the following assists the district in reaching our goal of making technology yet another tool and resource in the classroom in order to facilitate our new way of learning.

- District Wide Technology Integration Specialist
- Technology mentor group that turn keys technology instruction
- After school mini-sessions
- Teacher Center sponsored sessions held locally
- Encouragement and support of attendance at technology conferences
- Yearly demonstration or expositions of technology already in use by our local staff
- Sample lesson plans using technology integration published and distributed in-house to facilitate others who are attempting to move in this direction.
- Contract with BOCES for technology based staff development personnel to serve as model or co-teachers in lessons where technology integration is practical
- Develop curriculum benchmarks for student technology skill attainment
- Encourage and explore the use of the virtual learning space

Evaluation:

A competency evaluation will be conducted annually to assure that each teacher meets minimum competencies in the application of technology to teaching. Areas of weakness will be addressed through a staff development plan.

Current Year (2016-2017)

- Implementation of Technology Benchmarks
- Implementation of Technology Mentor program
- Implementation of student diagnostic software
- Implementation of 7 ***Promethean ActivPanel Touch***, supporting outdated boards within the District
- Training for Technology Benchmarks
- Implementation of 1st grade iPad 1:1 initiative
- Implementation of 2nd grade iPad 1:1 initiative
- Continuation of 3rd grade iPad 1:1 initiative
- Implementation of 4th grade Chromebook 1:1 initiative
- Implementation of 5th grade Chromebook 1:1 initiative
- Implementation of 6th grade Chromebook 1:1 initiative
- Implementation of 9th grade Chromebook 1:1 initiative
- Implementation of LEGO Robotics Lab program
- Update presentation projection system at high school library
- Update presentation projection system at District Office
- Expansion of 1:1 tablet program in middle and high schools.
- Continuation of updated backbone infrastructure
- Partial renovation of Elementary Lab
- Technology Committee applies for technology grants
- Update computer equipment on an ongoing basis
- Technology support sessions
- Encourage staff attendance at Teacher Center technology trainings held locally
- Expand the usage of Polycom to encourage educational and administrative efficiencies
- Contract with BOCES for technology-based instructional development program
- Encourage and explore the use of the virtual learning space
- Upgrade telephone system throughout the district
- Annual review of faculty/staff needs-assessments for technology training
- Technology Committee review of technology throughout the buildings for the purpose of planning and reassessing our technology needs for the future.
- Annual presentation to the Board of Education
- Review and update technology plan

Year 2 (2018-2019)

- Update computer equipment on an ongoing basis
  - Continuation of Technology Mentor program
- Implementation of 3 – 5 ***Promethean ActivPanel Touch***, supporting outdated boards within the District
- Implementation of K grade iPad 1:1 initiative
- Continuation of 1st grade iPad 1:1 initiative

- Continuation of 2nd grade iPad 1:1 initiative
- Implementation of 3rd grade Chromebook 1:1 initiative
- Continuation of 4th grade Chromebook 1:1 initiative
- Continuation of 5th grade Chromebook 1:1 initiative
- Continuation of 6th grade Chromebook 1:1 initiative
- Implementation of 7th grade Chromebook 1:1 initiative
- Continuation of 9th grade Chromebook 1:1 initiative
- Implementation of 10th grade Chromebook 1:1 initiative
- Continuation of LEGO Robotics Lab program
- Expansion of 1:1 tablet program in middle and high schools.
- Continuation of updated backbone infrastructure
- Completion of Elementary Lab construction
- Expansion of Distance Learning/online learning courses and services
- Encourage staff attendance at Teacher Center technology trainings held locally
- Contract with BOCES for technology-based instructional development program
- Encourage and explore the use of the virtual learning space
- Technology support sessions
- The Technology Committee review progress of Technology Plan and reassess needs.
- Annual presentation to the Board of Education
- Review and update the technology plan

Year 3 (2019-2020)

