

Woodhaven - Brownstown School District



Technology Plan
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The Woodhaven-Brownstown School District Technology Plan
is located on the District web site

<http://www.woodhaven.k12.mi.us/>

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I. EXECUTIVE SUMMARY

The Woodhaven-Brownstown School District recognizes that the use of technology in the delivery of education has the potential to facilitate rich and flexible learning environments. The purpose of this plan is to provide direction that results in an increase in the engagement and achievement of our students, as well as increase the effectiveness of our teachers, all of which is enhanced through the use of technology.

Background and Goals

The Woodhaven-Brownstown School District encompasses approximately 22 square miles and includes five elementary schools, two middle schools, one high school, a support services facility, and one developing alternative high school. The District's vision and goals relate to providing innovative teaching strategies through the integration of technology along with ongoing professional development. Technology is a dynamic, flexible, and integral educational resource; therefore, educators collaborate daily with the technology staff, administrators, and colleagues in addition to professional development programs in order to align technology resources with the curriculum.

Organization

Woodhaven-Brownstown School District has nearly completed the projects defined by the 2002 bond. Thanks to the funding from this bond, over the past 10 years the District's technology was completely upgraded offering our staff and students additional opportunities on a comprehensive network infrastructure. As all K-12 school districts face continued financial challenges, this plan has shifted the focus from the installation of infrastructure to educational applications, staff development, and technology support. The District Technology Committee, which is comprised of teachers, administrators, students, parents, and technology staff, is involved in continuous and ongoing updates to the Technology Plan. In February of 2012, responding to the Governor's request to increase collaboration between governmental agencies, the District's Technology Department entered into an intergovernmental agreement with Brownstown Township to provide technical support.

Current Technology

Woodhaven-Brownstown School District has made a sizable investment in technology largely through funding from the 2002 bond. The Board of Education and the District has committed to the continued investment in technology and maintenance to keep the technology current and usable, as funding permits. The District has approximately 2,000 workstations, notebooks, and iPads, standardizing primarily on the Windows XP operating system. AT&T's Opt-E-Man service connects the District to the Internet through Wayne County RESA (WCRESA). Each of the individual buildings is connected using a private fiber network. The District's telephone system was upgraded significantly to a VoIP NEC phone system, but Centrex lines designated for specific purposes are still required. Examples of Centrex lines that will remain intact are fax lines, emergency backup lines, and fire and security alarm lines.

Curriculum Integration

The District Technology Committee is continuously enhancing a K-12 Technology curriculum that is based upon the National Common Core Standards in correlation with the National Educational Technology Standards and the Michigan Educational Technology Standards. National and State developmental standards are used to map a curricular sequence consistent with the ongoing process of updating and expanding technology in the District. The implementation of this curriculum plan is reviewed and updated on a continuous and ongoing basis. The classroom teachers and media specialists are continuously updating their curriculum in conjunction with new technology available in the District. The District regularly reviews current research on best practices in curriculum integration and the effects of technology on improved student achievement. Staff development has focused on how technology and curriculum-specific software can be used to effectively create curriculum plans that are linked to the National Common Core Standards. Additionally, by using Internet-based technologies to support online courses, distance learning, and other virtual experiences, the District now has the ability to educate students without requiring their physical presence in the classroom, thus facilitating “anytime-anywhere” educational programs.

Professional Development

The District recognizes that substantial training is necessary with the inclusion of varied technologies. All staff members complete a Professional Development Needs Assessment at the beginning of the school year and then again at the end of the school year. This assessment includes items related to technology integration and skill training for both support staff and teaching staff. Staff members analyze these results and use them to plan staff development based upon the stated needs of the staff. Staff also attends various professional development opportunities throughout the course of each school year. In addition, curriculum-specific technology support materials are available to all staff on a regular, if not daily, basis.

Technology Support

Woodhaven-Brownstown School District addressed staffing needs by creating a Technology Department through a combination of internal and external resources. Processes and procedures have been created to support staff and students as well as to update and maintain the hardware and software. In order to optimize the network resources, utilization of technical tools are used to increase efficiencies in order to provide high quality of service for the end user. As demand for a wide-range of classroom technology and its inherent training increases, the District realizes the need to establish additional technology support positions when financially feasible.

Community Involvement

Developing strategies for encouraging parental stakeholders to approve, fund, and participate in the integration of technology as a teaching tool is vital in improving student achievement. Parental involvement is key to the support of the Woodhaven-Brownstown technology program, and efforts to inform and involve parents and the community will be implemented. Technical tools to disseminate information include, but are not limited to, MI STAR (Zangle), Teleparent, and a full-featured, interactive web-hosting solution implemented in July of 2012.

II. PROFILE

The Woodhaven School District was formed on July 1, 1968 by the consolidation of four smaller districts from portions of five municipalities: Brownstown, Flat Rock, Huron, Romulus, and Woodhaven. In the summer of 1999, the District was renamed the Woodhaven-Brownstown School District to more accurately reflect the student population served. The school community features culturally diverse populations and strong community values. Lately, the District's labor market has been noticeably affected by the automotive industry's distressed economy.

The Woodhaven-Brownstown School District encompasses approximately 22 square miles. There are eight school buildings including five elementary school buildings, two middle schools (one for grades 6 and 7, and one for grades 8 and 9), and one high school with the implementation of an alternative high school beginning March, 2012. The District includes one Support Services building, Central Administration building located in Patrick Henry Middle School, and a Special Education building located in Gudith Elementary School. During the 2011/2012 school year, there were 295 teachers, 20 administrators, 46 paraprofessionals, and 46 non-instructional employees for a total of 407 staff members serving approximately 4,844 students. Approximately 35.5% of our students are eligible for Free and Reduced Lunch service. There are a minimum of 116 students receiving bilingual services provided by district staff and county programs. Special education census data indicate that approximately 16% of Woodhaven-Brownstown students are eligible for services in-district or served in center-based programs.

District Buildings

Central Office Administration

24821 Hall Road
Woodhaven, MI 48183

Support Services Building

24793 Van Horn Road
Brownstown, MI 48134

Woodhaven High School

24787 Van Horn Road
Brownstown, MI 48134

Patrick Henry Middle School

24825 Hall Road
Woodhaven, MI 48183

Brownstown Middle School

20135 Inkster Road
Brownstown, MI 48174

Bates Elementary School

22811 Gudith Road
Woodhaven, MI 48183

Erving Elementary School

24175 Hall Road
Woodhaven, MI 48183

Gudith Elementary School

22700 Sibley Road
Brownstown, MI 48192

Wegienka Elementary School

23925 Arsenal Road
Brownstown, MI 48134

Yake Elementary School

16400 Carter Road
Woodhaven, MI 48183

III. BELIEF STATEMENT, MISSION, AND GOALS

The District's vision and goals relate to providing innovative teaching strategies through the integration of technology along with ongoing professional development. Technology is a dynamic, flexible, and integral educational resource; therefore, educators collaborate daily with the technology staff, administrators, and colleagues in addition to professional development programs in order to align technology resources with the curriculum.

District Mission Statement: Learning and Leading for Tomorrow

District Vision Statement: Engage, Enlighten, Empower

District Belief Statement

- We believe the Woodhaven-Brownstown School District must continue to provide an excellent program that addresses the educational needs of all students in a safe and supportive environment.
- We believe a commitment to continuous improvement is essential to achieve the mission and vision of the district.
- We believe the collaboration between the home, the school, and the community has a direct correlation to the quality of the educational system and the experience of each student.
- We believe that a strong and effective education system is essential to both the survival and prosperity of a democratic society.

Technology Mission Statement

Woodhaven-Brownstown School District regards technology as an essential tool which empowers our students to become productive members of an ever-changing society. Our staff and students will expand current technology usage through engaged learning communities using collaborative tools and techniques to prepare students to succeed in a world of continuous technological advancements.

Technology Vision Statement

Woodhaven-Brownstown School District envisions staff and students participating in a virtual environment as a strategy to build 21st century learning skills. Becoming increasingly familiar with a variety of emerging technologies will prepare students to skillfully transition from today's technologies to future technologies while pursuing both academic and economic success.

The Technology Mission and Vision Statement were updated by the Technology Planning Committee which was completed at the October 31, 2011 meeting.

Goals and Strategies for Technology Use

1. The District will provide equitable access to technology for students, teachers, and staff.

Strategies:

- The District will continue to explore new and effective technologies to advance curriculum goals.
 - Continued technological training will increase collaboration and instructional opportunities for staff and students within the district or from remote locations. For example, remote field trips and other virtual opportunities, collaborative projects, and professional development initiatives.
2. The District will provide an internal technology support system designed to enhance the ability of staff and students to fully utilize District-supported curricular initiatives.

Strategies:

- The Technology Support Team currently consists of a Network Administrator, an Assistant Network Administrator, a Hardware–Software/Cable Technician, a Network Security Technician, a Data Processor, a seasonal High School Co-Op. The Network Security Technician divides their time between the District and supporting the technology at Brownstown Township. College Interns are used as a collaborative effort between local colleges and universities to provide hands-on training in a technical environment. Long-range goals are to hire a professional development trainer to train our staff on technology advancements. Another goal is to increase our media specialists to full time positions at each school. Additionally, a helpdesk/clerical position would eliminate the need for our technicians to handle helpdesk and clerical tasks. These additional positions will be considered as funding becomes available.
 - Media Specialists will continue to conduct staff training with regard to the integration of technology into the curriculum.
 - Continued use of SchoolDude, a web-based help desk software program, will increase communication with the staff regarding the status of any trouble calls reported and will compile a database of problems and resolutions.
 - Utilize technology software to allow staff to remotely image and control workstations.
 - The District continues to improve the security environment through additional implementation, including but not limited to, access control, intrusion detection, and site-based monitoring.
 - Support staff currently uses mobile devices to assist in communication. There is a need for a data plan associated to some positions, but the cost is now prohibitive.
3. The District will continue to align technology resources with curriculum, instruction, and assessment.

Strategies:

- Technology resources will be maintained until an upgrade is determined to be necessary based on a continuing process of evaluation and assessment of emerging technologies.

- The District utilizes student achievement programs such as READ 180, Accelerated Reader, FASTT, System 44, Go Solve, Fraction Nation, E2020, Leveled Literacy Intervention, etc.
 - The District will continue the implementation of student-assessment and progress monitoring programs such as CLASS A, DRA, PLAN, EXPLORE, and MLPP.
 - District media specialists will integrate technology collaboratively with teachers into cross-curricular areas.
 - Online access to textbooks and other online resources have been introduced to the curriculum providing students with virtual access to course materials.
 - Technology continues to support best practices and differentiated instruction through the use of emerging technologies, such as electronic white boards, digital cameras, media distribution system, video conferencing carts, etc.
4. The District will support a staff development process that facilitates the integration of technology into all curricula.

Strategies:

- Software, such as CLASS A and NetTrekker, has been selected to facilitate in the implement of, and alignment with, Common Core State Standards.
 - Staff surveys are conducted on a continuous and ongoing basis as a needs assessment in order to determine the needs of professional development.
 - Technology-related conferences and professional development workshops will be provided for District staff.
5. A public relations plan will continue to keep the Woodhaven-Brownstown school community up-to-date.

Strategies:

- Woodhaven-Brownstown utilizes technology to communicate with the community through the use of public E-mail lists for information such as newsletters, busing information, school closings, etc.
- District information will be featured over the local cable access stations. Additional information may be on display in the lobbies of the buildings.
- The District website will continue to display appropriate links, school news, and other related information. The Parent Resource Page will continue to provide information for our parents and the community.
- The District will continue to expand usage of ParentConnect which is a web-based, home-to-school collaboration tool for parents/guardians to keep track of their children's academic progress.

- TeleParent is the District's Automated Calling System which can be used to communicate emergency notifications, attendance, tardies, lunch balances, special events, newsletters, and other information.

6. Teachers will continue to integrate technology in order to improve student achievement.

Strategies:

- Teachers continue to pursue differentiated instruction as the means through which technology integration supports the curriculum.
- Apply legal and ethical standards such as copyright laws, Freedom of Information Act, Digital Millennium Copyright Act, and the District Responsible Use Policy (formally referred to as the Acceptable Use Policy).
- Use technology in order to instruct students to draw conclusions, make informed decisions, apply knowledge to new situations, and create and display information. Examples include, but are not limited to:
 - At the elementary level, laying the foundation for digital citizenship, Internet safety, web-searching, Word, Power Point, online library catalog, virtual field trips, etc.
 - At the middle school level, keyboarding, Microsoft Office Suite, Google Docs, Google Earth, GPS, Web 2.0 Tools, meeting METS requirements (Michigan Educational Technology Standards), etc.
 - At the high school level, robotics, graphics, CAD (computer-aided design), advanced software, JAVA, curricular online resources for research, etc.

7. Students will utilize technology to improve achievement and new levels of understanding.

Strategies:

- Develop knowledge, ability and responsibility in the use of digital resources.
- Apply legal and ethical standards such as copyright laws, Freedom of Information Act, Digital Millennium Copyright Act, and the District Responsible Use Policy.
- Research, organize, analyze, create and present information using various multimedia avenues.
- Use technology to provide the opportunity to inquire, think critically, and gain knowledge.
- Utilize digital tools in order for the student to increase skills with creativity and innovation for the purpose of self-expression.

