

**Monmouth County Vocational School District
Technology Plan
2010-2013**

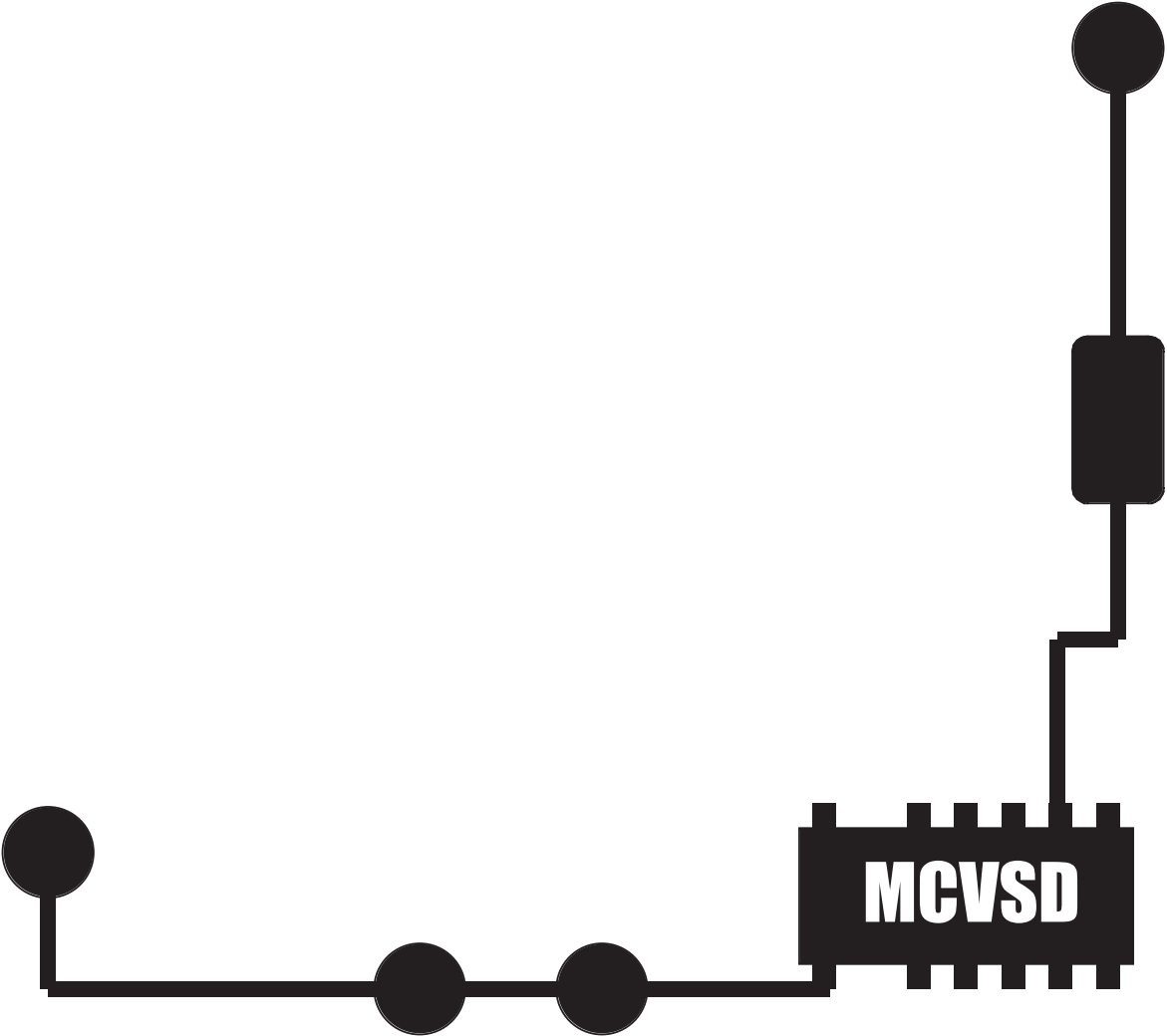


TABLE OF CONTENTS

ADMINISTRATION..... 3

LOCAL PROFESSIONAL DEVELOPMENT COMMITTEE
& TECHNOLOGY COMMITTEE 4

EXECUTIVE SUMMARY 5

PLANNING PROCESS & STATUS 7

TECHNOLOGY GOALS & OBJECTIVES 8

IMPLEMENTATION STRATEGIES 15

TECHNOLOGY INVENTORY 18

EQUIPMENT & FACILITIES PLANNING 26

NEEDS ASSESSMENT 28

PROFESSIONAL DEVELOPMENT 32

FUNDING PLAN..... 37

EVALUATION PLAN..... 39

APPENDICES:

MINIMUM HARDWARE/SOFTWARE SPECIFICATIONS A

TECHNOLOGY RELATED DOCUMENTS & FORMS B

MONMOUTH COUNTY
BOARD OF CHOSEN
FREEHOLDERS

Lillian G. Burry
Director

Robert D. Clifton
Deputy Director

John D'Amico

Amy A. Mallet

John P. Curley

MONMOUTH COUNTY
VOCATIONAL SCHOOL
DISTRICT BOARD OF
EDUCATION

Dennis Ingoglia
President

Russell T. Olivadotti
Vice President

Clement V. Sommers

Joseph A. Manfredi

Carole Knopp Morris
County Superintendent

CENTRAL OFFICE
ADMINISTRATION

Timothy McCorkell
Superintendent of Schools

Anthony Schaible
Assistant Superintendent

Collette Flatt
School Business Administrator

THE MCVSD LOCAL
PROFESSIONAL
DEVELOPMENT COMMITTEE
& MCVSD TECHNOLOGY
COMMITTEE

The following represent members of our district's Local Professional Development Committee (LPDC) and our Technology Committee. The guidance and direction of these groups help the MCVSD to implement our professional development and educational technology goals for the benefit of all stakeholders.

George Barreto	<i>District Technician</i>
Robert Cancro	<i>Principal, Academy of Allied Health & Science</i>
Alex Cheyne	<i>Director of Pupil Personnel</i>
Lisa English	<i>Instructor</i>
Collette Flatt	<i>School Business Administrator</i>
Sandra Gidos	<i>Guidance Counselor</i>
William Hercek	<i>Instructor</i>
Betsy Hoffman	<i>Research Specialist</i>
Denise Kebeck	<i>Principal, Shared-Time Programs</i>
Timothy McCorkell	<i>Superintendent</i>
Matt Meyers	<i>Instructor</i>
Sharon Najim-Silva	<i>Guidance Counselor, Parent of a student enrolled in the MCVSD</i>
Sue Pavlisko	<i>Principal/Director, Adult Education Programs</i>
Ronni Reed	<i>Staff Development Leader, LPDC Advisor</i>
Anthony Schaible	<i>Assistant Superintendent</i>
Wilfred Swain	<i>School Data Technology Coordinator</i>
Celeste Tomkovich	<i>Instructor, LPDC Chair</i>
Anthony Villane	<i>Director of Grants, Research and Development</i>
Russ Watts	<i>District Technician</i>
Chris Widmer	<i>Director of Educational Technology</i>
Erika Williams	<i>Community Member</i>
Sandra Wolgast	<i>Distance Learning Coordinator</i>

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

EXECUTIVE SUMMARY

MISSION STATEMENT

The Monmouth County Vocational School District prepares students for an evolving workplace and further education through achievement of the New Jersey Core Curriculum Content Standards at all grade levels in specialized academic, career and technical programs and lifelong learning opportunities.

MCVSD PHILOSOPHY

The Board of Education of the Vocational Schools in the County of Monmouth believes that a wide spectrum of vocational/technical education programs and services is needed to meet the individual and community needs of Monmouth County. The populations the district is committed to serve are well diversified: secondary public and non-public students; adult students, full and part-time; business and industry, profit and non-profit. In meeting the needs of these populations, the district is sensitive to and cognizant of its responsibilities to assure positive actions be taken in serving individuals with special needs; minority groups; non-traditional interests and abilities, female and male; the disadvantaged; and the training and employee needs of business and industry.

The district is committed to establishing and maintaining a working relationship with the following institutions, agencies and branches of government: public and non-public schools, colleges and institutions of higher learning, proprietary schools, State Department of Education, Board of Chosen Freeholders and applicable departments, public and private service agencies, WIA, business and industrial councils, as well as other groups that have common goals and interests of the district.

Vocational/technical education programs and services are presently provided in four major categories: secondary, special-needs, post-secondary, and adult. The district is committed to provide the secondary school population of Monmouth County, both public and non-profit private high schools, with appropriate shared-time vocational/technical programs and services designed to meet the interests, abilities, and needs of the students that will eventually lead to full-time employment, economic independence, and/or preparation for further education and the encouragement of life long learning. The district is also committed to offering full-time educational programs that are on the highest technological level. The district will continually review and update curricula as necessary to provide a thorough and efficient education.

Special needs students will be provided pre-vocational and vocational/technical programs necessary to assist them in entering the world of work. It is the intent of the district to provide vocational education services in the least restricted environment and mainstream those students capable of performing in the regular program.