- Update computer equipment on an ongoing basis
- Implementation of 3 – 5 ***Promethean ActivPanel Touch***, supporting outdated boards within the District
- Continuation of K grade iPad 1:1 initiative
- Continuation of 1st grade iPad 1:1 initiative
- Continuation of 2nd grade iPad 1:1 initiative
- Continuation of 3rd grade Chromebook 1:1 initiative
- Continuation of 4th grade Chromebook 1:1 initiative
- Continuation of 5th grade Chromebook 1:1 initiative
- Continuation of 6th grade Chromebook 1:1 initiative
- Continuation of 7th grade Chromebook 1:1 initiative
- Implementation of 8th grade Chromebook 1:1 initiative
- Continuation of 9th grade Chromebook 1:1 initiative
- Continuation of 10th grade Chromebook 1:1 initiative
- Implementation of 11th grade Chromebook 1:1 initiative
- Continuation of LEGO Robotics Lab program
- Review mobile labs and upgrade within middle and high school
- Update middle school lab
- Expansion of Distance Learning/online learning courses and services
- Encourage staff attendance at Teacher Center technology trainings held locally
- Contract with BOCES for technology-based instructional development program
- Encourage and explore the use of the virtual learning space

- Technology support sessions
- The Technology Committee review progress of Technology Plan and reassess needs.
- Annual presentation to the Board of Education
- Review and update the technology plan

Professional Development Initiatives:

Effective use of technology in the classroom is accomplished in several ways:

- New staff orientation on technology system resources and expectation
- Annual staff development sessions in technology use (application of current and new technologies)
- Opportunities to attend conferences and go on visitations
- BOCES and other off-campus services
- Individual support by expert colleagues
- Monthly technology professional development seminars

These opportunities ensure that our staff is continually trained and our topics are updated, evaluated, and renewed. All topics strive to match our curriculum goals and provide an instructional tie to the New York State Standards.

Action Plan:

1. Create staff development modules to:
   - Teach classroom strategies that focus on integrating the technology into their existing instructional plans.
   - Seek new ways to transform teaching and learning through technology
   - Embed technology activities into their curriculum planning and standards.
2. Develop competencies with existing and new technologies to include:
   - Maintaining a working knowledge of the current available technology.
   - Integrating technology into classroom instruction and communicating expectations to students.
   - Communicating and collaborating with colleagues.
   - Monitoring, analyzing, and adjusting instruction to meet student specific outcomes.

3. Based on the National Educational Technology Standards for Teachers, we will identify data indicators and implement district-wide technology benchmarks for all teachers.

Technology Operations and concepts:
Teachers demonstrate a sound understanding of technology operations and concepts. Teachers will:

• Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).
• Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

Planning and Designing Learning Environments and Experiences:
*Teacher*s *will plan and design effective learning environments and experiences supported by technology. Teachers will:*

- Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- Apply current research on teaching and learning with technology when planning learning environments and experiences.
- Identify and locate technology resources and evaluate them for accuracy and suitability.
- Plan for the management of technology resources within the context of learning activities.
- Plan strategies to manage student learning in a technology-enhanced environment.

Teaching, Learning, and the Curriculum:
Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers will:

- Facilitate technology-enhanced experiences that address content standards and student technology standards.
- Use technology to support learner-centered strategies that address the diverse needs of students.
- Apply technology to develop students' higher-order thinking skills and creativity.
- Manage student learning activities in a technology-enhanced environment.

Assessment and Evaluation:
Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers will:

- Apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

Productivity and Professional Practice:
Teachers use technology to enhance their productivity and professional practice. Teachers will:

- Use technology resources to engage in ongoing professional development and lifelong learning.
- Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
- Apply technology to increase productivity.
- Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

Social, Ethical, Legal, and Human Issues:
Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply that understanding in practice. Teachers will:

- Model and teach legal and ethical practice related to technology use including academic honesty.
- Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
- Identify and use technology resources that affirm diversity.
- Promote safe and healthy use of technology resources.
- Facilitate equitable access to technology resources for all students.

4. Other resources – The district will utilize other resources as required. These resources include, but are not limited to, the Cayuga – Onondaga BOCES, teacher centers, and consultants.

Support & Maintenance:

Network Administrator: contracted service from BOCES. This individual maintains all administrative servers (e.g. District data, Student Information Systems and Finance Server). This person maintains the authentication server for the Administrative network and maintains user accounts on the network. He/she also maintains the hardware for the administrative network and all administrative workstations, to include installation, deployment and repair of the equipment & software. He/she provides primary maintenance of the network hardware on the instructional network. This individual also maintains the Win 2000 Server on the instructional network as well as managing student accounts via terminal service. He/she also is the primary provider of installation, deployment and repair of Windows workstations.