IV. CURRENT TECHNOLOGY ENVIRONMENT

Hardware Description

The District has approximately 2,000 workstations, laptops, netbooks, and iPads divided among the eight school buildings and one Support Service facility. The operating system is standardized on Windows XP. The five elementary schools each have one computer lab available for student use. Brownstown Middle School contains four such labs, while Patrick Henry Middle School contains six, one of which is devoted specifically to Industrial Technology. Eight computer labs are used at Woodhaven High School, some of which are dedicated to specialized applications such as CAD, graphics, programming, foreign language, and business. Specific computer-oriented courses such as journalism, broadcasting, marketing and science are generally not taught in the computer labs, but their classrooms may contain additional computers to accommodate small group usage. Curricular needs dictate the number of computers installed in these areas. Labs are available to all teachers by scheduling time for them in advance. To reduce the amount of service calls related to our lab equipment, Faronics's DeepFreeze software is used, which ensures that the workstations will have a clean, unmodified operating system "frozen" into the hard drive so that the hard drive files of the computer cannot be tampered with. At Woodhaven High School, journalism uses approximately 16 Macintosh computers.

Future Needs: Purchase additional RAM bringing workstations from 1 Gig to 2 Gig. This is necessary to improve response time and provide the minimum RAM to upgrade to the latest windows operating system. Approximately half of the workstations have 1 Gig of RAM, so this will be a large financial commitment to upgrade all the workstations.

Time Frame: We will begin during the 2012-2013 school year to inventory workstations and determine how many workstations are used by support staff who use their computer all day. We will begin upgrading RAM with those users and work toward upgrading all workstations and laptops, dependent upon available funds.

Future Needs: Upgrade the workstations to the latest version of a Windows operating system.

Time Frame: This project is dependent upon available funds for both the additional RAM as well as the cost of the new operating system.

Every classroom has a Windows-based teacher workstation. These workstations each have an additional video card installed to allow teachers to show content on the projector or TV while continuing to display his or her own desktop on the computer monitor. The teacher location also has a DVD/VCR combo unit for showing video. In the elementary schools, wall-mounted, high-definition televisions are connected to the teacher's workstation along with a document camera in most classrooms. In the three secondary schools, most of the classrooms are equipped with ceiling-mounted projectors that are linked to the teachers' workstations for classroom presentations. Two student workstations have been installed in most K-5 classrooms, while middle

schools have one student workstation per classroom. For printing, the classrooms in the secondary schools were provided with individual laser printers. Alternatively, teachers at the elementary level use a centralized printing configuration. Centralized multi-function copy machines are also available in all of the schools for printing, copying, and scanning documents. For larger print jobs, staff uses the copy machines because of the lower cost per page. To reduce printing costs as the aging secondary laser jet classroom printers fail, the district is shifting to copy machine printing. The District has a support contract for most of the copy machines in the District.

Each building has one high speed scanner connected to a computer used to scan student assessments using Remark software. Woodhaven High School has purchased an additional scanner and software as the usage of CLASS A has increased. Teachers scan the completed bubble sheets through the scanner, then upload the results to CLASS A and/or MI STAR GradeBook. Additionally, there are high speed scanners dedicated to the usage of GMADE, a program used for math intervention.

Future Needs: Purchase additional scanners (workstation and Remark software) as the usage of CLASS A increases. This need will be determined by building administration and accomplished when funding permits.

Time Frame: This project is dependent upon CLASS A usage. Alternatively, teachers can administer tests in the lab instead of printing bubble sheets.

All instructors have VoIP telephones assigned to their classrooms, each of which is assigned its own unique extension number. The telephones have additional features such as personal voicemail and a classroom paging capability that is integrated into the phone system.

To support the developing Alternative High School and other online learning opportunities, the district will provide workstations and grant funded mobile wireless Internet cards to students who do not have computers or Internet connectivity at home. Therefore, the district has purchased used computers and a few Verizon Mobile wireless cards beginning March, 2012. With the expansion of the Alternative High School, the District is considering opening and renovating, if funding available the Maple Grove facility previously vacated by the Board Office and Special Education staff, located at 24975 Van Horn Road, Brownstown, MI 48134.

Future Needs: With the expansion of the alternative school, the Maple Grove building will require new infrastructure (fiber connection and local area network cabling), and all the necessary equipment to open the Alternative High School including items, but not limited to, computers, copy machines, wireless access points, projection systems, and other applicable requirements to support the staff and students in the remodeled building.

Time Frame: The time frame for this is dependent upon the enrollment of the students in the new alternative school as well as available funds.

In the summer of 2010, all K-2 classrooms were equipped with a LightSpeed RedCat sound amplification system, IR receiver, and microphone. Using the remaining bond funds, we have purchased the same RedCat sound systems for the rest of the elementary classrooms (except at Bates Elementary School where they already have sound amplification solutions in each classroom) and six science rooms at Patrick Henry Middle School using remaining bond funds. Not only do such systems assist students who are hearing impaired, but studies indicate that all students in the elementary level can benefit from the use of classroom sound systems due to the belief that children naturally struggle with the hearing and proper interpretation of dialogue when

compared to that of adolescents and adults. Studies by the Institute of Enhanced Classroom Hearing and the U.S. Department of Education corroborate this (see www.classroomhearing.org for more information). Apart from the RedCat sound systems, many of the other elementary school classrooms also contain various types of soundfield systems and microphones. All of the soundfield systems in the district—RedCat or otherwise—are capable of both voice amplification as well as the amplification of other devices, such as computers and televisions. Two MP3 players that include one player and four headsets each were ordered in April 2012, two for each elementary classroom with remaining bond funds. Our science program makes use of such technology as microscopes, stroboscopes, and a variety of sensors. In addition, the Math Department received specialized calculators to supplement their lessons. Patrick Henry Middle School's Math Department also participated in a pilot study that supplied PolyVision interactive white boards to the building's math teachers.

There were a number of other technologies purchased for classroom usage, such as document cameras, Promethean interactive white boards, PolyVision interactive white boards, PDA's, laptops, CD/DVD duplicators, metronomes, MIDI controllers, MP3 players, digital cameras, TV's, and projectors.

Future Needs: Teachers have expressed interest in having an interactive whiteboard installed in their classroom to engage students.

Time Frame: This project is dependent upon available funds.

Woodhaven-Brownstown School District also makes use of two high-end video solutions: the Mediacast digital video distribution system and the Life-Size video conferencing units. The Mediacast solution consists of nine video carts (one in each of the eight schools and another in the Board Office), roughly 40 set-top boxes installed throughout the district, and an array of servers used for storage in the district's head-end network room. The goal of the Mediacast solution is to provide teachers and students the ability to host, record, and distribute video presentations and make them available on the network for district-wide viewing. This can be achieved by using the network-ready mobile video carts, which are fitted with cameras, encoders, and a DVD-VCR unit to record and broadcast presentations, events, and media stored on DVD's and VHS tapes. Televisions installed district-wide can act as Mediacast kiosks when used in conjunction with the set-top boxes. These allow the TV's to stream content such as PowerPoint slideshows, live presentations, television stations, etc. By using "all-call mode", messages can instantly be pushed to all Mediacast kiosks at once to alert staff and students of important news, possible emergencies, and so on. We pay an annual maintenance fee that includes software upgrades, most hardware components, in-house training, and technical support.

The Life-Size video conferencing cart remotely transmits live two-way video, both inside and outside the district, providing students with a unique classroom experience. Staff members can also use these carts for additional purposes, such as school-to-school staff meetings or hosting an interactive, inner-district Q&A with a guest speaker. The district has teamed up with WCRESA to ensure seamless bridging with WCRESA's PolyCom equipment. One cart has been given to each school. We pay an annual maintenance fee that includes software upgrades, most hardware components, and technical support.

During the summer of 2010, after the construction of the board office was completed as a wing off of Patrick Henry Middle School, the board room technology was installed. The board room technology included a sound solution able to record the activity from 13 microphones. It included three projectors able to simultaneously display from three floor locations. The podium was

equipped with a laptop, document camera, and one of the microphones. The solution is controlled by a single remote control to be easily operated during the Board of Education meetings. As requested from the Board of Education, in January 2011 the regular Board of Education meetings were recorded, broadcasted, and streamed through the Internet and over our local cable stations. This broadcast is accomplished by using the MediaCast cart and the board room technology.

Future Needs: The board room technology has the ability to add additional cameras that could be managed from the A/V room. This expansion capability has not been implemented both because of the additional costs along with the existing equipment meets the needs of the district.

Time Frame: This project is dependent upon a needs assessment and additional funding.

Future Need: The district has a proposed hardware replacement plan with the goal to keep student computers less than six years old before they are replaced. Due to state funded cost constraints, the district has not been able to implement this plan. Alternatively, we have purchased refurbished computers that are 7000 series to address equipment failure that is no longer on warranty. At the end of the 2012-2013 school year, over 1,500 computers will be out of warranty. Therefore, planning for hardware and replacement parts is required to keep the computers running. During the 2012-2013 school year, we will continue to purchase refurbished equipment to reduce costs. Previously, the Board of Education has budgeted \$50,000 for computer hardware replacement costs. Due to financial hardships, the district was forced to freeze this account to address other financial priorities.

Time Frame: This project is dependent upon available funding.

Software Description

The District computers are primarily standardized with HP 7000/8000 series workstations running Windows XP, with some Macintosh workstations in the journalism classrooms running Mac OS. Each computer includes a web browser such as Google Chrome, Microsoft Internet Explorer, Mozilla Firefox, or Safari. The majority of these workstations have Microsoft Office 2003 Professional Suite installed. Content viewing software such as Adobe Flash, Adobe Reader, and Java is available where applicable. Most hardware has been standardized to assist in support, imaging, and training. In the summer of 2011, as a cost savings measure, we converted from a Novell environment to a Microsoft environment as well as from Novell GroupWise E-mail to Google E-mail. We are continuing to use Novell ZENworks, but we are evaluating free replacement applications such as Group Policy, FOG and VNC. Woodhaven-Brownstown School District uses administrative and educational applications of which many, but not all, are hosted by Wayne County RESA (WCRESA). Teacher computers are preloaded with some additional software, namely ExamView Assessment Suite, MI STAR (Zangle) Applications, Adobe Reader, and many more. Recently the District purchased of over 150 iPads, of which, 90 are distributed among 3 carts shared by the Title eligible classrooms.

Future Needs: Increase the number of iPads available for our staff and students. The District is having discussions about the best practices and evaluations on improved student achievement with the iPad usage.

Time Frame: This project is dependent upon available funding.

Network Infrastructure Description

In 2006, Woodhaven-Brownstown School District completed the installation of private fiber connecting all eight school buildings, the central administration building and the support services facility. All district buildings connect to the core switch located at Woodhaven High School's MDF via single-mode fiber optic cabling. The private fiber offers enough bandwidth to support voice, video, and data across the district. An AT&T Opt-E-Man line hosts a 50 Mbps line from Woodhaven High School to WCRESA, scheduled to be upgraded to 100 Mbps in July 2012. Network monitoring software is used to analyze the traffic utilization on the Opt-E-Man line, which indicated the need to increase band width. WCRESA provides Internet access and TCP/IP-based networking services for the District. The District network infrastructure consists of Cisco hardware distributed amongst all District facilities. A Cisco 6509 modular chassis network switch located in Woodhaven High School's MDF routes all network traffic to its proper destination. In 2011, we upgraded from a Cisco Pix to a Cisco ASA firewall. All buildings contain Cisco 2950's, 3560's, and/or 3750's suitable for routing all traffic to the core switch. Some of the Cisco 3560's and 3750's feature Power Over Ethernet (POE) capable of providing power for VoIP phones, Axis security cameras, and wireless access points without the need for standard electrical plugs. Mostly because of the expansion of mobile devices, the District has an increased need for additional wireless capabilities. Additional switches are necessary to separate network traffic to maintain appropriate quality of service to each area of the network.

Future Need: Additional wireless capabilities in the buildings based in increased usage of mobile devices. During the spring of 2012, we have added access points for each main office area. At that time, the District awarded a bid to Teoma Systems for a District-wide wireless solution. Additionally, we awarded a bid to NetTech for the required Cisco switches.

Time Frame: This project is contingent upon USF approval.

The school buildings offer multiple data and voice drops in all instructional areas to allow VoIP telephones and computers to be installed in convenient locations. Workstations are capable of connecting to the network at speeds of up to 100 megabytes. The network switches connect at speeds of up to 1,000 megabytes between buildings and closets. The District is planning to upgrade the Cisco 6509 modular chassis network switch dependent on available funding. There are spare switches available to address hardware failure. The District has standardized on Ruckus as the wireless solution and has the controller management console to support the access points. While there a number of existing access points installed, district wide wireless access is a priority, dependent upon available funding.

Future Need: The District plans to upgrade the Cisco 6509 modular chassis network switch.

Time Frame: Dependent upon available funding.