All post-secondary programs are designed to enable individuals to adapt to new experiences, develop a sense of values and to acquire knowledge, skills, attitudes and the self-discipline necessary to function effectively in society. Programs are structured to meet the immediate needs of students and potential employers.

The Adult Evening School Program serves the immediate and long-term needs of the county's adult population and business, industry, and labor. Programs are designed primarily for entry level training, upgrading of skills and vocational/technical interests. Programs are continuously reviewed, revisions implemented and new programs designed as necessary. Apprenticeship training programs are an important aspect of the Adult Evening Program.

The district is committed to the annual review of educational programs offered by soliciting information and data through various studies, surveys, follow-up studies, self-evaluations, and recommendations of advisory committees in order to serve the vocational/technical needs of Monmouth County.

Non-Discrimination Clause: The Monmouth County Vocational School District does not discriminate on the basis of race, creed, color, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, religion, disability, or socioeconomic status.

More information on the Monmouth County Vocational School District (MCVSD) can be found on our website at <http://www.mcvsd.org/>

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

PLANNING PROCESS & STATUS

PLANNING PROCESS

STAKEHOLDERS

Technology provides many unique opportunities to the Monmouth County Vocational School District. The impact of these opportunities reach out into the surrounding communities creating ongoing support from parents, teachers, administrators and board members. Since 1991, the Monmouth County Vocational School District has sought to provide technological leadership and vision through an organized technology committee.

STAFF, SCHOOL AND DISTRICT ROLES

The MCVSD technology committee has involved key individuals throughout the district and community. These members have served as a guiding force to implement technology in a sound and professional manner.

In order to achieve our mission, we must continue to evaluate and carefully plan every aspect of technology infusion. We must not fall into the technological trends that come and go, instead we need to focus on what works within the classroom and what benefits our children.

Technology has impacted both the instructional and administrative side of the MCVSD and Technology is tied into each and every students curriculum. We firmly believe and promote ISTE's National Technology Standards for Students which identify "digital citizenship" and several higher-order thinking skills to help students prepare to work, live, and contribute to the social and civil fabric of their communities, to learn effectively for a lifetime and live productively in our emerging global society (2007, ISTE NETS). With this in mind, we strive to provide students with real world problems so they become learners and problem solvers within their environment.

ANNUAL REVIEW & REPORTING

The MCVSD Local Professional Development Committee has developed a district needs assessment, based in part on the latest NJ Educational Technology Training Center (ETTC) "Can-Do Techlist", and has collected data in order to describe staff and administrator proficiency in the use of technology. Results from our needs assessment and other surveys will drive the future planning and professional development offerings, held at our ETTC, as well as at other training locations, both in and out of district. The technology and local professional development committee will continue to meet, review and plan new directions for the district. The committee is planning on resurveying all staff members in the fall of 2010.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

TECHNOLOGY GOALS & OBJECTIVES

SUMMARY

In an effort to coordinate our stated goals and objectives with the Monmouth County Coordinating Council for Distance Learning and the New Jersey State Department of Education, we have aligned our goals into five distinct categories. These categories represent our needs as a school district to move forward towards a more technologically literate society and prepare students to live and work effectively in the 21st century. Through these goals, we believe that we are providing a thorough and comprehensive plan that encompasses all aspects of our district. Additional information is available in *Appendix C: Three-Year Implementation Activity Table*.

STUDENT ACHIEVEMENT

Integrate current New Jersey Core Curriculum Content Standards and technology throughout the school district's curriculum.

- Assess the degree to which the current curriculum correlates with the NJ Core Curriculum Content Standards (NJCCCS).
- Supplement/revise the curriculum to correlate the NJCCCS with the curriculum objectives & incorporate technology (software, multi-media, Internet, etc.) to reinforce the Content Standards.

Currently, all district curricula are aligned to the NJCCCS, and revisions are in progress in all subject areas to stay current as standards are revised.

Work continues on an online, secure and searchable repository of all board approved MCVSD Curriculum, to be utilized by staff, students, parents, etc.

Provide students with the opportunities to enhance the skills of the Content Standards.

- Students will achieve the acceptable state standard on the HSPA test in Mathematics and Language Arts during the 2010-2011 school year.

Teachers continue to employ a variety of methods, such as computer based research and problem solving tools to enhance their lessons in support of this goal.

PROFESSIONAL DEVELOPMENT & CURRICULUM

Provide ongoing professional development on integrating technology into the curriculum.

- Over the next three years, ongoing, sustained professional development opportunities will be provided for all MCVSD employees. Through these educational opportunities, staff will be able to work towards demonstrating proficiency in the use of 21st century educational tools including wikis, databases, word processors, spreadsheets, blogs, web browsers, email, presentation applications and web 2.0 skills. Staff will also be provided with training on the hardware tools used to promote technology integration, such as projectors, portable computers, digital video and digital still cameras, scanners, and electronic course creation and administration tools.

- Staff members will be trained in the use of emerging technologies (distance learning, Internet, online curriculum, weblogs, podcasts, streaming/cached media, etc.) and their integration in the curriculum.
- Staff members will be trained to effectively evaluate hardware and software for purchase and implementation into curriculum.
- Maintain a database of up-to-date curriculum, lesson plans and classroom resources.
- Staff members in each building will be trained to serve as technology instructors and/or support personnel for teachers, secretaries and administrators.
- There will be annual self skill and needs assessment survey of all staff.

DISTANCE LEARNING

Make the use of distance learning transparent to students and staff, included as an ordinary part of daily lesson plans, to enrich the curriculum and assist the student mastery of NJ Core Curriculum Content Standards & Cross-Content Workplace Readiness standards. This goal will be accomplished via the following methods of distance learning:

FACE-TO-FACE VIDEOCONFERENCING:

- Continue distance learning via face-to-face videoconferences with commercial content providers (e.g., hospitals, museums, zoos, science laboratories, etc.) who can support and enhance the curriculum of individual classroom teachers.
- Offer training for teachers involved in distance learning.
- Create classroom collaboration opportunities for teachers, both in and out of district, to exchange lessons via face-to-face videoconferencing that will enhance their individual curriculums.
- Offer students the opportunity to attend courses at locations other than their home schools and meet some of the NJ Core Curriculum Content Standards (i.e., visual arts) and Cross-Content Workplace Readiness Standards through face-to-face videoconferencing.
- Provide home instruction opportunities for students recovering from major illness or accident.

ONLINE (INTERNET) COURSES

- Identify online courses to enhance MCVSD's total curriculum offerings (e.g., additional foreign languages, AP courses, etc.).
- Provide professional development to train district staff on how to produce, update and effectively manage online courses using such tools as weblogs, Google Docs, and content management systems such as Moodle.
- Develop online courses (e.g., LPN, Adult Education, Information Technology, etc.) to enable the MCVSD to serve a broader population of potential students.

Upgrade and maintain a Wide Area Network (WAN) to support distance learning.

- Utilize IP (internet protocol) for distance learning connections within district and when connecting to external partners as well as via video portals for multi-point connectivity.
- Maintain existing ISDN lines at our AAHS core site to provide legacy support and flexible dial-in and dial-out support for various content providers and partners.
- Expand use of secure wireless bridging to connect distance learning devices in our campuses, providing increased flexibility in videoconference locations.
- Research upgrades to videoconferencing hardware/software, such as the H.26x and H.32x suite of video codecs, G.72x audio codecs, MPEG and HD video to provide increased performance with lower data overhead.

EDUCATIONAL TECHNOLOGY
HARDWARE & SOFTWARE

Provide appropriate educational technology hardware and software tools to teachers, students and administrators which support and enrich instruction.

- Review and update hardware and software needs based on administrative and curriculum requirements.
- Review current district needs to determine when to upgrade, reallocate or recycle equipment based on changing needs and equipment obsolescence.
- Review, update and support procedures for district equipment accountability and inventory control.
- Review and update procedures for centralized support material purchases and distribution.
- Maintain district licenses and renewal schedule for all commercial and open source software tools.
- Evaluate and implement industry-standard security and Internet filtering software/devices.
- Review, update and support a repository for staff to use when evaluating new hardware and software.
- Review, update and support the minimum specifications for computer system purchases throughout the district, and district approved software packages (see Appendix A).

RESEARCH

Systematically research the impact of technology on instruction in the school district.

- Collect and analyze statistical data on the present condition of Monmouth County Vocational School District education and to project future educational trends.
- Support learning opportunities through design and assessment of instruction, with support from the Internet and Distance Learning partners.
- Implement a data driven decision making process to foster continued district growth related to educational technologies, student success, and professional development.

EXAMPLES:
CORE CURRICULUM
CONTENT STANDARDS

The MCVSD has undergone major curriculum updates and changes to align curricula across the county with the NJ Core Curriculum Content Standards. All curricula in the district is board approved and available in the central office, and will soon be available in digital form via our Intranet and the Internet. Many of our revised curricula incorporate technology as a major component or as a supplement to daily instruction. To promote the continued revision and alignment of curricula across the district, a Curriculum Focus Group and subject area specific Curriculum Committees have been established.