Local Area Network Technical Support Specialist: contracted service from BOCES. This individual is primarily responsible for performing specialized work in the design, development and implementation of computer applications as well as local area network operating systems. He/she is responsible for installing, customizing and maintaining vendor supplied operating systems and application software.

OCM BOCES: CAYUGA ONONDAGA BOCES provides support for us in several ways. Repair and warranty service for supported hardware. This service is provided off site at the Thompson Road BOCES center. Network & Internet connectivity is provided through a T1 which gives 100 MEGS of pipeline connectivity with a 25 MEG pipe expansion. We use the School Tool Student Information System throughout the district. Our cafeteria service utilizes the Win Snap program. The Library Automation and Library Databases, Internet education learning, model schools, and distance learning services are provided by the Cayuga-Onondaga BOCES.

Alliances and Partnerships:

Our High School library is staffed after school hours for student use of the computers, internet and library resources, as well as general academic support.

Funding:

Funding for various projects of the technology plan will be derived from several sources. First of all, the general budget will support hardware and software purchased through state aid provided each year. With the consolidation of these funds into a district budget, volume purchasing is now possible on many items, thus stretching available dollars. In addition, the district continues to seek outside funding and subsidies through programs such as Universal Service Fund (e-rate), AT&T Points for Schools program, BOCES, and various grant programs. In addition, staff development funding sources will include general budget curriculum development as well as various outside funding sources intended solely for this purpose.

Category	**2014-2015**	**Source of Monies**
Software	$13,000	General Fund/ NY State Aid
Hardware	$28,000	General Fund/ NY State Aid
Professional Development	$3000	General Fund/ Grants
Internet Connectivity	$20,000	General Fund/ E-rate
Network Infrastructure	$1000	Building renovation plan
Internet Connectivity Status	100 Meg Pipeline	General Fund/ E-Rate

Moving On

As noted in our last Technology Plan, Moravia School District is now focusing on curriculum integration which is crucial to putting our available hard and software to the most effective use possible. This attention to implementation of our resources is anticipated to have strong positive outcomes.

With the recent hire of our Technology Integration Specialist, and the use of this document as a work plan for technology development, we will structure, train and evaluate staff on the integration of technology in our system. Our data collection on student outcomes will help us guide this process.

Current Inventory:

A current inventory was done for this Technology Plan and will guide us in purchasing new equipment and help in keeping technology current in the district. Included is a timeframe for acquiring new equipment.

Technology Assessment Inventory

Computers	**Labs**	**Classroom**	**Library**	**Admin**	**Other**	**Planned Purchases Year 1**	**Year 2**	**Year 3**
Desktop	95	100	27	12	8	30	50	50
Laptop		30	25	9	4	50	25	25
Apple PC		14				0	3	3
Apple Laptop					6			
iPad series 1					40			
iPad Air					10	0	75	20
iPad mini 2				5		80	100	110
Kindle fire			30				10	10
Internet ready	All	All	All	All	NA			
Multimedia ready	All	All	All	All	NA			

Peripheral Devices	Labs	Class room	Lib	Ad min	Other	Planned Future Acquisitions		
						Year 1	Year 2	Year 3
A. Printers	4	12	2	18	4	1	2	2
B. Scanners	3							
C. Modems (below 28.8 Kbps)								
D. Modems (28.8 Kbps or above)								
E. Assistive/Adaptive Devices		3						
F. Digital Cameras		40						
G. TV Monitors		8			2			
H. VCRs/Laser Disk Players		10			6			
I. Projection Devices /Interactive White boards	1	53	1	3	3	2	4	4
J. Satellite Dishes								
K. Video Cameras		53						

Network Equipment	Labs	Classroom	Library	Admin	Other	Year 1	Year 2	Year 3
A. Hubs	5	5				0	0	0
B. Routers								
C. Servers					7	0	0	0
D. Switches	1				21	0	22	0
Number of rooms wired for internal connections	ALL							
Telecommunication Links								
A. Pipeline	100	100	100	100	100	120	130	150
B. ISDN								
C. Dedicated cable/microwave								
D. Phone Service	All							
E. Wireless point-to-point					1			

Software refers to PC or laptop software or web based programs not iPad or kindle Apps
All are subscriber based and mostly on yearly renew.