The Main Distribution Facility (MDF) at Woodhaven High School houses servers, appliances, and network devices providing various services:

<u>Type of Service</u>	<u>Title</u>
E-mail	Google E-mail
Internet Content Filtering	8e6

Spam E-Mail Filtering	Barracuda
Streaming Video	MediaCast
DNS/DHCP	Microsoft DNS/DHCP
Security Camera Video Storage	exacqVision / Axis
Firewall	Cisco ASA Firewall
Voicemail	NEC
Backup	VEEME
Printing	Print Manager
Mobile E-Mail	BlackBerry Enterprise Server
Directory Service	Active Directory
Desktop Management	Novell ZENworks
Storage Area Solution	GreenBytes Storage Area Solution
Off-site Disaster Recovery	GreenBytes Storage Area Solution
Virtual Server	VMware
Historical E-mail	Novell GroupWise

Telecommunications Description

During the 2007-2008 school year, the Telecommunications system had been upgraded to an NEC Voice Over Internet Protocol (VoIP) system. VoIP phones have been placed in each classroom with a unique extension number. The telephones have additional features such as voicemail, call forwarding, and Do Not Disturb (DND). The system offers Auto Attendant routing and remote capabilities to activate an after hour message and a snow message for each building. The District has a support contract with Al-Tronics for the phone and voicemail systems. The system utilizes two AT&T prime lines that support the District which has been a source of financial savings while substantially expanding the ability to communicate with parents and the community. We still have a number of Centrex lines for a small group of applications such as fire/security alarms and back-up lines. The District maintains a support agreement to resolve any hardware or software issues with Al-Tronics. There are approximately 40 district cellular phones used by support staff and building staff.

Administrative Systems Description

The District connects to WCRESA for student management, finance, and human resources administrative software. Most of the information is stored on WCRESA's mainframe. The District uses WCRESA's SMART finance system, CYBORG Payroll, and MI STAR (Zangle) for the student management system. The finance system includes general ledger operation along with an online purchase order system, requisition system, and an asset program. The student information system MI STAR (Zangle) is updated by WCRESA to address any new reporting requirements as well as software enhancement requests from the districts. In addition to the WCRESA software, Woodhaven-Brownstown School District has expanded Google E-mail for all students along with teaching staff and support staff in the District. Highlights from the MI STAR (Zangle) system are:

1. TeacherConnect – A web-based application that allows teachers to enter classroom news, attendance data, assignments, comments and student class marks directly to the MI STAR (Zangle) Desktop database over the Internet or on the District intranet.
2. GradeBook – A web-enabled, full-featured, electronic grade book for teachers. Teachers define and track “tasks”, such as homework assignments, tests, quizzes, recitals, term papers, etc., on a class-by-class basis. GradeBook has real-time connectivity to the scheduling and attendance data in MI STAR (Zangle), allowing teachers to see their

current class rosters and related attendance data. Grades-to-date for a class are automatically calculated and tracked for each student according to options configured in the GradeBook setup.

3. ParentConnect & StudentConnect – These two applications provide parents and students access to student data over the Internet. It is a secure web-based application providing information such as:
 - a. District, school, and classroom News
 - b. Student demographics
 - c. Student schedules
 - d. Attendance activity
 - e. Class assignments
 - f. Report cards & progress reports
 - g. Transcripts
 - h. Standardized testing results
 - i. Behavioral incidents
 - j. Food service transactions.
4. Food Service – A web-based component of the ParentConnect software that keeps a detailed record of student cafeteria transactions. MI STAR (Zangle) Food Service stores information about what foods and drinks were purchased, when the transaction took place, the exact cost, and the student's remaining balance.
5. PolyPlot – This application is used by the Transportation Department to facilitate bus routing.

Central Office administrators and members of the Woodhaven-Brownstown Board of Education make use of a web-based application called BoardBook. BoardBook is a document storage, retrieval, and management system that is meant to simplify the process of creating and distributing Board meeting agendas and documentation. The software has the capability of handling all paperwork-related tasks electronically, which has significantly reduced cost by saving on the amount of paper consumption and waste and it is efficient as it eliminates the need to deliver the information.

An inventory of existing technologies on a building-by-building basis is available in Appendix C of this document.

Web-Hosting Solution – During the spring the District has awarded a contract to SharpSchool for a Web-Hosting Solution. SharpSchool provides K-12 institutions cloud hosted solutions that meet a variety of educational needs. Examples of these needs are websites for the District, schools, departments, and teachers. It has additional applications such as centralized communication portals for social media expansion, teacher tools such as Web 2.0 applications, a Dropbox solution, directory searches, and much more.

V. TECHNOLOGY PROJECTS

The following is a list of detailed technology projects that the Woodhaven-Brownstown School District intends to either continue maintaining or to pursue over the course of this plan. There will also be continuous review and upgrading as needed.

The following are existing technological opportunities for Woodhaven-Brownstown K-12 students:

- A Fiber optic Wide Area Network (WAN) in all buildings including voice/video/data
- NEC VoIP phone system installed with telephones in every classroom
- Standardization of workstations and network electronics
- Provide all K-12 classrooms with computers and access to networked printer/copy machines
- Moodle opportunities
- Video surveillance capabilities
- A computer lab in each of the schools
- Google email currently for 6-12th grades
- Google educational offerings
- Shared academic and administrative resources
- Enhanced curricular choices (i.e., integrated learning systems)
- Compatible standards among all schools
- High-speed data and communication exchange
- Access to the Internet, online databases, electronic books, etc.
- Access to higher education offerings
- Electronic delivery of video, CD-ROM, and software resources
- Electronic links to business, industry, and governmental agencies
- Video conferencing for remote learning opportunities, meetings, and staff development
- Video carts for broadcasting between schools and recording to a server
- Internet account management
- Local online forum for student projects and teacher collaboration
- REDCAT sound amplification systems in K-5 elementary classrooms
- Two MP3 players with 4 heads sets in all elementary classrooms
- Student access to a personal shared drive on the network
- Staff access to a personal shared, department, building, and district shared drives
- Emergency calling systems to quickly disseminate information to the community
- Virtualization technologies stored on our Storage Area Network (SAN)
- Expanding wireless Local Area Network (LAN) with central management capabilities
- Increasing iPad usage with administrators, title students, and special education students
- Web hosting service including teacher websites and portals
- Expansion of the usage of online courses in addition to the continued usage of GENNET

The District is investigating the technical details, the financial impact, and USF reimbursement possibilities of integrating the following components and services into our technology plan:

- Complete the district-wide wireless infrastructure, including necessary switches and cabling
- Cellular wireless Internet service devices for mobile connectivity
- Expansion of cellular services to include data plans where appropriate

- Increase the ratio of available computers to students beginning with expanding the use of iPads along with the required wireless infrastructure
- Implementation of hardware replacement plan based on available funds
- Install additional interactive white boards in the classrooms and common areas
- Building technology required to support the alternative high school. This includes Internet connectivity, hardware such as switches, cabling infrastructure, wireless access points, computers (desktop, laptops, netbooks, iPads), phones, projection devices, interactive boards, and mobile connectivity.

VI. CURRICULUM INTEGRATION

The District updated its technology curriculum in order to align with the Michigan Educational Technology Standards (METS See Appendix E), and is continually giving consideration to a K-12 technology curriculum that is based upon the alignment with the available Common Core State Standards. National and state developmental standards are used to map a curricular sequence consistent with the ongoing process of updating and expanding technology in the District. In addition, the technology is regularly reviewed in order to ensure that it is consistent with the curriculum standards as well as meeting the developmental needs of the student body.

Delivery of the information literacy curriculum continues on two levels: At the elementary level, technology and information literacy instruction is ongoing using regularly scheduled classes at all schools. Three shared elementary media specialists conduct curriculum delivery on a daily basis to the kindergarten through 5th grade elementary student body. At the secondary level, instruction is facilitated through shared library media specialists, computer lab teachers, and classroom teachers. Technology-based classes are required at the 6th through 9th grade levels and are continually offered as electives at the 10th through 12th grade levels.

More than a decade of research on technology integration with the K-12 curriculum content has shown it to be a best practice. Not only do technological applications engage learners, but also results in improved student achievement. Data-driven technology decisions are addressed not only by the technology department, but also by curriculum committees, NCA committees, school improvement committees, and various administrative committees.

Professional development continues to be focused on utilizing technology in the classroom with emphasis on effectively creating, delivering, and enhancing differentiated instruction. Another goal is to maximize the use of technology in order to deliver rigorous and relevant learning experiences to our student body. Technology applications offers multiple methods of assessment, thereby allowing teachers additional opportunities to differentiate instruction in order to meet each student's learning needs and styles. Software programs such as CLASS A and CPS (Classroom Performance System) offer teachers the ability to have immediate feedback using data to drive their instruction. All students in core content areas or elective classes benefit directly from technology integration in the classroom whether it is as a teaching and learning tool or an extended learning experience.

The many technologies available offer teachers and students a great deal of flexibility in terms of "anytime-anywhere" educational programs. These technologies are continuing to change the very nature of teaching and learning through the implementation of online course offerings, distance learning opportunities, and virtual class experiences.

By using Internet-based technologies (i.e. GenNet, Florida Virtual High School, Moodle) to aid in the facilitation of online courses, distance learning capabilities, and virtual experiences, the District now has the ability to educate students without requiring their physical presence in the classroom. Examples of such scenarios would be:

- Homebound students who are unable to attend school
- World language and advanced placement classes wherein only a select few students in multiple schools are enrolled. By using these technologies, students at each location can "virtually" interact with their instructor as well as classmates from other schools
- Multicultural student projects that promote collaboration from locations around the region, state, country and the world

- Professional development programs for the purpose of standardized staff development throughout the district
- Credit Recovery opportunities.

Increased use of technology, including that of online courses and distance learning, offers many benefits, including:

- Convenience
- Flexibility
- Interactivity
- Enhanced content (i.e. audio, visual)
- Educational equity
- Synchronous and asynchronous delivery.

The utilization of online courses and distance learning programs requires considerable District commitment in terms of needs assessment, instructional goals, teaching staff and materials, professional development, infrastructure, and support personnel. These educational opportunities can benefit all students now and in the future. Additionally, in an effort to target a student population that has learning styles that are not compatible with a traditional brick-and-mortar environment, the District has developed an Alternative High School. The Alternative High School will pilot its program with online coursework, but develop into a more blended approach offering both classroom instruction as well as online learning opportunities.

Goals for Student Achievement

- Authentic learning experiences that encourage global awareness, creativity, innovation, and critical thinking
- Online collaboration resulting in the creation of web content such as blogs, wikis, podcasts, video/photo-sharing, Google Docs, online interactive multimedia collages, etc.
- Students explore real-world problems and challenges, simultaneously developing cross-curricular skills while working in a dynamic project-based environment
- Engaging students as producers of content rather than merely consumers in order to allow for multiple measures of mastery
- Engaging students with the real-world data, tools, and experts they will encounter in college, on the job, and in life. Students learn best when they are actively engaged in meaningful work.

Specific Curricular Area Strategies and Achievement Impact

The curriculum-specific software that is listed below is being used by elementary, middle school, and secondary students. The funding comes from the district or state and federal grants for targeted students.

English/Language Arts

- Read 180
- Genesis Language Lab
- Rosetta Stone
- Accelerated Reader
- System 44
- Solo 6

- Raz-Kids

Science

- National Geographic Science
- Google Earth

Math

- FASTT
- IXL Math
- Fraction Nation
- Geometer Sketch Pad
- Go Solve
- GMADE

Social Studies

- Google Earth

Computer Assisted Design

- Auto-Desk 2010
- AutoCAD 2010
- Autodesk Revit Architecture 2010

Robotics

- Parallax PBasic V.2.5

Graphic Arts

- Maya
- Adobe Creative Suite 3

Industrial Tech

- Flight Simulator
- Desktop Publishing
- Gamemaker
- AutoCAD
- CNC Designer
- Home Designer
- Sketchup

Marketing

- Virtual Business

Advanced Software

- Certiport

Personal Finance

- Money Skill

JAVA

- Blue J

Dental

- Delmar Dental Assisting

Speech

- Earobics

Keyboarding

- Mavis Beacon

Cross-Curricular

- Destiny Circulation Software
- Turnitin.com
- Career Cruising
- E2020

- Gen Net
- CLASS A
- BrainPop
- NetTrekker
- Discovery Education Streaming
- Clicker 5
- Study Island
- iPad Applications

Curriculum-specific technology has a significant impact on student achievement. Through the use of state-of-the-art equipment and the most up-to-date effective teaching practices, engaging and empowering personalized learning experiences are provided for all students. Technology-rich classrooms enable, motivate, and inspire all students to achieve. Learning technologies are critical in order to raise student achievement and to improve the productivity of our educational system. Technology will be the vehicle for accelerating the transformation of our schools into one that befits the digital age of global competition, and to ensure that our students are college and career ready and prepared to compete in the digital economy. The following is a statement from the 2010 study, published by Jason B. Angle, Ph.D., "The utilization of educational technology resources is indeed supportive of school-level efforts to raise student achievement." Technology is one sector of educational spending that isn't going away.

VII. TIMELINE

In the timeline below, the highlighted green areas indicate when the District has started the initiative. Ongoing professional development supports the teachers to use different types of technologies as a tool in their instruction.