One example of the NJCCCS incorporated into the classroom is at the High Technology High School. In the freshman curriculum three teachers team together to teach a course they have named BEC (Biology, Intro to Engineering Design & Computer Applications). In BEC the teachers have carefully blended the curriculum from these three courses, culminating in an experience for the students to research, design and build a fully-functioning biosphere. The students are charged with creating an environment, that when sealed, will sustain a variety of aquatic life for 30 days. This interdisciplinary project is currently serving as a model for other curricula and collaborative projects across the district, and throughout our county.

Other examples of technology integration include students in our Spanish courses at the Marine Academy of Science & Technology (MAST). Students in this program conduct research and then develop PowerPoint presentations in Spanish about an artist from a Spanish-speaking country. They also compete in a webquest contest in which they search for the artist and title of an unnamed painting, and then discuss the painting & artist using an online discussion board.

Another example from MAST: our Chemistry students use spreadsheet and database tools to collect and analyze scientific research data/observations made in their oceanographic studies course (e.g. water chemistry data obtained using probes and instruments aboard our research vessel).

NEW JERSEY TECHNOLOGY GOALS

GOAL 1: ALL STUDENTS WILL BE PREPARED TO EXCEL IN THE COMMUNITY, WORK PLACE AND IN OUR GLOBAL SOCIETY USING 21ST CENTURY SKILLS.

As described and supported above in our student achievement goals narrative, the MCVSD strives to provide unique opportunities and assistance for students to achieve success in reaching the standards and workplace preparation. The district monitors the availability of technology and its relation to curriculum on a continual basis. Whenever possible, the district increases the availability of computing devices to all teachers and students both in and out of the classroom. Every district location is connected to high-speed Internet access, and has computers available for student/staff/administrator use. With the dropping cost of computing devices and the increasing availability of broadband access to the Internet from home, students are now more likely to have access to information and educational technologies than they have been in the past. In the years to come, using such tools as our district web site, email capabilities, weblogs, audio/videocasts, and distance learning, and other emerging technologies, we will be able to reach an even greater audience of students, parents, staff and our community than ever before, and help to improve their technological literacy.

GOAL 2: ALL EDUCATORS, INCLUDING ADMINISTRATORS, WILL ATTAIN THE 21ST CENTURY SKILLS AND KNOWLEDGE NECESSARY TO EFFECTIVELY INTEGRATE EDUCATIONAL TECHNOLOGY IN ORDER TO ENABLE STUDENTS TO ACHIEVE THE GOALS OF THE CORE CURRICULUM CONTENT STANDARDS AND EXPERIENCE SUCCESS IN A GLOBAL SOCIETY.

MCVSD is aware of the positive impact teacher training and support provides to the classroom, and we see professional development as a vital part of our technology plan in support of the NJCCCS. Through the courses made available at our ETTC, as well as at local colleges and organizations, teachers have a number of choices on where and when to receive professional development in the use of technology in the classroom. In addition, our district is assisting teachers in obtaining such technology skills by working closely with them on their Professional Improvement Plans (PIPS) as they meet their 100-hour professional development requirements. Staff have been surveyed to determine their current level of technological literacy. Based on these results, we will work with staff members to help them choose the appropriate professional development courses to improve their techno-literacy and skills, and to help students achieve high academic standards.

GOAL 3: EDUCATIONAL TECHNOLOGY WILL BE ACCESSIBLE BY STUDENTS, TEACHERS AND ADMINISTRATORS AND UTILIZED FOR INSTRUCTIONAL AND ADMINISTRATIVE PURPOSES IN ALL LEARNING ENVIRONMENTS, INCLUDING CLASSROOMS, LIBRARY MEDIA CENTERS, AND OTHER EDUCATIONAL SETTINGS SUCH AS COMMUNITY CENTERS AND LIBRARIES.

With the recent upgrades to our Wide Area Network which encompasses all schools in our district, students in all of our programs now have greater access to educational technology than ever before (e.g. streaming media, electronic research databases). We are continually working to increase the level of technology infusion in our district curricula, and the amount of technologies available to all students, teachers and administrators. Curriculum across our career academies is currently aligned to provide our students with equitable access to the tools and information required to improve their technological literacy.

GOAL 4: NEW JERSEY SCHOOL DISTRICTS WILL ESTABLISH AND MAINTAIN THE TECHNOLOGY INFRASTRUCTURE NECESSARY FOR ALL STUDENTS, ADMINISTRATORS AND STAFF TO SAFELY ACCESS DIGITAL INFORMATION ON DEMAND AND TO COMMUNICATE VIRTUALLY.

The MCVSD strives to remain on the cutting edge of 21st century educational and information technologies. With this goal in mind, we are continually “beta testing” new technologies in select schools to determine if such tools will contribute to student achievement in our programs. Our technology staff attends vendor demonstrations on a regular basis, and our district maintains strong relationships with industry to explore new ways of bringing technologies into our schools.

One example of the use of technology to manage and access information in our district is our current software platform that manages all student records district-wide. Under the direction of our School Data Technology Coordinator, this Student Management System (SMS) has been centralized into a single product to integrate all student and school data for more streamlined and secure information access.

The MCVSD recognizes the value of research and evaluation concerning educational technologies. To meet this need, our staff has the ability to research and evaluate many emerging educational technologies through our ETTC. In addition, our technology group, under the guidance of our Director of Technology, is charged with researching the latest educational, information and security technologies, and continually reevaluating and modifying the minimum requirements for hardware and software in our district (see Appendix).

Future exploration and testing is planned with such digital and networked technologies as streaming media, content caching, storage area networks, 10G gigabit networking, IPv6, Internet 2, wired/wireless network and information security enhancements, and other technologies that will enable continued progress in using technology effectively for education.

**NO CHILD LEFT BEHIND
(NCLB) ENHANCING
EDUCATION THROUGH
TECHNOLOGY GOALS**

The primary goal of *Title II - Part D: Enhancing Education Through Technology* is to improve student academic achievement through the use of technology in elementary and secondary schools.

Additional goals are:

- To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
- To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by state educational agencies and local educational agencies.

WORKING TOWARD MEETING NCLB REQUIREMENTS:

The MCVSD continually looks for new ways to use curriculum-based models and strategies in the classroom to effectively assist students with academic achievement in our content areas. Below are some examples describing how our district is working toward meeting the NCLB requirements:

Improving student academic achievement through the use of Educational Technology.

Research confirms that by using digital media in the classroom, students become more involved and motivated to learn. The longer a student's attention is focused on the task in an engaged manner, the greater the likelihood for the comprehension and retention of concepts. Using such tools as the multimedia projector, computer based learning, and video clips, our teachers are utilizing these and other methods to assist students to improve academic achievement.

Promoting parent and family involvement via technology.

Using the power of email, webpage, and weblog based information, our district allows parents to communicate with their children's teachers at any convenient time. Posting up-to-date information regarding homework, school activities, etc. on our district websites, via email, and through our district weblog tool, allows greater dispersal of information than via traditional print media.

Expand access and facilitate technology literacy while providing innovative methods for integrating technology into the curriculum.

Our district continually looks to expand the amount of available educational technology in our schools. It is our goal to allow teachers, administrators and students to have the latest proven technologies available to enhance their technological literacy and foster learning.

We are currently looking to provide additional educational technology tools for all teachers (e.g. laptop computers, digital video and digital still cameras, projectors) to allow them to enhance communication, create innovative learning environments, and facilitate student-centered projects. We realize that in addition to making the learning process more engaging, incorporating digital media into the curriculum helps develop the skills that students will need for success in the 21st century.

CONTINUED PROGRESS
TOWARD OUR DISTRICT
GOALS

The original identified goals (as above) were intended to provide ongoing guidance for our district's educational technology implementation for the benefit of all students. For the 2010-2013 term, the Monmouth County Vocational School District will continue progress towards achieving these existing Technology Plan goals to meet the needs of students, staff and administration.

MONMOUTH COUNTY
TECHNOLOGY PLAN

Since the MCVSD currently serves Monmouth County as the Educational Technology Training Center (ETTC) we will make every effort possible to model the goals established in our county's technology plan.

THE MONMOUTH COUNTY TECHNOLOGY PLAN INCLUDES THE FOLLOWING GOALS:

- *ENCOURAGE COUNTY-WIDE DISTRICT PARTICIPATION*
- *DEVELOP A SHARED TECHNICAL BASE*
- *DEVELOP DISTANCE LEARNING COMMUNITIES*
- *PROFESSIONAL DEVELOPMENT*
- *ACQUIRING FUNDS*
- *ASSESSMENT*

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

IMPLEMENTATION STRATEGIES

DISTANCE LEARNING

As we work toward implementing our district's goals, the MCVSD has integrated distance learning activities as a central part of curriculum at many of our locations.

Our district Wide Area Network (WAN) has grown from its initial site of High Technology High School to include sixteen sites total. These sites include AAHS, MAST, HTHS, CHS, Freehold, Career Center, Asbury Park, KIVA, Hazlet, Keyport, Aberdeen, Long Branch, Middletown, the Neptune Annex, BTHS, and the Central Office. Each of these sites engage in activities which utilize the vast resources of the Internet and it is our goal to incorporate distance learning into every district classroom as well.