Software (list by type)	Labs	Class	Library	Ad min	Other			
MS Office 2010	All					20% in District	0%	

MS Office 2013	All					80%	100 %	
FROGUTS	1							
QUIA		8						
TYPING PAL	All							
ENCHANTED LEARNING		12						
EDWARE		12						
READING A-Z	All Elem							
WRITING A-Z	All Elem							
RAZ KIDS	All Elem							
READING TUTORS	All Elem							
SCIENCE A-Z	All Elem							
.TI-EMULATOR	All Elem							
EDHELPER		35						
FINALE		4						
MAKE MUSIC		4						
FITNESS GRAM		2						
SIBELIUS		4						
STARFALL	All ELEM							
PYGRAPHICS					1			
EAROBICS	All ELEM							
SENOR WOOLY		4						
AUTODESK	1							
ADOBE CLOUD		1						
GLOGSTER			1					
MATH BITS		4						
COMPASS LEARNING					1			
IXL LEARNING					1			

Our need for hardware in Moravia is expanding with the integration of teacher, administrator, and instructional support training to include upgrading computers for every teacher's workstation. Some upgrades will come in the form of new software packages while others will come in the form of new hardware. Software packages will be upgraded frequently to accommodate advanced uses as a vehicle for teaching and learning. We plan to upgrade each lab/mobile lab, and desktop with new computers/devices on a 3-5 year rotation. Software purchases to build integration into the classroom will be purchased as they become available and necessary.

Affirmation of Support:

The members of the Technology Committee of the Moravia Central School District affix our signatures as a sign of support for A Pathway to the Future (2016-2019).

Superintendent: John P. Birmingham _____

Elementary Principal: Howard Seamans _____
Middle School Principal: Bruce McBain _____
Technology Integration Specialist: John Owen _____
Network Administrator: Matt Hermann _____
Director of Special Education: Chris Fisher _____
Middle School Teacher Representatives:
Kristen Kneer, 6th Grade _____
High School Teachers:
Shannon Dunbar, Science _____
Scott Epperly, Math _____
Elementary School Teacher Representatives:
Sandy Pardee, Kindergarten _____

Appendix A

Moravia Central School Technology Integration Benchmarks May 2005

Kindergarten

Students work in computer centers. (ISTE 1 & 3)

- Utilize a broad range of software that reinforces all curricular areas
- Display awareness of how to turn computers on/off, and display basic skills such as manipulating the mouse and identifying when and what is appropriate to print
- Display proper care of the computer by using only hands, not having food or drinks in the computer center and other teacher specific classroom procedures
- Display awareness of computer components such as monitor, keyboard, mouse, printer and hard drive

Grade 1

Students work in computer centers. (ISTE 1 & 3)

- Utilize a broad range of software that reinforces all curricular areas
- Utilize shortcut icons
- Recover from the screen saver

Students create documents using word processing skills. (ISTE 1 & 3)

- Type upper and lower case letters and numbers
- Use delete, backspace, space bar, and return/enter keys
- Save work to a personal network folder

Students utilize online curriculum related resources as designated by classroom teachers (online dictionaries, encyclopedias, and math help). (ISTE 3)

Grade 2

Students work in computer centers. (ISTE 3 & 4)

- Use appropriate curriculum related software
- Access teacher designated websites

Students create publication with appropriate software that uses text and graphics (See current attached list). (ISTE 1 & 3)

- Utilize writing/word processing skills by:
  - Using spell/grammar check
  - Inserting correct spacing in between words and sentences
  - Inserting correct punctuation
  - Centering titles
  - Changing font color, sizes, and styles
  - Inserting graphics
- Access school network
- Save work to a personal network folder

Students collaborate with other students on a class presentation project that communicates a specific subject area topic. (ISTE 4)

- Generate a slide that includes text and student made graphics

Students utilize online curriculum related resources and electronic encyclopedias designated by the classroom teacher (online dictionaries, encyclopedias, and math help). (ISTE 4 & 6)