Curriculum Integration	2011 – 2012	2012 - 2013	2013 - 2014	2014 - 2015
Professional Development				
Usage of Electronic Textbooks				
CLASS A				
School Specific Projects				
Web-Site Hosting Service-Teacher Sites				
Web 2.0 Tools (Wikis, Podcasts, Student Portfolios, Drop Box, Blogs)				
Student Email				
Document Camera Integration				
Interactive Whiteboard Integration				
iPad Applications in the classroom				
Alternative High School Tech solutions				
Elementary Classroom Sound Amplification System				

VIII. INCREASED ACCESS AND INTEGRATION

In March 2002, Woodhaven-Brownstown School District voters approved a \$90.5 million bond issue wherein approximately \$15.6 million were technology related. Major acquisitions of various technologies were scheduled after the building renovations and additions. The bond projects have been completed with the exception of a district-wide wireless solution, classroom sound amplification systems, and other initiatives that are dependent upon contingency funds available after the final construction projects are completed. After final expenditures, any remaining funds will be used for enhancing classroom technology based on needs assessment.

In order to prepare students for a world that requires information and technology literacy skills, the Woodhaven-Brownstown School District must provide all students with access to technology through curriculum that utilizes technology-based teaching and learning. In addition, on-site support staff is critical to the implementation and ongoing maintenance of operational equipment.

The district is also exploring blended learning opportunities. Blended learning mixes various event-based activities, including face-to-face classrooms, teacher websites, live e-learning, and self-paced learning. Blended learning programs may include several forms of learning tools, such as real-time virtual/collaboration software, self-paced, web-based courses, electronic performance support systems, embedded within the job-task environment and knowledge-management systems. In order to accommodate these initiatives, additional expenditures for hardware and software, such as laptops, wireless cards, data service plans etc., will be required.

Bond funds, sinking funds and general funds have been used for the acquisition of a voice, video, and data infrastructure that support the following curriculum specific technologies:

- Data projectors
- Interactive white boards
- Document cameras
- Student and teacher computers
- Computer labs
- Wireless laptop computers
- Media distribution system
- Video conferencing equipment
- MediaCast audio and video equipment and electronic resources
- Learning lab(s)
- Sound Amplification Units
- Specialized voice recognition programs
- Computers with large screen monitors equipped with DVD, VHS, and additional video card
- District licenses for online encyclopedias
- District licenses for online interactive teaching and learning resources
- REDCAT LightSpeed classroom audio systems for elementary classrooms.

It is a challenge for the district to acquire funding not only to maintain existing technology, but also to expand its technological acquisitions.

Adult Literacy Services

The District was unable to sustain adult literacy services since the Adult Education program was discontinued after the 2003 school year based on low enrollment and revenues. An Adult Education GED certification program is available in the neighboring district, Southgate, Michigan. Adult ESL classes are also available in neighboring districts through our WCRESA ESL Consortium. Based on the technical advancements of online courses, other methods of learning opportunities, and the development of the High School Alternative School, the District may consider offering such services, again dependent on the financial impact to the District.

Universal Design for Learning (UDL)

Whether it is building construction or enhancements to the curriculum, the decisions made include consideration of the students learning environment. UDL is a framework for designing educational environments that enable all learners to gain knowledge, skills, and enthusiasm for learning. This is accomplished by simultaneously reducing barriers to the curriculum and providing rich supports for learning. Designing any product or environment involves the consideration of many factors including access to technology, aesthetics, engineering options, environmental issues, safety concerns, and cost. Often the design is created for the “average” user. In contrast Universal design, according to the center for Universal Design, “is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.” Universal design is an approach to the designed products and environments, including instruction, which takes into consideration the variety of abilities, disabilities, and racial/ethnic backgrounds, reading abilities, ages, and other characteristics of the student body in order to reduce barriers to the learning process.

Assistive Technologies

The District will access new and emerging assistive technologies on an as-needed basis. There is a District Assistive Technology Plan and Team. The team works through the existing Student Support Team process to assist general and special educators in planning and accessing assistive technology for individual children. The District complies with the provisions of the Americans with Disabilities Act as it applies to assistive technology and meeting the individualized needs of students and staff.

The District’s Assistive Technology Plan can be found in Appendix D.

IX. PROFESSIONAL DEVELOPMENT FOR TECHNOLOGY INTEGRATION

The District recognizes that substantial staff development is necessary with the inclusion of varied technology. Initial, as well as ongoing training, will be necessary to enable the use and integration of technology into the curriculum. Teachers, administrators, and instructional staff need support in their efforts to use technology as a teaching and learning tool. Continuing professional opportunities in promoting technology-based teaching styles together with access to cutting-edge technology and ongoing professional development for teaching staff will help to promote a seamless integration of technology-enhanced teaching and technology-based hands-on learning. Woodhaven-Brownstown School District's professional development is aligned with Michigan's Grade Level Educational Technology Standards & Expectation, the International Society for Technology in Education (ISTE) and the National Educational Technology Standards for Students (NET-S).

Currently, staff members have regular and ready access to instructional technology and a materials collection that supports the instructional programs. District and building comprehensive needs are analyzed in relationship to further integration of technology into curricular delivery resulting in long-range goals and plans. In addition, Building and the District School Improvement Plans include these goals as they relate to technology and its infusion into the teaching and learning environment that directly reference State and National Standards.

The District Technology Department continues to work with the District and Building School Improvement Teams, support staff, administrators and the Curriculum Department to develop and implement a comprehensive, ongoing professional development training program specifically for technology. A method frequently used for individual, small group or district-wide professional development needs is the trainer-the-trainers model.

Strategies to Ensure Quality Professional Development and Promotion of Curriculum Integration:

- Assessment of staff needs
- District commitment to staff development through time and resource allocation
- Trainer-the-trainers model in buildings
- Technology workshops off campus through WCRESA and other organizations
- Online resources made available to staff
- Coordination of training with hardware and software vendors
- Professional training for technical staff provided by the contract company; additional resources available at WCRESA
- Ongoing evaluations by staff of professional development offerings.

Supporting Resources

District employees have access to many of these resources in an effort to assist in their professional development as applicable to their position:

Technology Policies

- Woodhaven-Brownstown Responsible Use of Technology Policy
- Children's Internet Protection Act
- NETS-A
- NETS-T
- NETS-A
- METS
- See also Section XII Policies and Procedures

Video Lending Library/Instructional Training

- The district is shifting their primary training model to the creation of training videos for the staff and the community. They can be stored and retrieved from the district website or from the MediaCast Video-on-Demand server. Examples of training videos are Google E-mail, Google Calendar, Promethean Board trainings, and Board of Education meetings. Training videos are an excellent media to deliver professional development as individuals can watch them at a convenient time and place.

School Website

- Professional development training opportunities are available to staff on the Employee Protected link of the District's website.

WCRESA Support

- Network Administrator's Group
- Instructional Technology Leader's Group
- MI-Star (Zangle) User's Group Meetings
- CLASS A User's Group Meetings
- Destiny User's Group Meeting

X. TECHNOLOGY TRAINING

The Woodhaven-Brownstown School District has a working plan to ensure that as technology arrives in classrooms, staff will be knowledgeable in its use. For technology to become a natural part of the teacher's daily lesson plan, it requires continuous training on the integration and application of technology in the curriculum. The District supports the following resources as part of the technology plan for professional development in technology expertise. It recognizes the importance of dedicating time for professional development. Therefore, additional training is offered to our staff after school, during staff meetings, over the summer, or during the school day if appropriate.

The training schedule for 2011-2012 school year is listed below followed by course descriptions.

TRAINING SCHEDULE 2011

Date		Time	Description
March 7, 2011	Monday	4:00-5:30	Intro to Power Point
March 8, 2011	Tuesday	4:00-5:30	Moodle Basics
March 14, 2011	Monday	4:00-5:30	Basics of Promethean
March 22, 2011	Friday	4:00-5:30	Intro to Excel
March 28, 2011	Monday	4:00-5:30	Basics of PolyVision
March 31, 2011	Friday	4:00-5:30	Intro to Excel
April 11, 2011	Monday	4:00-5:30	Google Apps for Education
April 19, 2011	Tuesday	4:00 5:30	Video Conferencing Opportunities
April 25, 2011	Monday	4:00-5:30	Workstation & file management and presenter clickers
May 3, 2011	Tuesday	4:00-5:30	MediaCast Cart - How to record morning announcements
May 9, 2011	Monday	4:00-5:30	Computer Security
May 17, 2011	Monday	4:00-5:30	Document Cameras
May 23, 2011	Monday	4:00-5:30	Workstation Extended Desktop
June 20-June 23, 2011	Mon, Tues, Wed, Thurs	9:00-10:30	Marzano Strategies with 7 categories of Technology
June 27, 2011	Monday	9:00-12:00	Overview 21 things

TRAINING SCHEDULE 2012

September 12, 2011	Monday	4:00-5:30	Zangle Attendance
September 20, 2011	Tuesday	4:00-5:30	CLASS A Overview
September 26, 2011	Monday	4:00-5:30	GradeBook & Classroom News
October 10, 2011	Monday	4:00-5:30	Moodle Basics
October 18, 2011	Tuesday	4:00-5:30	Google Apps for Education
October 24, 2011	Monday	4:00-5:30	Document Cameras
November 7, 2011	Monday	4:00-5:30	CLASS A - TD02 - Schedule a test
November 14, 2011	Monday	4:00-5:30	CLASS A - TD01 - Create a test
November 21, 2011	Monday	4:00-5:30	CLASS A Performance Analysis
November 28, 2011	Monday	4:00-5:30	CLASS A workshop
February 6, 2012	Monday	4:00-5:30	CLASS A - TD02 - Schedule a test
February 13, 2012	Monday	4:00-5:30	CLASS A - TD01 - Create a test
February 20, 2012	Monday	4:00-5:30	CLASS A Performance Analysis
February 27, 2012	Monday	4:00-5:30	CLASS A Workshop
March 12, 2012	Monday	4:00-5:30	Moodle
March 19, 2012	Monday	4:00-5:30	Promethean
March 27, 2012	Tuesday	4:00-5:30	PolyVision
April 9, 2012	Monday	4:00-5:30	Google Apps for Education
April 17, 2012	Tuesday	4:00 5:30	Video Conferencing Opportunities
April 23, 2012	Monday	4:00-5:30	Workstation & file management and presenter clickers
May 7, 2012	Monday	4:00-5:30	Computer Security
May 15, 2012	Tuesday	4:00-5:30	MediaCast Cart - How to record morning announcements
May 21, 2012	Monday	4:00-5:30	Workstation Extended Desktop
July 18, 2012	Monday	9:00-12:00	Introduction to 21 Things
June 25 - June 28, 2012	Mon, Tues, Wed, Thurs	9:00-10:30	Marzano Strategies with 7 categories of Technology

CLASS A Overview

This course will provide a general overview of CLASS A including performance analysis, test creation, scheduling, NetTrekker, and other commonly accessed CLASS A features.

CLASS A Performance Analysis

The goal of this training is to learn how to run a variety of frequently used reports. Examples are the student test history, DRA reports, and MEAP analysis reports. You will also learn to: use roster snapshots to view data for past years' classes, use saved student sets to filter the data, and understand how the data is being represented and how these reports can inform your work in the classroom.

CLASS A Workshop

The goal of this training is provide time in the lab to enter all types of tests into CLASS A. Technical support will be available to assist in the actual entry of tests into CLASS A.

CLASS A TD02 – Schedule, scan, and report a Test

The goal of this training is to learn how to schedule tests, print test masters, answer bubble sheets, scan answer sheets, correct scanning errors and run test reports.

CLASS A TD01 – Create a Test

The goal of this training is to create new tests, select from the item bank, set cut points for proficiency standards, and print test masters.

Zangle GradeBook & Classroom News

This course will train staff on how to use the GradeBook in Zangle. The GradeBook is used to enter student grades for homework assignments and tests. This course will also demonstrate the use of the classroom news features in Zangle.

Zangle Attendance

This course will train staff on how to post morning attendance and manage student absences in Zangle. This class also covers the seating chart features in Zangle.

Moodle Basics

This class will cover the very basics of Moodle. Examples of topics covered in this class include navigating the Moodle web page, signing into Moodle, and the basics of course creation.

Moodle

This class is recommended for users who have used or are currently using Moodle. We will be covering course creation and management features in detail.

Intro to Power Point

This class will cover the very basics of Microsoft PowerPoint. Examples of topics covered in this class include navigating the application, creating slides, adding pictures and clip art, and viewing a slide show.

Intro to Excel

This class will cover the very basics of Microsoft Excel. Examples of topics covered in this class include navigating the application, manipulating cells, creating basic graphs & charts.

Basics of Promethean

This class will cover the basics of using a Promethean Board. The class will include an overview of the hardware needed, how to connect, and how to use the pen to interact with the board.

Promethean

This class will mainly cover the Activision software and Promethean Planet. Staff members who attend this course should have previous experience using a Promethean Board.

Basics of PolyVision

This class will cover the basics of using a PolyVision Board. The class will include an overview of the hardware needed, how to connect, and how to interact with the board.

PolyVision

This class will cover the intermediate to advanced features of the PolyVision Board and associated software. Staff members who attend this course should have previous experience using a PolyVision Board.

Document Cameras

When a document camera hooks up to a computer, it offers many additional features. Document cameras are devices with embedded cameras that allow users to transmit images of your documents to a projector or computer screen. This is a comprehensive training on operating classroom document cameras.

Google Apps for Education

This course will cover the WBSD Google Apps site. Staff members who attend this class will learn how to login, create online documents, share online documents, and much more.