In an effort to expand our potential to provide voice and video distance learning, the MCVSD has distributed additional PolyCom mobile videoconferencing tools across the district. Distance learning capabilities are available via wired and wireless IP technology, and several sites still maintain their ISDN lines as a backup protocol for communication with outside content providers, enhancing our ability for anytime/anyplace distance learning.

Positive experiences have been reported by faculty as they utilize this technology, and Distance Learning continues to evolve from a passive tool to an active, infused educational technology tool. As new resources become available, they are published in our Distance Learning Directory (online) to showcase opportunities to collaborate with a vast array of partners and content providers relevant to every one of our subject areas.

EXAMPLES OF VIDEOCONFERENCING IN THE MCVSD:

Social Studies faculty have consistently used videoconferences with museums across the country to supplement student classroom learning in the following areas of history and culture:

- Medieval and Renaissance periods in Europe
- Ancient Egyptian Cultures
- Greek and Roman Cultures
- Aztec and Mayan Cultures
- Asian Cultures
- African Cultures
- US History (Revolutionary War, Civil War, Spanish American War, WWI, WWII etc.)

Allied Health/Nursing/Biology Faculty have enabled their students to see live heart bypass and knee replacement surgeries via videoconferencing, where they may ask questions of the doctors performing the operations. These students also participate in videoconferences where a tape of an actual autopsy is shown which is narrated live by a forensic pathologist who takes questions from them as the autopsy progresses. During the event, students are asked to use the evidence being compiled to determine cause of death and to engage in collaborative discussions about their conclusions.

Foreign Language faculty have used distance learning as a way to enhance students' understanding of the culture of the countries whose languages are being studied (Spain/Latin America, France, Ancient Rome) by videoconferencing with museums offering programs (in both English and the language being studied) dealing with:

- Spanish Art
- Art of the Ancient Americas
- French Impressionism
- Romanization of Britain
- Gods & Heroes of Greece & Rome

For the past 3-4 years, our foreign language faculty have also used distance learning to participate in "Read Around the Planet" classroom collaborations with other students and teachers across the country and in Canada who are also studying Spanish, French and Latin. The collaborations usually involve enacting scenes from cultural classics in a country's literature, as well as folktales and myths - complete with costumes and scenery.

English Faculty have used distance learning to:

- "Visit" the Salem Witch Museum in Massachusetts while reading *The Crucible*.
- Explore Shakespeare by learning about his use of meter (iambic pentameter), language, and sounds through enacting scenes from plays.
- "Visit" the Globe Theatre in England.
- Learn about the 1920's and the Harlem Renaissance while reading *The Great Gatsby* and the poetry of Langston Hughes.
- Study how suspense can be developed in a film by watching and discussing the work of the "master of suspense," Alfred Hitchcock.

Technology Studies, Math, Chemistry and Physics faculty have also incorporated videoconferences dealing with the following topics into their curricula:

- Forensic Computing
- Math Gridding and Tessellations
- Geometry
- The Science of Numbers
- Roller Coaster Physics
- Imaging Single Atoms and Molecules Using a Scanning, Tunneling Microscope

Our Culinary Education Center (CEC) pioneered classroom collaborations via distance learning in our school district as chefs and their students gave cooking and culinary skills demonstrations for our own Career Center baking students, for Home Economics students at Neptune H.S., and most recently, for culinary students at Nassau BOCES H. Franklin Carey H.S. in Franklin Square, NY.

Recent technology upgrades have improved our multi-site and point-to-point capabilities, and new wired, wireless and VLAN security now allows distance learning to take place in virtually any classroom, with minimal impact on local data traffic.

A future distance learning goal involves the purchase of an internal Polycom MCU/Gateway device, allowing for multipoint ISDN/IP videoconferencing within our district WAN and externally with the Internet.

SHARING RESOURCES

In the past, the Monmouth County Vocational School District has been fortunate enough to work with a variety of grant programs such as the ETTC, Goals 2000, Pairing and Sharing, Whole School Reform, the Technology Literacy Challenge Fund (TLCF), and development of the Monmouth County Coordinated Services (MCCS) program.

We are currently involved in the following grant programs: Perkins (Secondary & Post-Secondary), NCLB, YTTW, DEPA, as well as Tech Prep.

The majority of grant programs that our district is involved in utilize the training resources offered through our ETTC, which are also available to any adult learner in Monmouth County. Through such sharing and collaboration, we are helping to strengthen the ties between school districts throughout our county.

EQUITY

All members of the Monmouth County Vocational School District community are afforded equal rights regarding educational technology.

The MCVSD does not discriminate on the basis of race, creed, color, national origin, ancestry, age, marital status, affectional or sexual orientation, gender, religion, disability, or socioeconomic status.

As an example, the FirstClass electronic mail and collaboration system and district weblogs have been implemented to provide all users equal and flexible access to data. The district has also provided Internet access as a means to give all students, teachers and administrators a way of accessing a wealth of information online, participating in online learning environments, and interacting with their peers. Our district's web site is accessible to all stakeholders, and has been validated as being in compliance "priority 1" W3C Web Content Accessibility Guidelines. We are currently working on making our website fully compatible through the "priority 2 and 3" levels of standards validation.

Depending on the need, assistive technologies are available to help student/faculty/administrators access educational technology tools. Assistive technologies such as screen readers, audiobooks, podcasts, videocasts, and similar tools are being employed at our full-time and shared-time schools to support the inclusion of students with disabilities in general education settings. It is the intent of our district to provide vocational education services in the least restricted environment and mainstream those students capable of performing in the regular program.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT TECHNOLOGY INVENTORY

TECHNOLOGY INVENTORY

The following tables represent a summary of the technology inventory in the Monmouth County Vocational School District. Please refer to the related sections of this Tech Plan for additional information on specific tools used, and our district's plans for enhancement/improvement of such technologies.

ACADEMY OF ALLIED HEALTH AND SCIENCE (AAHS) INVENTORY

Computers	180
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	45Mbps ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

HIGH TECHNOLOGY HIGH SCHOOL (HTHS) INVENTORY

Computers	208
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	10Mbps ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

MARINE ACADEMY OF SCIENCE AND TECHNOLOGY (MAST) INVENTORY

Computers	198
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

ABERDEEN INVENTORY

Computers	32
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

ASBURY PARK INVENTORY

Computers	52
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

CAREER CENTER INVENTORY

Computers	132
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

FREEHOLD INVENTORY

Computers	62
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

HAZLET INVENTORY

Computers	36
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

KEYPORT INVENTORY

Computers	22
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

KIVA Inventory

Computers	102
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

COMMUNICATIONS HIGH SCHOOL (CHS) INVENTORY

Computers	236
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	3Mbps ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

MIDDLETOWN INVENTORY

Computers	65
LAN Cabling Type	CAT5e
Polycom Distance Learning Tools	1
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

NEPTUNE ANNEX INVENTORY (AND CLASS ACADEMY)

Computers	80
Polycom Distance Learning Tools	2
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	3Mbps ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

CENTRAL OFFICE INVENTORY

Computers	28
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT5e
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

LONG BRANCH INVENTORY

Computers	66
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT6
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

BIOTECHNOLOGY HIGH SCHOOL (BTHS) INVENTORY

Computers	126
Polycom Distance Learning Tools	1
LAN Cabling Type	CAT6
WAN Connection Speed/Protocol	T1 ATM

Projectors, Scanners, Printers, Digital Video & Digital Still Cameras are available for staff/student/admin use. Infrastructure technologies are also utilized onsite, such as an Internet Proxy, IPS/Firewall, WLAN Security, File Storage & eMail Services.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

TECHNOLOGY INVENTORY (CONTINUED)

NETWORK INFRASTRUCTURE

The MCVSD is continually integrating new technologies into every aspect of operation. In order to provide voice, video and data communication, the district now maintains the following technologies:

<i>NUMBER</i>	<i>TECHNOLOGY</i>	<i>APPLICATION</i>
17	ATM Lines	Data, Voice and Videoconferencing
6	ISDN Lines	Videoconferencing (Legacy Support)

For robust connectivity, MCVSD currently utilizes networking standards such as TCP/IP for our Wide Area Network (WAN) and Local Area Network (LAN) protocol in order to integrate newer technologies such as IPv6, Internet2, etc. as they are made available. The district has standardized these network protocols within the administrative and educational areas. Any equipment that is purchased from this time forward will fit into the WAN/LAN interoperability plan for data, voice & video transmission.

BENEFITS OF OUR EXISTING NETWORK INFRASTRUCTURE

This network helps bring collaboration between teachers and students closer than ever before. Each staff member across our district and students at our academies have access to email and collaboration tools through our FirstClass systems. Our shared-time students obtain access to email through their sending school districts or take advantage of the many free web based email providers that our adult learners utilize for electronic mail access.