Grade 3

Students create a publication with appropriate software. (ISTE 1, 2, 3, & 4)

- Use proper keyboarding skills
- Import graphics from a variety of sources to enhance communication
- Develop an awareness of unethical issues involving plagiarism

Students employ multimedia software to demonstrate research and display acquired knowledge as a result of a classroom unit of study. (ISTE 3)

- Identify and choose from a variety of visual options to graphically enhance presentations

Students display Internet skills through the navigation of teacher guided World Wide Web resources (i.e. treasure hunt, WebQuest, Internet Hot List). (ISTE 5)

- Follow Internet safety precautions

Students participate in a class-based electronic community where classes learn about others by trading information via email and attachments. (ISTE 4)

Students participate in a teacher designated unit of study to gather information to develop strategies to solve problems and make informed decisions. (ISTE 2, 5,& 6)

- Analyze human impact on global issues
- Identify and evaluate personal health and safety issues

Grade 4

Students create publications with appropriate software. (ISTE 1, 2, 3, and 4)

- Use proper keyboarding skills
- Import graphics from a variety of sources to enhance communication
- Utilize the electronic spell/grammar check and thesaurus to improve final products
- Practice ethical behavior associated with plagiarism

Grade 4

Students employ multimedia software to demonstrate research and display acquired knowledge as a result of classroom study. (ISTE 3 & 4)

- Utilize scanners and digital cameras to import images that graphically enhance presentation

Students carry out Internet research through a variety of web mediums (i.e. WebQuest, Web treasure hunts) that require the acquisition of information and utilization of information through higher-level thinking skills. (ISTE 5 & 6)

Students independently email others to gather information for a classroom project. (ISTE 2 & 4)

- Follow Internet safety precautions

Grade 5

Students publish a research paper with appropriate software. (ISTE 1, 2, 3, 4, 5, & 6)

- Use proper keyboarding skills
- Import graphics from a variety of sources
- Utilize the electronic spell/grammar check and thesaurus
- Utilize strategies to search for information
- Cite sources
- Critique the validity of resources
- Practice ethical behavior associated with plagiarism

Students employ multimedia software to demonstrate research and display end results of a classroom unit of study. (ISTE 3 & 4)

- Utilize scanners and digital cameras to import images that graphically enhance presentation
- Identify and demonstrate effective presentation skills that enhance the project

Students carry out Internet research through a variety of web mediums that require the acquisition and synthesis of information as well as the evaluation of visited websites. (ISTE 5 & 6)

Grade 6

Students carry out Internet/computer research (web search and online encyclopedia) while evaluating reliability of online sources. (ISTE 5 & 6)

Students publish a creative writing piece with appropriate software. (ISTE 3 & 4)
- Use keyboarding and word processing skills to type and edit
- Utilize graphics from a variety of sources to illustrate (Clipart and Internet)

Students use multimedia sources (see current attached list) to research and present information on a classroom unit of study. (ISTE 4 & 5)
Students communicate via email or online bulletin boards with teacher approved sources outside of the school to gather information on a unit of study. (ISTE 2, 4, & 5)
Students in collaboration with teachers, utilize camcorders and simple video-editing equipment to produce a class movie that increases their video literacy and deepens their understanding of a curricular topic. (ISTE 3 & 4)

Grade 7

Students utilize personal network accounts for desktop management and archiving. (ISTE 1)
Students identify and use the appropriate software to create a data table, graph, and write a report based on information for a unit of study. (ISTE 3 & 6)
- Record data in data table (Spreadsheet)
- Graph to show relationship between data (Spreadsheet)
- Write a paragraph comparing the data as seen in the graph (Word processing)

Students distinguish between appropriate and inappropriate web materials and utilize appropriate materials. (ISTE 2)
Students utilize research practices to locate data on a given topic. Students determine validity of source and synthesize information in a research paper or project. (ISTE 2, 4, & 5)

Grade 8

Students utilize the resource account shared by students on the network to make information available for cooperative activities. (ISTE 1, 2, 3, 4, 5, & 6)
Students utilize spreadsheet programs to record and analyze data. (ISTE 3 & 6)
Students appropriately use and download information from websites. (ISTE 2)
Students use multimedia hardware and software for presentation of researched materials. (ISTE 3, 4, & 5)
- Use digital cameras and/or scanners to incorporate visual material in a presentation.
- Use PowerPoint presentations to present information from a unit of study
- Create a newsletter incorporating information from a unit of study