Workstation & File Management / Presentation Clickers

This class will cover basic file management. Topics include saving to the network, printing, file organization, and tasks commonly performed by district staff. We will also be covering the use of presentation clickers.

Workstation Extended Desktop

This course covers how to setup and manipulate your classroom TV or projector. Some examples include extending your computer's display to your TV/projector and toggling between external devices such as a document camera and DVD/VCR player.

Computer Security

Viruses, spyware, scams, and other forms of malicious trickery are all over the Internet. This course will help identify them and provide tips and suggestions on recovering from them.

Marzano Strategies with 7 Categories of Technology

These sessions will cover Robert Marzano's nine instructional strategies that are most likely to improve student achievement and paired these strategies with seven categories of Technology.

Introduction to 21 Things for the 21st Century Educator

This course will cover the how the 21 things website can be used as a resource in technology integration.

MediaCast – How to record morning announcements

This course will cover how to use the MediaCast cart to record activities such as morning announcements.

Video Conferencing

This course will cover how to use the video conference cart and the many video conference opportunities available to our students.

Additional training has been offered, and will be offered again on an as-needed basis, in the following:

- Accelerated Reader program
- Classroom data and computer projections systems
- Lesson Plans and the Web
- Personal Digital Assistants
- Principalm
- Career Cruising
- Web-based Educational Development Programs
- Professional libraries available at school buildings
- Michigan Teacher Network
- Michigan Electronic Library
- Training by hardware and software vendors
- District website links/resources
- Online subscription services (Proquest, Worldbookonline)
- WCRESA website links/resources
- Michigan Virtual University
- Florida Virtual University
- Google email & apps
- United Streaming Video
- Vision
- Marzano Strategies
- 21 Things for Teachers
- MI STAR (Zangle) GradeBook.

XI. TECHNICAL SUPPORT

In order to maximize the District's investment in technology, appropriate personnel are necessary to ensure that the Plan and its vision are effectively implemented and supported. While technology is generally perceived to be equipment, software and peripherals, its value and power as a resource comes only from its widespread use. The responsibility for the acquisition and implementation resides with designated, capable and qualified professionals.

The District uses the following combination of internal and external human resources for technical support:

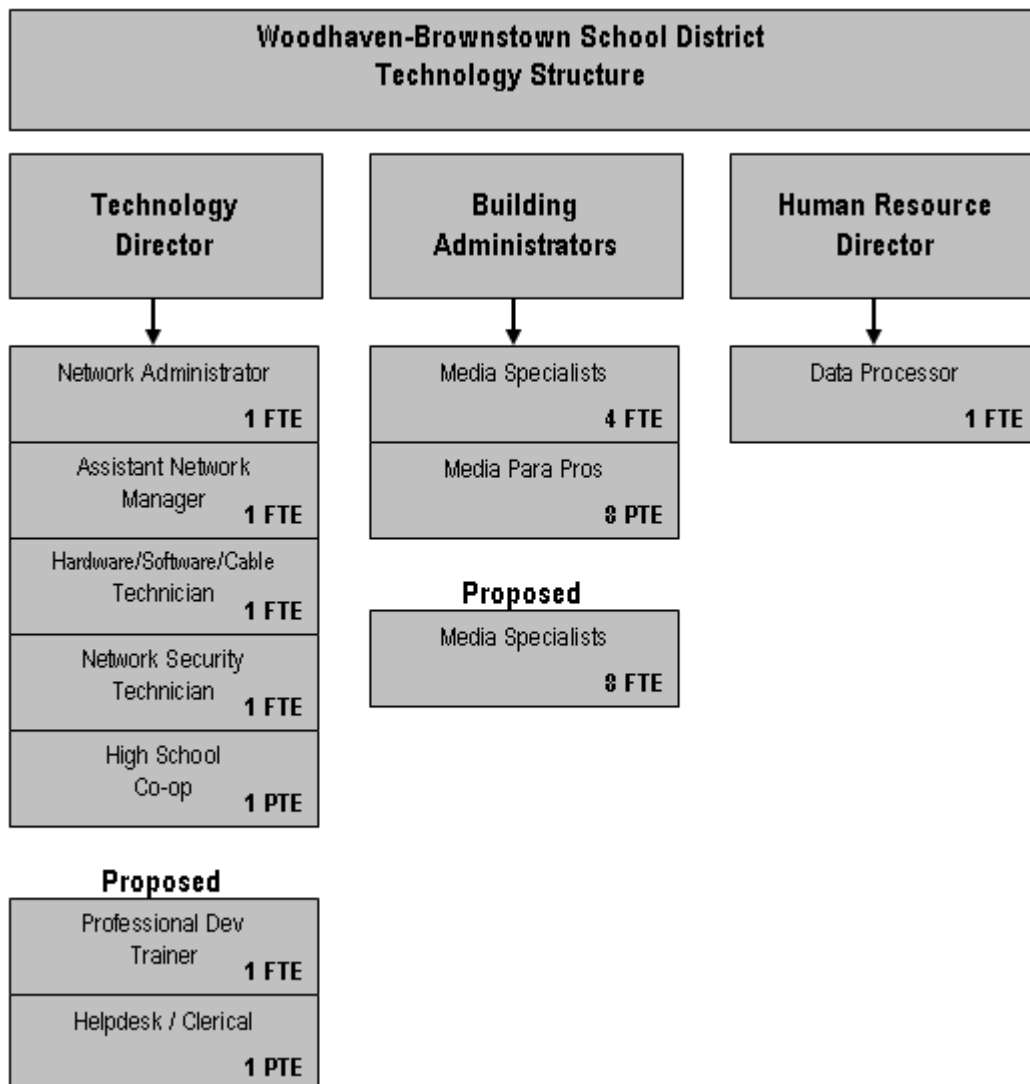
- Director of Technology manages the District's technology, provides a vision for the District's technological advancements, and ensures that the technology is appropriately supporting the curriculum
- Network Specialist / Hardware-Software Technician manages the voice, video and data networks
- Data Processing Operator manages the District's Student Information System and provides data processing and help desk support
- Hardware-Software/Cable Technician manages the telephone system, runs cabling, and provides technical support as needed
- Media Specialists and paraprofessionals provide support within the buildings
- Currently our Webmaster is assisting in the transition web-hosting solution
- WCRESA provides technical support on various hosted applications.

A variety of external sources are utilized based of specialized areas of expertise. This list includes, but is not limited to the following:

- Inacomp Systems, Thomas White-Sales and David Bassi, Senior Consultant
- VR6, Jamie Odgen, Representative
- GreenBytes, Tom Miller, Support
- Sehi, Nancy Sehi, Sales and Consultant
- High Tech, Rich Keeley, Sales Representative
- Dell Computers, Dell Osborn Sales Representative
- MediaCast, Inventive Technologies, Dean Myers, President
- Net Tech, Scott Sutherland, Representative
- Sound Engineering, Gary Harris, Representative
- Sound Planning, Nathan Cole, Representative
- Mac Professionals, Todd Tobin, Representative
- Turnkey Solutions, Tom Glass , Representative
- AmComm Systems, John Raymonidis, President
- DESI, Chris Davis, Customer Service Representative
- Apple Computers, David Seebaldt, Systems Engineer
- Teoma Systems, Bruce Grantz, Representative
- J & J Digital Solutions, John Kurk, Representative.

Proposed Organization

Woodhaven-Brownstown School District addressed staffing needs by creating a Technology Department through a combination of internal and external resources. Processes and procedures have been created to support staff and students as well as to update and maintain the hardware and software. In order to optimize the network resources, utilization of technical tools are used to increase efficiencies in order to provide high quality of service for the end user. As demand for a wide-range of classroom technology and its inherent training increases, the District realizes the need to establish additional technology support positions when financially feasible.



XII. POLICIES AND PROCEDURES

Work Orders

A request for technology assistance by any employee is initiated using SchoolDude, a web-based call management system. The problem is entered into the open call system and remains open until the issue is resolved at which point the call is closed. The requester is then automatically notified each time the status of the call changes. SchoolDude has increased the technology department's productivity and increased communication to the users. It has also simplified the work order submission process.

File Server Backup

Staff and students' data is saved to the district's primary Storage Area Network (SAN) located at Woodhaven High School. This data is backed up nightly to an offsite Storage Area Network (SAN). WCRESA backs up the district's administrative system information nightly and stores the information.

Hardware Purchase Procedure

Requests for hardware are made in writing at the building/department level. The building administrator reviews the request. If approved, it is entered into a requisition system to be forwarded to the Technology Director to confirm that it abides by the District's established standards and reviews the technical requirements for consistency with the technology plan. The request is then forwarded to the Executive Director of Business Services who reviews the request and approves if funding is available.

Software Purchase Procedure

Requests for software are made in writing at the building/department level. The building administrator reviews the request. If approved, it is entered into a requisition system to be forwarded to the Technology Director to confirm that it abides by the District's established standards and reviews the technical requirements for consistency with the technology plan. Some curriculum-based applications are required to be approved by the District Curriculum Study Council Committee. If approved, it is forwarded to the Executive Director of Business Services who reviews the request and approves if funding is available.

Woodhaven-Brownstown School District Policies

All District policies are posted on the NEOLA Management Documents for School Districts web site (www.neola.com/woodhaven-mi). All staff members have been provided with access to this web site. Specific policies that relate to technology are:

- ❑ [5136](#) Wireless Communication Devices
- ❑ [7530](#) Lending of District-Owned Equipment
- ❑ [7530.01](#) Staff Use of Cellular Telephones
- ❑ [7540](#) Computer Technology and Networks

- ❑ [7540.01](#) Technology Privacy
- ❑ [7540.02](#) District Web Page
- ❑ [7540.03](#) Student Network and Internet Acceptable Use and Safety
- ❑ [7540.04](#) Staff Network and Internet Acceptable Use and Safety
- ❑ [7540.05](#) Electronic Mail
- ❑ [7541](#) Electronic Data Processing Disaster Recovery Plan
- ❑ [7542](#) Network Access from Personally-Owned Computers and/or Other Web-Enabled Devices
- ❑ [7543](#) Remote Access to the District's Network
- ❑ [7545](#) Electronic Communications.

The District is in the process of approving a Board Policy on cyber-bullying.

XIII. COMMUNITY AND PARENT INVOLVEMENT

Community Involvement and Communication

Developing strategies for encouraging parental stakeholders to approve, fund, and participate in the integration of technology as a teaching tool is vital in improving student achievement. Parental involvement is integral to the support of the Woodhaven-Brownstown technology program, and efforts to inform and involve parents and the community will be implemented. Technical tools to disseminate information include, but are not limited to, MI STAR (Zangle), Teleparent, and a full-featured, interactive web-hosting solution. Improved telecommunications have increased communication opportunities between the District and its stakeholders.

Examples of community involvement and communications include:

- Technology Plan posted on the District web site: www.woodhaven.k12.mi.us
- District Technology Responsible Use Policy sent home yearly for review as well as parent/guardian signature
- Develop course syllabi with course requirements including technology use, if appropriate
- Building Open Houses will display the technologies available for staff and student use
- Parent / Teacher Conferences
- Teleparent – Automated Calling System
- MediaCAST – Lobby News Display
- Educational Access Channel
- Teacher Websites
- Board of Education Meeting Broadcast – Cable and Internet
- Community Email List
- Parent Connect
- Student Connect
- MISTAR – Attendance, lunch balance, student schedules, and grades
- Email
- Parent Technology Advisory Committee, if required

- Input and assistance from each school's PTO
- Input and assistance from District and Building School Improvement Team
- Newsletters may include a section regarding "Technology Updates"
- Newspaper articles
- Television coverage (news)
- The District participates in many programs available through Wayne County Regional Educational Services Agency (WCRESA)
- The Michigan Library Consortium (MLC) provides a number of rich resources for research and education purposes
- Comcast Cable Company and WOW provide cable programming to each school and a channel for the broadcast of District information and programming to the community.

XIV. FUNDING

Allocation of monies from the general fund, bond issue and ancillary funds such as grants will address technology challenges and implement the strategic long-range technology plan.

- The 2003 bond funded the acquisition of new network infrastructure and other technology including computers for teachers and computer labs.
- The Universal Service fund offers partial funding of telecommunications costs.
- The Technology Literacy Challenge Grant offers an opportunity for additional funding of technology initiatives.
- Book fairs and other fundraising events contribute to additional technology resources.
- PTO purchases have generously enhanced the technology resources available through the media centers.
- Grants of varying monetary value are available to support staff development of technology skills and the integration of technology into the curriculum

Woodhaven-Brownstown School District 2008-2016 Technology Plan Budget										
Technology Plan	2007-08	2008-09	2009-10	2010-11	2011-12		2012-13**	2013-14	2014-15	2015-16
	Actual	Actual	Actual	Budget	Projection		Projection	Projection	Projection	Projection
Staff Salary & Benefits	316,858	375,447	357,745	348,782	350,869	2.00%	417,886	426,244	434,769	443,464
Data Processing Services *	164,127	126,865	115,160	125,312	180,910	2.50%	185,433	190,069	194,820	199,691
Staff Development	1,210	1,873	3,027	2,958	5,500	0.00%	5,500	5,500	5,500	5,500
Software Licenses	43,397	31,002	42,669	57,433	50,000	0.50%	50,250	50,501	50,754	51,008
Technical support	12,260	14,393	19,666	34,283	41,000	1.00%	41,410	41,824	42,242	42,665
Technical Supplies	2,884	11,206	16,782	17,001	15,600	10.00%	17,160	18,876	20,764	22,840
Hardware	6,131	135,753	16,065	46,026	49,865	10.00%	54,852	60,337	66,370	73,007
Telecommunication Charges	0	0								
	546,866	696,539	571,114	631,795	693,744		772,491	793,351	815,219	838,175
* Includes services provided by Wayne County RESA							** Additional 1.0 FTE added			

Under District leadership, aggressive efforts will be made to pursue all available local and governmental sources of grant funding. Other members of the department as well as outside consultants may be appointed to design grant proposals and to seek creative sources of matching funds, both of which will aid in the implementation of this plan. In 2009, the District received funding with the COPS grant, which substantially increased the security available in the school buildings and District buses.