Today, students and staff attending the Marine Academy of Science and Technology in Sandy Hook can discuss curriculum topics with students and staff from High Technology High School in Lincroft and our Communications High School in Wall, among others. Real-time data collaboration over our hard-wired and/or wireless local area networks is just a few key strokes away.

We have also recently opened our newest Career Academy, the Biotechnology High School, located in Freehold Township. This new school, along with the other career academies in the MCVSD provide technology vision and leadership for the remaining schools within the county. The potential for these schools to serve as technology hubs has greatly increased the district's understanding of technology and how technology integrates into the school environment in all of our educational divisions.

The shared time programs within MCVSD have also experienced an increased presence of educational technology. The graphics program at our Wall Communications High School serves as a great example of how technology is pervasive throughout the graphic arts industry and how technology is reflected in the classroom and curriculum. In this graphics course, students learn how to work in a real world printing environment using Project Based Learning, industry standard computers and printing services.

Another shared time program, the Microcomputers program at our Middletown location, utilizes state of the art computers to prepare students for the latest computer and networking certifications such as A+, Cisco, Visual Basic and Microsoft certifications, supported by our MSDNAA membership.

Our cosmetology instructors at our numerous campuses employ digital photography and color printing to assist students in creating experience-based portfolios, and also utilize online exam preparation, Google Docs to manage student progress towards course goals, and electronic assessment tools to prepare them for industry-level certifications.

SOFTWARE

The MCVSD currently utilizes FirstClass electronic mail and collaboration servers to provide email accounts for all staff, as well as email accounts for all students enrolled in our career academies. A variety of access methods are used for both Intranet and Internet use including Macintosh, Windows, Linux, PDA, cell phone (WAP), web browser, screen reader access for visually-impaired users, and a command line interface. FirstClass provides advanced email filtering and mail rules aligned with industry standards, which are further enhanced through the use of security appliances to scan email for electronic threats. FirstClass Client software is provided free of charge for all platforms from OpenText, publishers of FirstClass.

Internet web browsing software is provided free of charge from Mozilla, Microsoft, and Apple, allowing access to online research tools and eLearning opportunities.

Our district has standardized on the latest versions of the Microsoft Office (and OpenOffice) line of software for student/staff/administrative use, and the Adobe Acrobat PDF format for digital document creation/distribution (see Appendix A).

To encourage the proper use of software/web publishing in our district, we have developed a “Software Code of Ethics” concerning software installation and duplication, and a “Web Page Guidelines” document to promote appropriate student/staff/school/district web pages and weblogs. These and other technology guidelines documents, as well as many frequently used district forms are available online through our eForms area, and are used in classroom instruction to promote proper use of network resources and intellectual property rights (see Appendix B).

In compliance with the Children’s Internet Protection Act (CIPA), every computer used by students and staff throughout the district has Internet security and content filtering software enabled via WebSense/SurfControl products.

Pursuant to CIPA (and E-Rate) compliance, the MCVSD notified the public and held a primary hearing related to our Internet safety policy and protection measures on August 20th, 2002.

In addition, inappropriate inbound email (SPAM, UCE) is filtered via our FirstClass email servers, as mentioned above. We have industry standard fire-wall IPS, EPS, NAC, and event correlation devices deployed throughout our network to provide additional layers of security for all users.

We have also standardized our district anti-virus software, provided via Symantec's Enterprise server & desktop anti-virus and anti-malware protection. In the upcoming years, we plan on making additional improvements to our network traffic scanning (wired, wireless) to provide more robust multi-layer protection against malware, viruses, worms and other threats from internal and external sources.

COMPUTER & EQUIPMENT MAINTENANCE

MCVSD provides ongoing computer maintenance in a variety of formats. Two full-time technicians are employed by the district to assist in maintaining the information technology tools available to staff, students and administration. During the summer, computer instructors and students are hired to provide additional routine maintenance on all computers within the district.

When problems are encountered, in-district computer repair programs have been set up to handle the majority of issues. To maintain our in-house computer service contracts, our district has staff members on board with both Dell service & Apple service certifications. If the problem is too intricate for an in-district repair, outside servicing is called upon. We have also implemented an electronic trouble-ticket system to help track technology help requests coming in from around the district. In all cases, computer repairs are handled in a timely fashion with minimal instructional interruption.

REPLACEMENT OF OBSOLETE TECHNOLOGY

The MCVSD recognizes the need to provide the latest proven technologies to our staff and students, and we are continually monitoring the "health" of the technology in place in our schools. Obsolete, irreparable computers/technology are replaced in a timely manner, so as not to disrupt the learning process.

In the case of computing technology, all computers are on a 3-5 year rotation schedule depending on use and specific school programs. As an example, computer labs are upgraded with the latest technology every three years on average across our district. Older computers are moved from labs to adjoining traditional classrooms, or used as student home-loan computers to assist in providing the students with the greatest need for technology with a no cost solution.

Computers more than 5 years old are considered obsolete for effectively using applications such as Internet browsers, image editing, word processing and presentation software. Older computers are repurposed as low-impact support tools, such as syslog servers, or are used as hands-on learning tools in our A+, Microcomputer, or Cisco certification programs. Any remaining obsolete technology devices, unsuitable for use in an educational environment, are either auctioned off (if still viable), or are recycled in a proper, environmentally safe manner. This practice ensures that our students and staff will have access to the latest technology, and prevents our schools from getting cluttered with obsolete technologies that prohibit more than they promote student learning.

The MCVSD employs a number of methods to help maintain a quality educational environment, and prevent users from visiting inappropriate content in compliance with CIPA regulations, and in accordance with our Acceptable Use Policy (AUP). In each of our schools, students are educated about the AUP as part of their orientation activities, and staff incorporate topics such as appropriate use, copyright, and digital rights into their curriculum. Copies of our AUP and other related educational technology documents, such as web page/weblog guidelines are made available for parents, students, staff and the community to view on our district website (see Appendix).

To comply with new legislation such as the "Protecting Children in the 21st Century Act", the MCVSD has recognized the need for additional instruction on safe Internet use, and educating minors about appropriate online behavior. As a result, we are currently working on supplementing our curriculum at all levels to include instruction on Internet safety.

Regarding network security, we currently utilize a multi-layer proxy architecture, which includes WebSense/SurfControl Content Filtering for CIPA compliance as described above, Microsoft ISA Proxy, 802.1x authentication, and a number of Open Source filtering and site-based firewall devices to provide Intrusion Protection and Extrusion Protection for all district campuses. In addition, a number of other industry-standard tools are used to enhance our district's network and data access security, both in the wired and wireless realms.

When evaluating any technology tool, such as those mentioned above, the MCVSD has been able to meet the needs of the district by using standardized platforms, devices and software.

For example, we have standardized on the Symantec AntiVirus Enterprise package to protect our computing assets and keep users safe from emerging threats from email, Internet/Intranet and mobile sources.

We have also standardized on HP printers to meet our district's imaging needs, utilize FirstClass for email collaboration, and MovableType for our district's weblog/videoblog publishing needs.

Our district is always on the lookout for new technologies that may be used to enrich our curricular offerings, and provide a pathway for alternate instruction and assessment. We are currently investigating such tools as additional online learning environments such as Moodle, open source applications such as OpenOffice, and open source operating systems such as Ubuntu, Edbuntu, and other Linux "flavors". We are also looking to incorporate additional offsite hosting tools & media delivery systems which will allow anytime/anywhere access to educational tools for student, faculty and administrator collaboration.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

EQUIPMENT & FACILITIES PLANNING

FUTURE EQUIPMENT AND FACILITIES PLANNING

In order to improve student academic achievement, promote increased technology infusion and foster professional development, the following are future technology-related projects planned in our district:

- Obtain additional portable computing tools for use by staff/students for data collection in the classroom and in the field (such as tablet computers, digital probes, sensors, etc.).
- Integrate Business Office Intranet into our current network, providing secure electronic purchase order creation and tracking.
- Upgrade data support servers and backup devices to provide increased capacity and backup redundancy.
- Upgrade district's core web servers & file servers to provide additional storage for student/staff/administrators electronic portfolios.
- Develop and deploy a streaming media/caching solution for the storage & distribution of audio/video data to a wide audience via our Intranet, and eventually through the Internet.
- Deploy Voice Over IP (VoIP) solution to connect district locations to a central communications system.
- Enhance Security on our district-wide Virtual LAN (VLAN), which allows users to securely connect to our network from any location in our WAN.
- Upgrade core router and firewalls, allowing for more aggressive traffic management throughout our WAN and increased security.
- Add additional anti-virus & anti-spam scanning appliances at our network edge, for filtering of all inbound/outbound email prior to entry into our FirstClass Server array.
- Upgrade Student Management System (SMS) to provide additional features & security.
- Add additional Wi-Fi transmitters and enhanced WLAN security & authentication to expand coverage of wireless LAN.
- Develop a gigabit based Intranet for use in transfer of digital multimedia projects via a Storage Area Network (SAN)
- Utilize networking technologies such as TLS & switched Ethernet to provide ample bandwidth our campuses, allowing consolidation of services and increased data/backup/voice/video services.
- Investigate use of dual ISP's (such as Quest, Verizon, AT&T, Cablevision, etc) to provide redundancy, failover and increase overall network "port" speed to the Internet.
- Increase our use of offsite hosting solutions to enhance the digital media and tools available to students/staff/administrators.
- Expand our district's data archiving of electronic communication for security/storage and compliance with new regulations for same.
- Enhance our district's Network Admission Control (NAC) architecture, to help prevent unauthorized use of district resources.