Grade 9-12

Students use general and content specific software/hardware to support learning (see current attached list). (ISTE 1, 3, 4, 5, & 6)
Students identify the legal and ethical issues surrounding research. (ISTE 2, 5, & 6)
- Utilize proper citation
- Identify consequences of plagiarism
- Practice legal and ethical behaviors regarding information technology
- Evaluate credibility of websites

Students employ technology in the development of strategies for solving problems in the real world. (ISTE 2, 5, & 6)
- Utilize technology for content specific activities
- Apply advance research skills including database searchers i.e., ERIC, Grolier Online, Pro-Quest Direct
- Evaluate credibility of websites

Students collaborate with peers, experts and others and use technology to compile, synthesize, provide, and disseminate information and other creative works. (ISTE 6)
- Create projects, class videos, and/or commercials for a unit of study
- Create student publications (newspaper, yearbook)
- Use distance learning to connect with outside sources

Available Hardware

Computers	**Labs**	**Classroom**	**Library**	**Admin**	**Other**	**Planned Purchases Year 1**	**Year 2**	**Year 3**
Desktop	95	100	27	12	8	30	50	50
Laptop		30	25	9	4	50	25	25
Apple PC		14				0	3	3
Apple Laptop					6			
iPad series 1					40			
iPad Air					10	0	75	20
iPad mini 2				5		80	100	110
Kindle fire			30				10	10
Internet ready	All	All	All	All	NA			
Multimedia ready	All	All	All	All	NA			

Peripheral Devices	**Labs**	**Class room**	**Lib**	**Admin**	**Other**	**Planned Future Acquisitions**		
						Year 1	**Year 2**	**Year 3**
A. Printers	4	12	2	18	4	1	2	2
B. Scanners	3							
C. Modems (below 28.8 Kbps)								
D. Modems (28.8 Kbps or above)								
E. Assistive/Adaptive Devices		3						
F. Digital Cameras		40						
G. TV Monitors		8			2			

H. VCRs/Laser Disk Players		10			6			
I. Projection Devices /Interactive White boards	1	53	1	3	3	2	4	4
J. Satellite Dishes								
K. Video Cameras		53						

Available Software

Software (list by type)	**Labs**	**Class**	**Library**	**Admin**	**Other**			
. MS Office 2010	All					20% in Dist	0%	
. MS Office 2013	All					80%	100 %	
FROGUTS	1							
. QUIA		8						
TYPING PAL	All							
ENCHANTED LEARNING		12						
. EDWARE		12						
. READING A-Z	All Elem							
WRITING A-Z	All Elem							
RAZ KIDS	All Elem							
READING TUTORS	All Elem							
SCIENCE A-Z	All Elem							
.TI-EMULATOR	All Elem							
EDHELPER		35						
FINALE		4						
MAKE MUSIC		4						
FITNESS GRAM		2						
SIBELIUS		4						
STARFALL	All ELEM							
PYGRAPHICS					1			
EAROBICS	All ELEM							
SENOR WOOLY		4						
AUTODESK	1							
ADOBE CLOUD		1						
GLOGSTER			1					
COMPASS LEARNING					1			
MATH BITS		4						
IXL LEARNING					1			

Proposed Building Renovation Plan improvements:

High School:

1. Network data infrastructure(upgrade wiring etc.)	$250,000
2. Data closet improvements	$50,000
3. Wireless Infrastructure	$150,000
4. Voice system improvements	$150,000
5. Access control	$35,000
6. Video Surveillance	$50,000
7. Cable TV system	$150,000
8. Backup Generator	$50,000
9. TV Studio	$150,000

Elementary School:

1. Network data infrastructure (upgrade wiring etc.)	$250,000
2. Data closet improvements	$50,000
3. Wireless Infrastructure	$150,000
4. Voice system improvements	$40,000
5. Access control	$20,000
6. Video Surveillance	$50,000
7. Cable TV system	$50,000
8. Backup Generator	$50,000
9. Digital projectors	$30,000