XV. MONITORING AND EVALUATION

The purpose of evaluating the technology plan is to make sure that students are receiving a quality education based on the standards adopted by the District. Administrators will conduct evaluations using a variety of techniques, ranging from formal and informal face-to-face interviews, in-school observations, surveys, and other methods. Hard data, such as test scores, computer-to-student ratio, and lab usage, can also be used. Anecdotal data, based on feedback from the school community (administrators, teachers, staff and students), can show how new technologies can bolster a student's attitude and motivation to learn through technology use. Both hard data and anecdotal data need to be used in order to help guide, revise, and update the technology plan, making it a "living document."

The Woodhaven-Brownstown School Technology Plan Committee will review the plan annually and makes changes as necessary. The Director of Technology is responsible for bringing the Technology Plan Committee for a minimum of one evaluation meeting per year. At this time the committee will determine if any necessary revisions or corrective actions are necessary based upon progress on goals.

Implementation of the Evaluation Plan:

- Staff and student surveys provide information on effectiveness of specific strategies
- Data-driven decisions require technology based programs, such as CLASS A, to inform instruction
- Teachers, Building Administrators, and the Curriculum Director are responsible for continuing the alignment of technology standards with district curriculum integration (curriculum mapping)
- Yearly review of policies to ensure consistency and implementation
- Professional development evaluations filled out for individual sessions by participants
- The Director of Technology and the Executive Director of Business Services will oversee the yearly review of budget provision for technology.

Monitoring Strategies:

- Teachers will review available student portfolios for summative evaluation
- Observe and interview students to determine progress
- Program review with collaborators
- Technical logs to review repairs
- Completion of needs assessment by individual staff members.

Success will be determined by the following strategies:

- Evaluating products developed by students and staff as a result of increased technology access and skill level
- Track indicators of success by assessment tools such as CLASS A
- Reviewing Educational Development Plans (EDPs) to provide a sense of the students' level of technological sophistication
- Technology surveys completed by staff members.

If technology goals are not met, the committee will reconvene to either create additional professional development opportunities or reevaluate the direction of the goal.

Technology Integration Assessments

Throughout the year, staff evaluates the impact of technology in the schools. The evaluations are conducted using a variety of techniques, ranging from formal and informal face-to-face interviews, in-school observations, surveys (both electronic and pencil-and-paper), and other methods. These evaluations are compiled and reviewed to determine the needs of the teachers and the students, while the results are used to develop technology objectives, influence curriculum development, direct technology-related purchases, and improve student learning.

Administrators and staff work collaboratively to develop the implementation of the assessment tools required for future technology integration. The evaluation strategies for assessing teachers and technology integration are based on the National Educational Technology Standards for Teachers NETS-T.

Results from the annual self-assessment technology skills proficiency survey are used to guide future professional development training. These results are also shared with individual building administrators to analyze specific professional development needs. Summative evaluations will be developed to assess the success of the teacher's training and technology integration efforts.

Woodhaven-Brownstown School District continues to evaluate and purchase software "tools" and other specific curriculum-related software for use by staff and students to enhance teaching and learning. The purchased software is presented to teachers and other instructional staff from integration standpoint a curriculum with the understanding that it is to be used with students in order to improve student learning. Likewise, the District will review and evaluate supplemental training materials in the form of printed and electronic resources for possible acquisition and implementation in the future.

Student Achievement Assessments

Woodhaven-Brownstown School District will monitor technology integration for student achievement with outcome assessment tools that correspond with the goals for student achievement detailed in the District Technology Plan. In addition, student progress is measured by MEAP scores where Woodhaven-Brownstown Schools is responsible for assuring that all students reach the benchmarks for the Michigan Curriculum Framework.

The evaluation strategies used for assessing student achievement through the integration of technology are based on the National Educational Technology Standards for Teachers NETS-T. A web-based self-evaluation tool has been created as a tool to guide future curriculum developments. In addition, summative evaluations will be developed to assess the success of student achievement and technology integration.

XVI. COLLABORATIONS

Woodhaven-Brownstown School District recognizes that collaboration with other school districts, educational, professional and community groups can only enhance and improve its technology program. The District actively seeks cooperative ventures with outside organizations that can assist in reaching its goal of varied learning opportunities for its students. Accordingly, in the pursuit of its technology program, the District has established working relationships with the following organizations:

- **The Downriver Academic Consortium:** This alliance of high schools offers advanced placement classes for students. Members of this alliance allow their high school students to travel to any school in this group offering an advanced placement course that is not offered in their own high school. Included among these courses are AP Computers and AP Computer Assisted Drafting.
- **The Downriver Career Technical Consortium:** The Woodhaven-Brownstown School District has been a member of this consortium of ten high schools for more than twenty years. The consortium was developed to provide a wider variety of technical and vocational education programs. Any student who wishes to take a vocational technical program that is not available at his own school may elect to enroll in the class of his choice if it is offered at one of the participating schools in the consortium. In addition, all ninth graders are given individual career assessments every year to assist in their course selection planning for the coming high school years.
- **School-to-Work Mentoring Program:** In collaboration with the Downriver Career Technical Consortium, high school sophomores are offered the opportunity to apply for participation in the School to Work Mentoring Program. They must first express their interest in a career choice that their ninth grade career assessment confirms, and then apply for this program. Selection of participants must occur because of the limited number of participating businesses. Once chosen, students spend one full school day per week (during a five-week period) in the career environment of their choice, getting on-the-job experience in their chosen careers.
- **Wayne County Regional Educational Service Agency:** WCRESA is a regional educational service agency that provides a broad spectrum of services and support to Wayne County's 34 school districts aimed at improving student achievement and maximizing economies of scale in staff development, purchasing, and administrative services. Services range from curriculum consulting and staff development, helping districts maximize technology use in the classroom, software applications for district student and administrative services, group purchasing and more. WCRESA also provides state-mandated functions including pupil accounting and special education monitoring and compliance.
- **Wayne County Regional Educational Media Center Advisory Council:** The REMC Advisory Council is comprised of one representative from each of the 34 school districts in Wayne County. Members of the Council are selected by their Superintendent to

represent their school district and to facilitate communication between the district and WCRESA's Regional Educational Media Center (REMC). Representatives to this group play an important role in reviewing and recommending changes to WCRESA programs and services, and in providing valuable input into the development of new programs that are cost-efficient and instructionally effective. They participate in selecting, promoting, and learning about the latest technologies and resources as they relate to every district's curriculum and professional development needs. In addition, the representatives are critical in disseminating timely information related to media and technology to not only their assigned building, but to all the schools in each district.

- **Wayne County Regional Educational Technology Coordinators Meeting, Network Administrators Group, and a variety of application user group meetings (MI STAR (Zangle), CLASS A, etc.):** These meetings are designed for stakeholders in the districts to communicate with other districts to discuss best practices and information sharing regarding many aspects of technology.
- **Michigan Association of Computer Users in Learning:** The Michigan Association for Computer Users in Learning (MACUL) is a 501(c)(3) non-profit organization established in 1975 dedicated to bringing educators from all levels together to share their knowledge and concerns regarding educational uses of computers and technology. MACUL helps educators identify sound educational practices related to technology as well as understand the implications of rapid changes in technology. MACUL helps in recognizing the challenges in preparing students, and strives to encompass the entire educational community from preschool through college level. MACUL is a force in building professional coalitions with organizations including the Michigan Virtual University, the Michigan Department of Education, Ameritech, AT&T, and others to benefit educators and students in the integral use of technology in education. MACUL is an organizational affiliate of the International Society for Technology in Education (ISTE).
- **Michigan Association for Media in Education:** The Michigan Association for Media in Education is an independent, professional association of library media specialists dedicated to educational, literary and technological excellence in library/media services in Michigan's schools. MAME is an affiliate of the American Association of School Librarians (AASL), a division of the American Library Association, and an affiliate of the International Society for Technology in Education (ISTE). The general purpose of the Association shall be the improvement of learning in Michigan through the effective and efficient use of instructional media. In pursuit of this purpose, it shall cooperate with other state organizations concerned with education at all levels, in all settings. The Association shall achieve this general purpose by working toward the following specific goals: To promote, implement, and evaluate standards for the profession, for professional practice, and for the professional. To disseminate information relevant to professional concerns through conferences, professional journals and other media. To provide appropriate support for the individual member if a conflict arises between the member and an individual or organization in the performance of the member's professional role. To encourage employment practices which recognize professional education, experience, and competence and which provide opportunities for advancement in accordance with them. To promote professional growth challenging

media personnel to meet changing demands on their knowledge and competencies. To foster public understanding of the value of instructional media in teaching and learning. To promote the use of educational media and technology in a variety of instructional settings. To promote the application of high standards to the production, evaluation, selection, dissemination, and use of all learning resources. To support the inherent right of each individual to free access to ideas and information.

- **TWICE: Two Way Interactive Connections in Education:** Two Way Interactive Connections in Education (TWICE) is Michigan's organization for video conferencing in K-12 education. TWICE promotes and supports collaborative connections for the benefit of all students. TWICE seeks to provide learning opportunities that expand the boundaries of the classroom beyond the local community, raise global awareness, and promote cultural and geographical understanding. Promote and facilitate collaborative video conferences between educators, students, and technology coordinators for the purpose of sharing information, best video conference practices, and quality curriculum events. Promote collaborative video conferences that are both point-to-point and multipoint, where teaching and learning occur during the connection, and participation and interaction are required. Provide an online centralized resource for integrating video conferencing effectively in education. Utilize video conferencing to increase students' advanced communication skills while addressing Michigan Curriculum Frameworks and Technology Standards. Create opportunities for members to network and share video conference experiences with each other.

XVII. CHILDREN'S INTERNET PROTECTION ACT

Woodhaven-Brownstown School District recognizes the need to protect its students' privacy and provide Internet safety. The District also educates minors about appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms as well as cyber bullying awareness and response. The federal government also has legislation in place for this purpose. As such, the District forces all Internet traffic to pass through filters. Woodhaven-Brownstown Schools meets the requirements of the Children's Internet Protection Act by filtering all Internet access with our content filtering appliance created by 8e6 Technologies.

Woodhaven-Brownstown School District's technology is intended for use by staff and students only. Because our library and computer labs are not open to the public, all computers within the school buildings are filtered at all times.

Grades 1-5 and 6-12 have unique filtering rules that are appropriate for their age levels. All workstations are dynamically routed through the District's content filtering appliance. The content filtering appliance scans the Internet data and filters out instant messages, inappropriate websites, filter-bypass websites (proxies), and enforces safe image searching features. Our filtering appliance collects Internet data and labels it with the requesting student ID allowing the Technology Department the ability to identify students trying to access restricted content. Woodhaven-Brownstown staff can request sites to be reevaluated by the Filter Committee, resulting in a manual allow or block based on the committee's decision of the website content.

Students and their parents or guardians who use the technology are required to sign an Responsible Use Policy (RUP). This process creates an agreement and understanding of responsible behavior using technology while in the District. The latest AUP was approved by the Board of Education on 5/7/2007 and is listed on the following page.

XVIII. RESPONSIBLE USE POLICY**Woodhaven-Brownstown School District
~ Technology Responsible Use Policy ~**

This form should be signed by parent/guardian and student after reading and agreeing to the Technology Responsible Use Policy on the bottom of this document.

The Woodhaven-Brownstown School District is pleased to provide Internet access to the students of the District. We believe the Internet, along with other technological advances, offers an opportunity for students and teachers to access vast, diverse, and unique resources. Our goal in providing this service is to promote excellence by facilitating resource sharing, innovation, and communication. All students and their parents or guardians, who wish to use technology in the Woodhaven-Brownstown School District, must agree to the terms and conditions of this policy as approved by the Board of Education. As a parent or guardian, you should review this document thoroughly, sign it, have your child sign it, and return it to your child's school. This form will be placed in your child's permanent record to allow him/her to make use of the District's available technology. The district filters all Internet traffic using a Children's Internet Protection Act (CIPA) compliant Internet filtering solution.

Use of the Woodhaven-Brownstown School District's Technology, Internet access, and E-mail is a privilege, not a right. Administration, faculty, and/or staff may request the privilege be denied, revoked, or suspended for inappropriate use, and students are then subject to consequences as defined in the Woodhaven-Brownstown School District's Student Code of Conduct. Students may use the computer system only for legitimate educational purposes, which include class work and independent research that is similar to the subjects studied in school. Students shall not access entertainment sites, such as social networking sites or gaming sites, except for legitimate educational purposes under the supervision of a teacher or other professional. The District staff will determine what content is educational based on the District's curriculum.