- Upgrade FirstClass Servers across the district to provide increased speed, functionality, archiving and redundancy.
- Upgrade laptop computers for teachers, student-use, and administrative-use.
- Research the feasibility of 1 to 1 computing for students in our schools, and related topics such as electronic textbooks, tablet/mobile devices, online courses, network based storage/backup, support & maintenance needs, and computer security profiles.
- Purchase additional portable projection units, digital still cameras, digital video cameras, electronic whiteboards and accessories for district classrooms/labs.
- Upgrade wireless laptops used with our portable cart solutions used by students/staff at numerous locations.
- Add additional Polycom units for simultaneous Distance Learning opportunities and bandwidth conservation using new video/audio codecs such as H.264, etc. and to provide additional flexibility for use with home instruction, and multi-point sessions.
- Incorporate additional layers of security in our network to utilize biometric data, 3-phase authentication, eTokens, and other identity validation methods before allowing user access to critical data stores.
- Increase use of SSL Certificates for asset/identity validation, and establish wild-card certificates with industry-leading certificate authorities.
- Increase 802.1x security and authentication measures through additional RADIUS servers, and other user validation tools.
- Increase staff members to support educational and professional development initiatives district-wide. Some potential staff positions that may prove beneficial to achieving our goals include the following: technology integration specialists, information security manager, communications manager (voice/audio/video/text messaging and conferencing support), additional technical support field technicians & help desk staff.
- Utilize additional online and distance learning tools to allow students/staff/administration to take advantage of new educational opportunities, and provide a means to participate in coursework not available in our district/region (such as online AP courses, certification and ongoing sustained professional development).
- Consolidate LAN sites via a private fiber optic network, providing 10GB trunks between campuses, and allowing additional consolidation of services. One potential site for this private fiber link is our Neptune Campus, which would benefit from connecting the Annex building with our Academy of Allied Health site.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT NEEDS ASSESSMENT

CURRENT STATUS

Keeping in mind that the standards for required professional development for teachers must address all the stakeholders within the teaching staff, our Local Professional Development Committee (LPDC) is made up to include representatives of various schools, grade levels, departments and teaching responsibilities reflected within the school district. Members of our LPDC reflect dedication to collegial and collaborative dialogue with other educators as well as with each other to develop a professional development plan that would ensure continuous growth for its professional staff.

In addition, each academy, program and vocational teacher has advisory boards comprised of industry members, community members and parents. The advisory boards make recommendations for curriculum changes and training suggestions for staff.

The LPDC has linked all of the district professional development goals to the district mission statement: “The Monmouth County Vocational School District prepares students for an evolving workplace and further education through achievement of the New Jersey Core Curriculum Content Standards (NJCCCS) at all grade levels in specialized academic, career, and technical programs and lifelong learning opportunities.” An emphasis has also been placed on aligning the district professional development goals to the new NJCCCS, 21st Century skills, workplace readiness skills, and social, emotional and ethical behaviors to help ensure they are accomplished and achieved.

SURVEYING STAFF THROUGH A NEEDS ASSESSMENT

A needs assessment survey was developed in order to assess ways to expand the scope and depth of knowledge of the professional staff (both teachers and administrators). After much dialogue with other school districts, professional staff members, board members, and after review of a representative number of sample needs surveys from other districts, the committee constructed a survey that could assess staff needs. This survey was updated in 2003-2004 to reflect the required categories of NCLB. Staff completed the survey in time to align funds in NCLB to the needs of staff. With the adoption of the *Professional Standards for Teachers*, the needs assessment instrument was revised in 2006 and in 2009 to incorporate all areas in the standards. In addition to the district needs assessment instrument, the committee uses the pupil performance objectives, strategic goals for each division, AFG goals for the academies, emails from staff and input from administrative staff to determine the professional learning needs of our staff, as they relate to student needs for improvement in learning. Principals and staff are instructed to use the above goals and the *Professional Standards for Teachers* to design their PIPs.

Our present needs assessment survey is a comprehensive tool that addresses topics, time and delivery formats, and activities. Each year, this survey will be revised in order to assess staff knowledge and use of technology and integration both in the classroom, and in their professional lives. After collecting and analyzing the data, professional learning opportunities will be implemented to address any gaps or needs.

NEEDS ASSESSMENT
RESULTS: IDENTIFIED
NEEDS

Based on the data collected from our most recent needs assessment (2009-2010), :

The most recently completed needs assessment survey identified 5 priority areas which will guide the work of the LPDC in the upcoming years:

- Further develop the culture for Professional Learning Communities (PLCs) as a means to enable teachers.
- Learn to gather, examine and interpret data.
- Use research based instructional strategies.
- Use effective collaborative strategies.
- Learn how to evaluate impact of instructional and collaborative strategies.

Additional technology-related professional development needs that are still being addressed include

- Learning to use technology-based tools for gathering, examining, and interpreting data on the student achievement impacts of professional development training undertaken by teachers.
- Increased technology skills and increased integration of technology into the classroom.
- Increase administrator's modeling of effective technology practices/tools, such as electronic communication, weblogs, and multimedia presentations.
- Knowledge and use of a vast variety of instructional skills and strategies of teaching.
- Addressing the needs of exceptional students both gifted and special needs, ethnicity, race and gender.
- Knowledge and use of the many facets of student assessment.
- Curriculum development and integration.
- Improving knowledge of content areas, and methods of teaching.
- Understanding individual and group motivation and behavior.

The MCVSD is currently working to plan-out and provide professional development opportunities to fulfill the identified needs. Throughout the year, staff are encouraged to email the Staff Development Leader or Director of Technology with additional ideas or areas they wish to see addressed as part of our professional development offerings/support.

If there are any questions regarding the MCVSD needs assessment, please contact Ronni Reed, our Staff Development Leader.

Our ETTC Director, our Director of Educational Technology, and our Staff Development Leader work closely together to use the ETTC, one-on-one technology mentors, and professional development days as a means of delivering ongoing, sustained, high quality professional development opportunities for all MCVSD staff.

Based on past needs assessments, the following professional development opportunities were made available to staff members over the past three years through the in-house presenters, our ETTC, or through outside providers.

PAST PROFESSIONAL DEVELOPMENT OFFERINGS (2007-2010)

- 504 Information for Educators
- A Day to Explore Digital Cameras and Scanners
- ADHD Awareness
- Advanced Graphing Calculators
- Advanced Multimedia Techniques
- Alcohol: Binge Drinking
- Alternative Assessments for the Arts and Sciences
- Audiocasting in the Classroom
- Auditory Processing Disorders: Strategies for Instruction
- Authentic Assessment
- Brain-Based Learning
- Build & Maintain your own Teacher Web Page
- Bullying: Teaching Students to Break the Culture of Cruelty and Conflict
- Classroom Management
- Communicating to Parents: Newsletters eMail and Websites
- Computer Lab Management and Troubleshooting
- Copyright & Ethics in the Digital Age: How it Affects Schools
- CPR Certification Training
- Creating a Digital You: Digital Portfolios
- Creating an Internet Lesson: MS Word
- Creating Merge Documents with MS Word
- Curriculum Mapping
- Data Analysis with Microsoft Excel
- Database Basics with FileMaker Pro
- Designing a Course Homework Web Page
- Developing Detailed Rubrics
- Diabetes, Obesity & Insulin
- Distance Learning: Analyzing Art Through an Historical Prospective
- Distance Learning: Classroom Management & Hands-On Equipment
- Don't Bet On It-Gambling's Impact on Education
- Enhancing Interpersonal, Critical and Creative Thinking Skills
- Enhancing Feedback Aspects of Assessment
- Enhancing Your Lessons Through Microsoft PowerPoint
- Ethics in Digital Media/Internet
- Examining Student Work Together
- FileMaker Pro: Database Design
- Geometers Sketchpad
- Grant Writing: \$\$ for Your Classroom
- How the Special Needs Brain Learns