Woodhaven-Brownstown School District defines appropriate use of its technology, including Internet/Intranet access and student E-mail, to be in support of education and consistent with the educational objectives of the Woodhaven-Brownstown School District. Content in any format, including but not limited to data, E-mail, files, etc., should not be considered private.

Woodhaven-Brownstown School District makes no warranties, whether expressed or implied, for the service it is providing. Woodhaven-Brownstown School District will not be responsible for any damages suffered. Use of any information obtained via the Internet is at the user's risk. The District specifically denies any liability or responsibility for the accuracy or quality of information obtained through the Internet services.

Users are expected to abide by the generally accepted rules of technology etiquette and community standards. District technology use for commercial activities, including product advertisement or political lobbying, is not permitted. Woodhaven-Brownstown School District reserves the right to review and remove any digital material it deems inappropriate. This includes all material(s) accessed and/or stored either inside or outside the district. Transmission of any material in violation of Federal or State Regulations, including copyright laws, is prohibited and any illegal activity will be reported to the authorities.

Cell phones, smart phones, or other digital devices used by students while on campus are subject to the provisions of District Bylaws and Policies. During school hours, cell phones or other electronic devices including cameras must remain off and out of sight unless expressly

permitted by a district staff member. Students may not use wireless communication devices on school property or at a school sponsored activity to access and/or view Internet websites that are otherwise blocked to students at school.

Students may not share or post personal information or images of any other student or staff member without permission from that student or staff member. If a student is found to have used a personal cell phone or digital device in a manner that is not in accord with this Technology Responsible Use Policy, in addition to other disciplinary actions, the administrator may ban the student's use of all District technology resources.

Security is a high priority. Any user identified as a security risk may be denied access to Woodhaven-Brownstown School District's technology. The use of web proxies, anonymizers or other agents that are considered Internet threats are prohibited. Any deliberate attempt to damage or tamper with computer equipment, computer networks, audio/video equipment, any type of software or data will be considered vandalism. This includes, but is not limited to, uploading or creating of any type of computer worms or viruses. Downloading or transferring files, any type of shareware, including games or software without permission is not allowed. Should a student participate in any activity, including the transfer of a file or virus, which results in damage to the computer or network, the student and/or his/her parent/guardian, may be liable for the costs necessary to make the network fully operational. Users are expected to notify staff of any hardware, software, or security problems on the District's network.

All technology users must respect the rights of others in the local community and on the Internet at large. Personal or discriminatory attacks are unacceptable. These attacks include, but are not limited to, insults, profanity, or harassment. Unwelcome communications should be brought to the attention of the supervising staff. When using technology, users are expected to be polite and use appropriate language. Users need to be considerate and sensitive to what others might find offensive. Students are responsible for maintaining the privacy of passwords and accounts. They shall not attempt to learn another person's password, access another person's account, or impersonate another user on the network. Trespassing into other's folders, work, or files, is not allowed. Personal information, such as last name, address, phone numbers, or credit card numbers should never be revealed, especially on the Internet. Intentionally wasting district resources, such as excessive printing or using programs that use large amounts of bandwidth, is not allowed.

The District prohibits bullying and/or cyber-bullying; communication that a reasonable person should know will have the effect of harming a student or school personnel, damaging a student's or school personnel member's property, placing a student or school personnel in reasonable fear of harm, and that creates an intimidating and/or is disruptive to the educational environment. Bullying may occur through the use of computers or telephones, while utilizing school property, while in a school vehicle, or at a school-sponsored event. Maintaining or posting material to a website that threatens a likelihood of substantial disruption in school, including harming or interfering with the rights of other students to participate fully in school or extracurricular activities, is a violation of District Bylaws and Policies and subject to appropriate penalties herein.

Violation of this Technology Responsible Use Policy will be subject to the consequences defined in the District Bylaws and Policies.

Student's Printed Name

Student's Signature and Date

Parent/Guardian Printed Name

Parent/Guard Signature and Date

XIX. APPENDICES**APPENDIX A: PLANNING COMMITTEE**

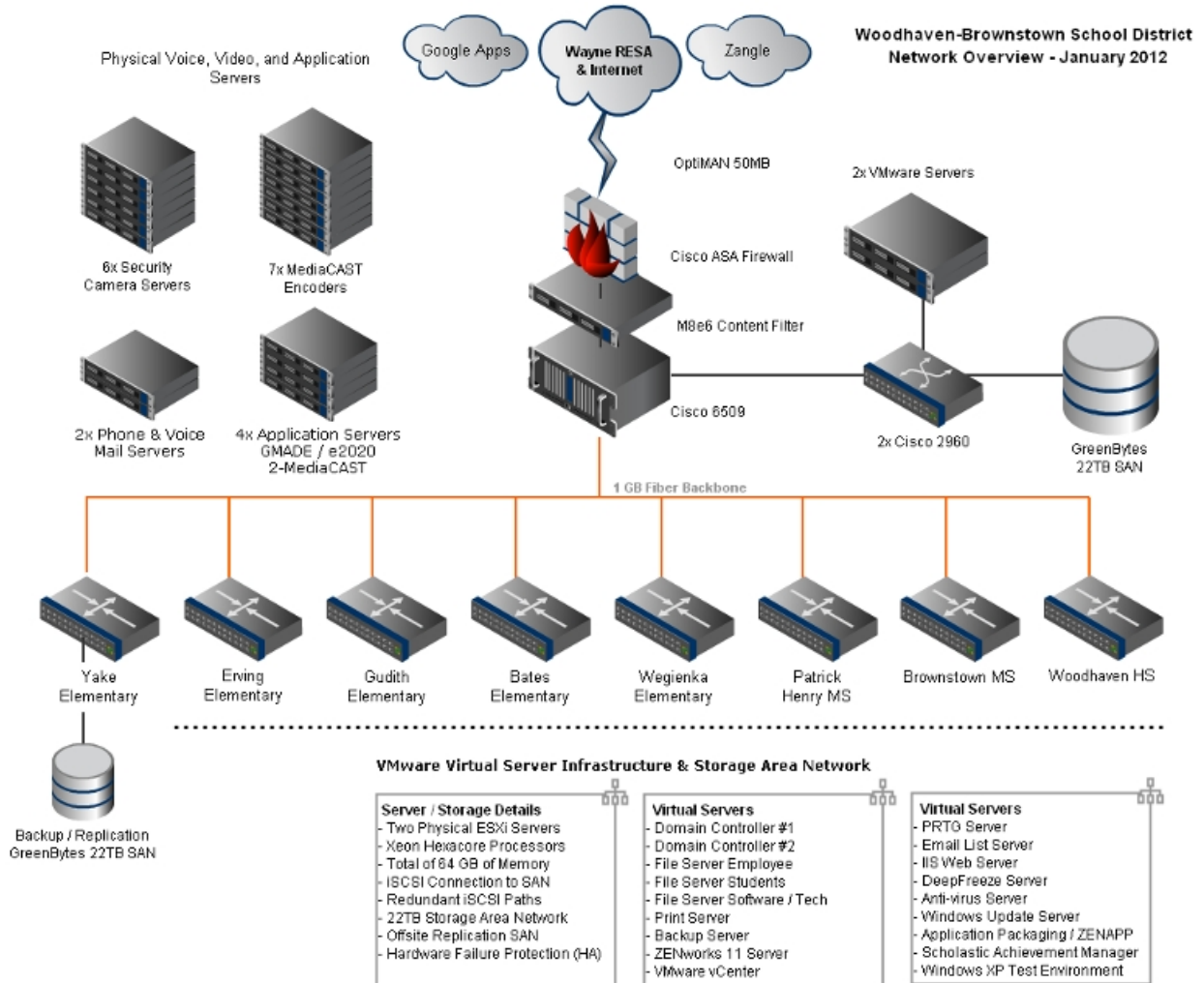
The 2012-2015 Woodhaven-Brownstown Technology Planning Committee:

Mark Greathead, Superintendent
Andrea Stevenson, Curriculum Director
Tom Wall, Executive Director of Business Services
Sherry Weiser, Technology Director
Jeffrey Adams, Director of Human Resources
Joanne Weise, Director of Special Services
Andrew Clark, Brownstown Middle School Principal
Debora Morse, Woodhaven High School/Patrick Henry Middle School Media Specialist
Michelle Mumau, Brownstown Middle School/Gudith Elementary Media Specialist
Joe Heacox, Elementary School Media Specialist
Adrienne Clements, Elementary School Media Specialist
Linda Callahan, Teacher
Penny Bluhm, Teacher
Jeff Theobald, Teacher
Kelly Huepenbecker, Teacher
Jennifer Hoffman, Teacher
Diana Baldensparger, Teacher
Rebecca Jackson, Teacher
Bob Hodges, Network Administrator
Hector Diaz, Assistant Network Administrator
Matt Huls, Hardware-Software & Cable Technician
George Blankenbaker, Data Processing Clerk
John Kaul, Student Co-op
Bruce Grantz, Community Member/Parent.

This team has been consulting with other technology specialists on an ongoing basis with regard to areas of their expertise. This collaboration includes, but is not necessarily limited to:

Jim Rarus, Wayne County WCRESA
Trina McGinnis, Wayne County WCRESA
Vince Pizzo, Wayne County WCRESA
Steven Michael, Wayne County WCRESA
Todd Milette, HP
Bruce Grantz, Teoma Systems
Neil Osborn, Dell
Tom White, InaComp
David Bassi, InaComp
Nancy and Craig Sehi, Sehi
Justin Bray, Peripheral Vision
Scott Brune, Wright & Hunter
David Seabalt, Apple Computer.

APPENDIX B: CURRENT NETWORK DIAGRAM

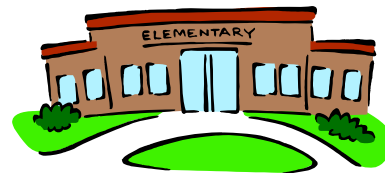


APPENDIX C: INVENTORY

Elementary

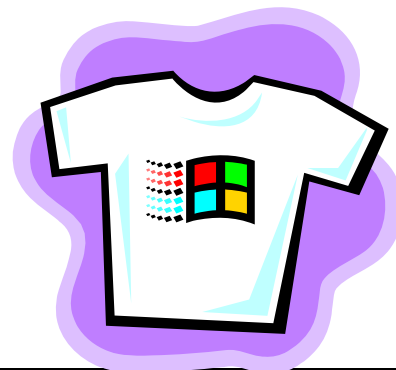
Bates

Computers:	129
Laptops:	11
Headphones and Mic:	34
iPads:	1
Flat Screen TV's	28
Projectors:	7
Printers:	3
Copy Machines	2
Interactive White Boards:	2
Doc Cams:	28
DVD:	30
Phone:	31
Amp:	30
Sound System:	25
MP3/CD Player:	50
A/V Cart:	5
Set top Box:	3
Video Cameras/Still Cameras:	2
Bar Code Reader:	1
Digital Presenter:	25
POS System:	1
Wireless Access Point:	1



Erving

Computers:	191
Laptops & Nobi netbooks:	26
Headphones and Mic:	34
iPads:	31
Flat Screen TV's	28
Projectors:	7
Printers:	3
Copy Machines	2
Interactive White Boards	4
Doc Cams:	28
DVD:	30
Phone:	31
Amp:	30
Sound System:	25
MP3/CD Player:	50
A/V Cart:	5
Set top Box:	3
Video Cameras/Still Cameras:	2
Bar Code Reader:	1



Digital Presenter:	25
POS System:	1
Wireless Access Point:	3

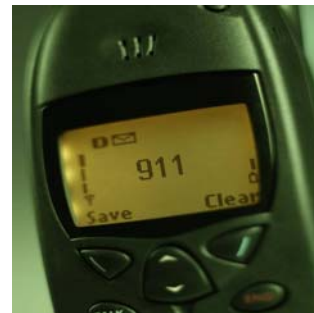
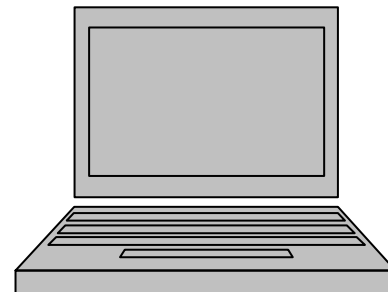
Gudith

Computers:	120
Laptops:	4
Headphones and Mic:	34
iPads:	32
Flat Screen TV's:	28
Projectors:	7
Printers:	2
Copy Machines:	2
Interactive White Boards:	3
Doc Cams:	28
DVD:	36
Phone:	31
Amp:	30
Sound System:	25
CD/MP3 player:	50
A/V Cart:	5
Video Cameras/Still Cameras:	2
Set top Box:	3
Digital Presenter:	25
POS System:	1
Wireless Access Point:	3



Wegienka

Computers:	142
Laptops:	4
Headphones and Mic:	34
iPads:	1
Flat Screen TV's:	28
Projectors:	11
Printers:	8
Copy Machines:	2
Interactive White Boards:	3
Doc Cams:	28
DVD:	30
Phone:	31
Amp:	30
Sound System:	25
MP3/CD Player:	50
A/V Cart:	5
Set top Box:	3
Video Cameras/Still Cameras:	2
Digital Presenter:	25
POS System:	1
Wireless Access Point:	1