- Instructional Theory Into Practice (ITIP)
- Integrating eBay Across the Curriculum
- Integrating Vocational Student's Organizations into the Curriculum
- Intermediate Graphing Calculators
- Internet Research Skills for Teachers
- Intro to Computing: Macintosh & PC
- Intro to Inspiration & its Templates
- Intro to Web Design: Dreamweaver
- Introduction to Adobe Photoshop
- Introduction to Assistive Computer Technology
- Introduction to Graphing Calculators
- Incorporating Microsoft Word, Excel & PowerPoint Into Your Curriculum
- Is This Normal for Kids? Normal vs. Abnormal Adolescent Behavior
- Java Fundamentals through Gaming
- Mac Nuts and Bolts Troubleshooting & Repair
- Mac OS X: Beyond the Basics
- PowerSchool Scheduling
- Making the Web Accessible for Students with Disabilities
- Mentoring Strategies
- Microsoft Word POWER!
- Motivate Elevate Educate
- Multiple Intelligences & Learning Styles
- No Walls Education: Past & Present Ideas in Creative & Problems Based Learning
- Obsessive Compulsive Disorder in Adolescents
- Powerful Strategies for Reducing Classroom Behavior Problems
- Preparedness: Brainstorm How to Respond in an Emergency/Disaster
- Project Based Learning
- Right to Know Training
- School Law
- School Violence Prevention: Promoting Self-Management and Responsible Choices for Students
- Speed Reading Techniques
- Suicide and Adolescents
- Teacher Resources for Assessing Experimental Research Projects
- Teacher Sites on the Internet
- Teachers as Researchers: Investigating Your Impact on Classroom Practice Through Action Research
- Teaching to Multiple Intelligences Using Technology
- Technology in the Social Studies Classroom
- The 100 Book Challenge
- The Essence of Cooperative Learning
- True Colors
- Tying It All Together: Curriculum Instruction and Assessment
- Understanding the IEP
- Using Microsoft Word to Enhance Learning
- Using Technology to Advance Student's Higher Level Thinking
- Using the Internet, SIRS & EBSCO for teacher resources
- Utilizing Technology in the Multicultural Classroom
- Video Production in the Classroom
- Videocasting in the Classroom & Vlogs
- Weblogs in the Classroom
- WebQuests: Good Teaching, Great Learning
- Writing and Thinking: Strategies to Motivate Writers
- Yoga As a Test Stress Reduction Strategy

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

PROFESSIONAL DEVELOPMENT

PROFESSIONAL DEVELOPMENT

The MCVSD has always attempted to provide professional development on a proactive basis that is sustainable and meaningful to our curricular offerings. We have a full-time Staff Development Leader, Ronni Reed, available to provide direction and support to all professional development activities in our district. Professional development is one of the central goals of this technology plan as a means of ensuring that the fruits of that development flow through to our students. Therefore, the Technology Committee works closely with the Director of Educational Technology and with our District Level Professional Development Committee (LPDC), under the direction of the Staff Development leader. Our focus continues to be on how technology will be implemented in our district and in our county to directly support students in the classroom and the professional development of teachers in utilizing technology for instruction.

In order to achieve professional development goals, the LPDC supported by the Technology Committee will undertake the following steps:

- Continue utilizing existing professional development teams in our schools to ensure that they become Professional Learning Communities focused on student achievement goals, utilizing data to measure progress, implementing research-based instructional strategies, continuing to share techniques and results, and continuing to integrate new technology that supports instruction.
- Continue working with our network of schools, universities, businesses, and industry organizations to keep teachers updated on current practices in their technical fields.
- Continue to offer opportunities to attend courses at the undergraduate and graduate level as well as offer opportunities to attend other professional association conferences (as funding permits).
- Continue to measure our progress for implementing team-based learning through the use of the SAI (Standards Assessment Inventory) as it is reliable and valid.
- Continue to support staff members attending state sponsored learning opportunities around NJCCCS, New PD, and 21st Century skills.
- Focus on the NJCCCS, target Career and Life Skills as well as critical reading, literacy, math, science, and technology.
- Target opportunities in learning around student social, emotional, and ethical behavior to help ensure student's lifelong success.

We are using technology to support professional development goals, i.e. video-conferencing to enable face-to-face meetings, Wikis to enable teacher collaboration, and The NJ Toolkit which is intended to provide resources and tools to support high quality, research-based professional learning activities that connect to district and school initiatives and enhance the learning of all students. The LPDC recognizes the need for additional technical support and communication in order for it to be effective, and we are working to meet this need. Considering that one of our district goals is developing teacher and student 21st Century skills, we feel it is essential for the Technology Department to be a part of and work with the LPDC.

As our district works to create 21st Century classrooms and learning communities, we are able to continue offering technology-focused courses through our ETTC. This center continues to provide faculty members with the ability to obtain meaningful and appropriate professional development and training opportunities. This center is currently located in our Neptune Annex location where training is conducted onsite as well as at a number of our satellite training centers throughout the district. In addition, the center houses periodicals and books related to education and curriculum to support staff research. In recent years, the ETTC has opened its doors to the adult community as well, providing technology related training opportunities to anyone in the Monmouth County area. To reach an even broader audience of adult students, our ETTC courses are now advertised alongside the offerings in our biannual Adult Education, Professional & Vocational Course Catalog, which is published in print and in PDF format, via our district website.

Our district has equipped our Marine Academy of Science & Technology (MAST) and our Academy of Allied Health & Science (AAHS) with state-of-the-art media centers. These facilities have professional media specialists on board to assist staff and students with media retrieval and research. Our media specialists are also involved in our professional development efforts, through staff mentoring and educational technology workshops. MCVSD media specialists also take coursework on a regular basis in order to update their skills in the area of technology integration. A future goal for our media centers involves the linking of their electronic media catalogs, allowing for the sharing of resources among all of our career academies.

In the MCVSD a team of technologists provides technical assistance to staff at all locations. The district currently employs two technicians, trained in computer networking, as well as software and hardware systems to assist in troubleshooting and daily maintenance district-wide. It is the goal of the MCVSD to not only provide technicians to support the maintenance of our educational technology, but to also bring aboard building-level computer specialists to ensure integration of technology tools into the curriculum. With such assistance, such barriers as inoperative networks, malfunctioning hardware and software can quickly be remedied, and allow for professional development and student learning to continue.

To provide a catalyst for additional use of technology in the classroom, instructors in the district have been provided with their own laptop computer to assist in the integration of technology into all subject areas. In addition, all classrooms have access to the Internet, and our district is working to provide additional LCD projectors, digital still cameras, digital video cameras, interactive whiteboards, and increased secure wireless access at all locations for use in classroom instruction & support.

For the upcoming years, we have developed numerous professional development opportunities based on the data obtained as a result of our recent needs assessment on proficiency in the use of technology. In order to assist teachers and administrators in increasing their level of technological literacy, our ETTC courses have been designed to meet the following three objectives:

- Courses that are used to bring the level of technological literacy to the **ETTC Beginner Level and beyond** stress **Micro Skills** - competencies that comprise technical literacy; they answer the question, "How does this work?"
- Courses that are used to bring the level of technological literacy to the **ETTC Intermediate Level and beyond** stress **Macro Skills** - applications that comprise contextual literacy; they answer the question, "Where can I use this?"
- Courses that are used to bring the level of technological literacy to the **ETTC Advanced/Mastery level and beyond** stress **Mastery** - the process of inquiry that comprises transformational literacy; it seeks to answer the question, "How does use of technology transform teaching and learning in my classroom and in my life?"

Through our professional development days scheduled throughout the academic year, via our ETTC, and with the assistance of outside providers, we offer courses targeted at these three goal levels of technological literacy (beginner, intermediate & advanced). A number of instructors at the ETTC Mastery Level will be used to conduct the professional development sessions and related follow-up events.

Below is a list of professional development/training opportunities proposed for our teachers, support staff and administrators in 2010-2013:

PROPOSED ETTC BEGINNER LEVEL COURSES (2010-2013)

- Intro to Adobe Flash Design
- Mousing Around - Intro to Computing: Macintosh & PC
- Internet & Computer Basics
- Macintosh OSX Operating System Basics
- Windows Operating System Basics
- Infusing Educational Technology Into Your Classroom
- Internet Search Techniques & Teacher Resources
- Introduction to Microsoft Word
- Introduction to Microsoft Excel
- Introduction to Microsoft PowerPoint
- Introduction to Adobe Dreamweaver
- Introduction to FileMaker Pro
- Introduction to FirstClass Email
- Introduction to Graphing Calculators
- Introduction to Google Docs
- Internet/Email Projects for Beginners
- Introduction to Assistive Computer Technology
- Introduction to Weblogs in the Classroom

- Introduction to Audiocasting
- Introduction to Videocasting
- Educational Technology in School Administration
- Picture Perfect: Photoshop for Classroom Instruction
- Using Inspiration Software for Visual Learners
- Using Photoshop to Enhance your PowerPoint Presentations
- Using Inspiration Software for Visual Learners
- Using Microsoft Excel for Beginners
- Using Photoshop to Enhance your PowerPoint Presentations
- Wikis in the Classroom
- Web 2.0 and Your Classroom

PROPOSED ETTC INTERMEDIATE LEVEL COURSES (2010-2013)

- Adobe InDesign for Flyers, Brochures and Yearbooks
- Intermediate Microsoft Word: Classroom Use
- Intermediate Microsoft Excel: Classroom Use
- Intermediate Microsoft PowerPoint: Classroom Use
- Intermediate Adobe Dreamweaver
- Intermediate FileMaker Pro: Classroom/Admin Use
- Intermediate FirstClass Email: Beyond the Basics
- Communicating to Parents: Newsletters, email, web sites, etc.
- Creating an Electronic Portfolio for Students or Teachers
- Grade books in Microsoft Excel
- Intermediate Graphing Calculator Techniques
- Introduction to Adobe Photoshop
- Intermediate Internet/Email Projects
- Designing & Evaluating WebQuests
- Beyond the Basics: Google Docs
- Designing & Implementing Web Pages for Use in Class
- Counseling & Technology
- Science & Math Teacher Resources
- Social Studies & Language Arts Teacher Resources
- Computer Lab Management & Troubleshooting
- Digital Video Cameras & iMovie: Video Production in the Classroom
- Data Analysis with Microsoft Excel
- Intro to Data Logging Software and Sensors
- Making the Web Accessible for Students with Disabilities
- Utilizing Technology in the Multicultural Classroom
- Distance Learning: Hands-On Equipment & Classroom Management
- Geometers Sketchpad in the Classroom
- Using the Internet, SIRS & EBSCO for teacher resources
- Mac Nuts and Bolts: Troubleshooting & Repair
- Creating an Internet Lesson: MS Word
- Creating Merge Documents with MS Word
- Designing a Course Homework Web Page
- Ethics in Digital Media/Internet
- Integrating eBay Across the Curriculum
- Intro to Inspiration & its templates
- MS Office Suite Overview
- Teaching to Multiple Intelligences Using Technology

PROPOSED ETTC ADVANCED LEVEL COURSES (2010-2013)

- Advanced Microsoft Word Techniques
- Advanced Microsoft Excel Techniques
- Advanced Microsoft PowerPoint Techniques
- Advanced FileMaker Pro Techniques
- Advanced FirstClass Email Techniques
- Advanced Educational Technology in School Administration
- Java Fundamentals through Gaming
- Computer Lab Management & Troubleshooting
- Advanced Graphing Calculator Techniques
- Advanced Features of Google Docs
- Advanced Adobe Photoshop Techniques
- Advanced Internet/Email Projects
- Administering Windows Systems
- Advanced Multimedia Techniques
- Advanced Geometers Sketchpad in the Classroom
- Administering Macintosh & PC Servers/Clients
- Advanced Mac Nuts and Bolts: Troubleshooting & Repair
- Advanced Microsoft PowerPoint Techniques
- Advanced Adobe Dreamweaver Techniques
- Advanced FileMaker Pro Techniques
- Advanced FirstClass Techniques
- Computer Lab Management & Troubleshooting
- Administrator Technology Workshop
- Advanced Weblogging, AudioCasting, & VideoCasting
- Data Driven Decision Making: Putting It All Together

GENERAL PROFESSIONAL DEVELOPMENT COURSES (2010-2013)

- Authentic Assessment
- Brain-Based Learning
- Classroom Management
- Copyright in the Digital Age: How it Affects Schools
- Curriculum Mapping
- Developing Detailed Rubrics
- Multiple Intelligences & Learning Styles
- Project Based Learning
- The Essence of Cooperative Learning
- Tying It All Together: Curriculum Instruction and Assessment
- Understanding the IEP
- 10 Things New Teachers Have to Know
- A Framework for Understanding the Culture of Poverty
- Brine Shrimp and Fish and Moles OH my
- Building Competent, Caring and Contributing Citizens
- Collaborative AP Course Audit
- Creating Effective Rubrics for Assessment
- Designing and Implementing Interdisciplinary Project Based Curricula
- Grief Counseling
- Integrating NJ History into the Social Studies Curriculum
- Meeting the Challenge of Tourette's Syndrome and ADHD in the Classroom
- Professional Learning Communities: Looking at Student Work Together
- Recognizing Gang Activity
- Self Mutilation Awareness
- Separating True Fitness Wellness and the Media Spin for Kids
- Special Education Regulations
- Train to Use a Defibrillator
- Violence, Vandalism and Substance Abuse in NJ Schools

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT FUNDING PLAN

TECHNOLOGY-RELATED FUNDING PLAN

<i>TOTAL EXPENDITURES:</i>	<i>08-09</i>	<i>09-10</i>	<i>10-11</i>	<i>11-12</i>
	\$997,770	\$1,075,167	\$958,830	\$958,830*

* Projected funding amount.

The expenditure amounts above represent technologies such as hardware, communications access fees, software, support & maintenance, professional development, digital curricula, subscriptions to online courses, and other educational technology tools used to support our district's goals. Additional information is available in *Appendix D: Funding Plan Table*.

ENTITLEMENT AND GRANT FUNDING SOURCES

The Monmouth County Vocational School District has allocated considerable district capital dollars to technology in the past years and will continue to do so in the year 2010-2011. The funding plan above represents technology support from a variety of sources, such as district funds, capital funds, E-Rate, grants, etc.

The district actively seeks grants to supplement local funds for a variety of educational efforts. For 2008-2009 the district received over \$1.1 million from federal, state and local grants such as Perkins, DEPA, Tech Prep, NCLB, and private funding sources such as Intel and the Martin Luther King Commission.

A significant portion of this money was set aside for our technology infrastructure used to help ensure that students have access to 21st Century technology and help ensure that teachers are prepared to infuse technology effectively into curricula and instruction.

FUNDING PLAN: SUPPORTING INFORMATION

The Monmouth County Vocational School District has demonstrated a commitment to securing the supporting resources to ensure successful and effective uses of technology.

Our goal of each teacher securing a laptop was achieved in the spring of 2004 and future expenditures will be made to maximize the value of our investment and to continue our maintenance/upgrade schedule for such portable tools.

In order to promote effective use of these educational tools, professional development support will be required from both MCVSD staff and other providers. Through the cooperation of the local education association, the District has been able to add professional development days to the annual school calendar. Activities on these days are closely monitored for their usefulness by the District's Technology Group and our Staff Development Leader.

Using the funding sources as above, the documented increase of Internet access speeds will also continue throughout the district. Adoption of online curricula and digital textbooks in support of our subject areas will continue as well as increased expansion of secure wireless technologies for student/staff/administrative support. The concept of fewer "computer labs" and more mobile computer use in the classroom will be further implemented throughout this technology plan period. The district is currently reviewing all digital curricula to determine NIMAS compliance prior to purchase, in order to meet accessibility needs.

The District uses Carl Perkins funds (both State and Federal), other competitive and entitlement grants and a local commitment from the Board of Chosen Freeholders to bond money annually to keep the District's equipment up to date and to increase the opportunities for student access to technology.

The same resources are used to equip teachers with the technology needed to meet classroom technology goals. In addition, a staff development coordinator is funded through local operating funds to assist the locally funded technology staff in securing training for teachers to integrate technology into the curriculum. The additional professional development days referenced above will be used to prepare curriculum to meet this goal.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT EVALUATION PLAN

EVALUATION PLAN

The Monmouth County Vocational School District (MCVSD) Technology Committee and the MCVSD Local Professional Development Committee are composed of a variety of staff members from across the county. These leaders, under the direction of the MCVSD Superintendent are charged with creating and updating a technology plan that harnesses the strengths and foresight envisioned for the vocational school district. These committees serve as the conduit to encourage all members to participate in a comprehensive plan that brings information and technology into all classrooms throughout the district.

Feedback on the Technology Plan will utilize our district's weblog tools to promote the plan, and seek community feedback on any changes and revisions. Assessment of this plan is a critical step in maintaining a thorough implementation throughout the district. The plan will be examined to determine the extent to which the technology resources promote the teaching/learning process in the Monmouth County Vocational School District. The evaluation will monitor, on a yearly basis, the following areas related to the plan:

- *FACILITIES*
- *EQUIPMENT (INCLUDING UPGRADES & OBSOLESCENCE)*
- *SOFTWARE*
- *WIRING & ACCESS FEES*
- *MAINTENANCE & SUPPORT*
- *PROFESSIONAL DEVELOPMENT*
- *FUNDING SOURCES*

The information collected from periodic surveys will be used to update this plan and keep the committee informed of continual progress by assessing the following:

1. The current status of each area as related to the time lines in the plan.
2. The extent to which goals, objectives, activities, resources and services are effective in integrating technology into curricula and instruction, enabling students to meet challenging state academic standards, and developing life-long learning skills.
3. Student performance before-program implementation compared against after-program implementation.

MONMOUTH COUNTY VOCATIONAL SCHOOL DISTRICT

APPENDICES

APPENDIX A. MINIMUM HARDWARE/SOFTWARE SPECIFICATIONS

The latest minimum hardware and software specifications can be found on our district's web site, in our Technology Group area:

<http://www.mcvsd.org/tech/>

APPENDIX B. TECHNOLOGY RELATED DOCUMENTS & FORMS

The latest versions of the Technology Related Documents & Forms below can be found on our district's web site, in our Electronic Documents area:

<http://www.mcvsd.org/docs/>

Procedure: Distance Learning Events

MCVSD Acceptable Use Policy - Staff

MCVSD Acceptable Use Policy - Student

MCVSD Software Ethics Agreement

MCVSD Consent Form for Internet Publication

MCVSD Web Page Guidelines

APPENDIX C. THREE-YEAR IMPLEMENTATION ACTIVITY TABLE

APPENDIX D. FUNDING PLAN TABLE