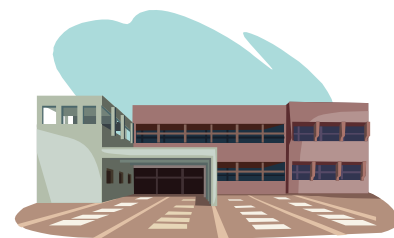


Yake

Computers:	142
Laptops:	32
Headphones and Mic:	34
iPads:	1
Flat Screen TV's:	28
Projectors:	14
Printers:	14
Copy Machines:	2
Interactive White Boards:	3
Doc Cams:	28
DVD:	30
Phone:	31
Amp:	30
Sound System:	25
MP3/CD Player:	50
A/V Cart:	2
Set top Box:	3
Video Cameras/Still Cameras:	2
Bar Code Reader:	1
Digital Presenter:	25
POS System:	1
Wireless Access Point:	1

**Middle Schools****BMS**

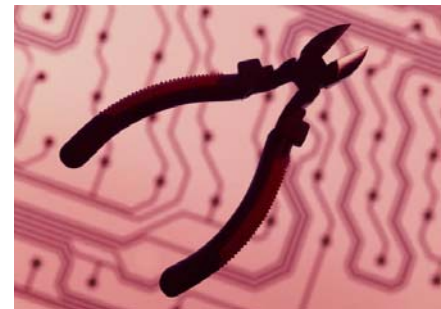
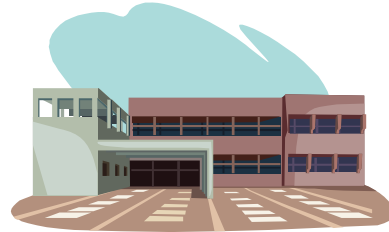
Computers:	220
Laptops:	5
Headphones and Mic:	34
iPads:	32
TV's	7
Projectors:	48
Printers:	42
Copy Machines:	3
Interactive White Boards:	8
Doc Cams:	14
DVD:	42
Phone:	53
Amp:	42
Calculator:	35
Sound System:	1
Set top Box:	3
Video Cameras/Still Cameras:	2
Digital Processing Visualizer:	2
Bar Code Reader:	1
Digital Presenter:	45
POS System:	3



Wireless Access Point: 1

PHMS

Computers: 288
Laptops: 16
Headphones and Mic: 34
iPads: 32
Projectors: 28
TV's: 8
Printers: 40
Copy Machines: 3
Interactive White Boards: 8
Doc Cams: 3
DVD: 65
Phone: 65
Amp: 65
*Calculators: 32
Sound System: 6
A/V Cart: 2
Set top Box: 5
Video Cameras/Still Cameras: 2
TI Calc Presenter Overhead: 1
CPS: 2
Bar Code Reader: 1
Digital Presenter: 55
POS System: 3
Wireless Access Points 2



Woodhaven High School

Computers: 280
Laptops: 5
Headphones and Mic: 34
iPads: 3
Projectors: 60
TV's: 3
Printers: 61
Interactive White Boards: 9
Doc Cams: 17
DVD: 60
Phone: 70
Amp: 60
Calculator: 67
Setup Box: 5
Video Cameras/Still Cameras: 20
Dental Lab Specialty Equipment: 10
Plate Setter: 1
Vinyl Cutter: 1
Digital Presenter: 60
POS System: 4



Cricut:	1
Accucut:	1
Wireless Access Point:	3

Special Education & TOTE

Computers:	13
Laptops:	30
Headphones and Mic:	2
iPads:	50
Flat Screen TV's:	3
Projectors:	2
Printers:	1
Copy Machines:	2
Doc Cams:	2
DVD:	3
Phone:	27
Amp:	3
CD/MP3 player:	5
A/V Cart:	2
Digital Presenter:	3
Wireless Access Point:	2



Board Office

Computers:	22
Laptops:	12
iPads:	5
Projectors:	7
TV's:	1
Copy Machines:	3
Interactive White Boards:	2
Doc Cams:	3
DVD:	5
Phone:	21
Amp:	1
Sound System:	1
A/V Cart:	2
Set top Box:	1
Video Cameras/Still Cameras:	2
Wireless Access Points	2

APPENDIX D: ASSISTIVE TECHNOLOGY PLAN

COMMITTEE

Joanne Weise, Director of Special Education
Lisa Perugi, Supervisor of Special Education
Erin Burdziak, Speech-Language Pathologist
Julie Dishon, Teacher Consultant
Leslie Goebel, Speech-Language Pathologist
Shannon Hilliker, Speech-Language Pathologist
Colleen McEachran, Speech-Language Teacher
Emily Price, Speech-Language Pathologist
Chris Starll, Speech-Language Pathologist

INTRODUCTION

The District Assistive Technology Plan was developed in order to comply with state and federal mandates requiring that each public agency will ensure that assistive technology devices or services are made available to children with disabilities as part of the student's special education plan for special education programs and services.

The Woodhaven-Brownstown School District subscribes to the federal definition of assistive technology and strives to implement programs consistent with their intent. The Woodhaven-Brownstown School District accesses the services of the staff at the Assistive Technology Resource Center (ATRC). The services and support provided by this center are crucial to the implementation of the District plan.

WOODHAVEN-BROWNSTOWN SCHOOL DISTRICT ASSISTIVE TECHNOLOGY MISSION STATEMENT

The Woodhaven-Brownstown School District recognizes that students with disabilities deserve the opportunity to learn to the best of their ability using techniques and technology as enhancements to the learning process. When structuring opportunities for learning, we recognize that modifications and accommodations to the general education program may be necessary in order for students to progress in the school setting and curriculum.

We are committed to first meeting the needs of all students with disabilities through implementation of accommodated curriculum and/or academic and environmental modifications.

We further believe that some students with disabilities will require assistive technology devices to access learning even after implementing accommodations. We believe that assistive technology and services should fulfill an educational need for students with disabilities. For these students, we are committed to exploring assistive technology devices as an enhancement to the learning process.

DISTRICT ASSISTIVE TECHNOLOGY TEAM

Yearly, the membership of the district-wide team will be reviewed and assigned by the Director of Special Education. The District Assistive Technology Team will meet yearly to review the plan in place and make revisions as necessary. Should a building Student Support Team determine that an Assistive Technology Plan needs to be implemented on behalf of a student; the appropriate building representative should be contacted to assist the group in development and implementation.

Members of the district wide team will be called upon to attend meetings on behalf of students in the district; assist the Student Support Team in exploring and demonstrating options in the area of assistive technology; develop a specific plan for a student; access modifications, accommodations equipment to implement the plan; and monitor the plan periodically. The child's special education caseload teacher will coordinate the efforts of the Student Support Team and the member of the Assistive Technology Team.

BUILDING TEAMS

The Student Support Team within each building will serve as the first step for reviewing the assistive technology devices and services that a student may need. That team may include the student's teachers; the building speech and language pathologist; the school psychologist; and/or other educational personnel who meet the student's needs. It is important to include the parent in this team particularly if the devices to be tried may have home use.

It is assumed that a student has a current accommodation plan prior to the development of an individualized Assistive Technology Plan. Current evaluation data is essential to the development of the plan and therefore must be completed before consideration of a plan.

The Building Team may not commit district resources for the acquisition of equipment. An administrative representative of the District Team must always be present or consulted with prior to a Student Support Team Meeting when the Assistive Technology Plan is being developed for an individual child.

Process for Individualized Assistive Technology Plan:

Assistive Technology Survey form completed

- Identification of the problem
- Strategies implemented to alleviate the problem
- The effect of the strategies

Form returned to building Student Support Team Chair

- Invite district team member(s)
- Invite consultant from WCRESA if necessary; outside resources
- Parent contacted regarding meeting
- Schedule Student Support Team for maximum attendance; student may be included if appropriate

Student Support Team conducted

- Discuss above with emphasis on strategies implemented and effect
- Discuss need for further evaluation
- Discuss equipment needs and building availability
- Define classroom observation time lines to determine effectiveness of plan
- Determine plan implementation in each educational setting
- Determine if/how the plan will be implemented in the home
- Schedule visitations and training of staff if necessary
- Determine how to assess effectiveness of the plan

Documentation of the plan

- Use of the *Wayne County Guidelines for the Provision of Assistive Technology Devices and Services (Revised)* forms are recommended
- Inclusion of documentation in the student's cumulative file is essential
- Plan should be referenced in the student's IEP or 504 Plan
- The plan must be reviewed formally and informally on a regular basis.

FORMS

The *Wayne County Guidelines for the Provision of Assistive Technology Devices and Services (Revised)* including forms is available in the Special Education office.

APPENDIX E: MICHIGAN EDUCATIONAL TECHNOLOGY STANDARDS AND EXPECTATIONS**METS Grades PK Through 2****Grades PK through 2 (ages 4-8) – Michigan Technology Standards and Expectations (prior to the completion of Grade 2) - DRAFT – 2/4/2009**

PK_2.CI. Creativity and Innovation - By the end of Grade 2 each student will:

1. use a variety of digital tools (e.g., word processors, drawing tools, simulations, presentation software, graphical organizers) to learn, create, and convey original ideas or illustrate concepts

PK_2.CC. Communication and Collaboration - By the end of Grade 2 each student will:

1. work together when using digital tools (e.g., word processor, drawing, presentation software) to convey ideas or illustrate simple concepts relating to a specified project
2. use a variety of developmentally appropriate digital tools (e.g., word processors, paint programs) to communicate ideas to classmates, families, and others
3. use a variety of developmentally appropriate technologies for sharing information (e.g., drawing a picture, writing a story, creating a simple slide show)

PK_2.RI. Research and Information Fluency - By the end of Grade 2 each student will:

1. interact with Internet-based resources
2. use digital resources (e.g., dictionaries, encyclopedias, graphs, graphical organizers) to locate and interpret information relating to a specific curricular topic, with assistance from teachers, school library media specialists, parents, or student partners

PK_2.CT. Critical Thinking, Problem Solving, and Decision Making - By the end of Grade 2 each student will:

1. explain ways that technology can be used to make decisions and solve problems (e.g., cell phones, traffic lights, GPS units)
2. use digital resources (e.g., dictionaries, encyclopedias, search engines, web sites) to solve developmentally appropriate problems, with assistance from teachers, parents, school library media specialists, or student partners

PK_2.DC. Digital Citizenship - By the end of Grade 2 each student will:

1. describe appropriate and inappropriate uses of technology (e.g., computers, Internet, e-mail, cell phones) and describe consequences of inappropriate uses
2. identify personal information that should not be shared on the Internet
3. know to inform a trusted adult if they receive or view an online communication which makes them feel uncomfortable, or if someone whom they don't know is trying to communicate with them or asking for personal information

PK_2.TC. Technology Operations and Concepts - By the end of Grade 2 each student will:

1. identify common uses of technology found in daily life
2. discuss advantages and disadvantages of using technology
3. be able to use basic menu commands to perform common operations (e.g., open, close, save, print)
4. recognize, name, and label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, printer)
5. discuss the basic care for computer hardware and various media types (e.g., CDs, DVDs, videotapes)
6. communicate about technology using developmentally appropriate and accurate terminology
7. understand that technology is a tool to help them complete a task, and is a source of information, learning, and entertainment
8. demonstrate the ability to navigate in virtual environments (e.g., electronic books, games, simulation software, web sites)

METS Grades 3 Through 5**Grades Three through Five (ages 8-11) – Michigan Technology Standards and Expectations (prior to the completion of Grade 5) - DRAFT – 2/04/2009**

3_5.CI. Creativity and Innovation - By the end of Grade 5 each student will:

2. produce a media-rich digital project aligned to state curriculum standards (e.g., fable, folk tale, mystery, tall tale, historical fiction)
3. use a variety of technology tools and applications to demonstrate their creativity by creating or modifying works of art, music, movies, or presentations
4. participate in discussions about technologies (past, present, and future) to understand these developments are the result of human creativity

3_5.CC. Communication and Collaboration - By the end of Grade 5 each student will:

4. use digital communication tools (e.g., e-mail, wikis, blogs, IM, chat rooms, web conferencing, Moodle, Blackboard) and online resources for group learning projects
5. identify how different software applications may be used to share similar information, based on the intended audience (e.g., presentations for classmates, newsletters for parents)
6. use a variety of media and formats to create and edit products (e.g., presentations, newsletters, brochures, web pages) to communicate information and ideas to various audiences

3_5.RI. Research and Information Fluency - By the end of Grade 5 each student will:

3. identify search strategies for locating information with support, from teachers and school library media specialists
4. use digital tools to find, organize, analyze, synthesize, and evaluate information
5. recognize that web sites and digital resources may contain inaccurate or biased information

3_5.CT. Critical Thinking, Problem Solving, and Decision Making - By the end of Grade 5 each student will:

1. use digital resources to access information that can assist them in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase)
2. use information and communication technology tools (e.g., calculators, probes, videos, DVDs, educational software) to collect, organize, and evaluate information to assist with solving problems
3. use digital resources to identify and investigate a state, national, or global issue (e.g., global warming, economy, environment) and generate possible solutions

3_5.DC. Digital Citizenship - By the end of Grade 5 each student will:

1. understand that web sites or other digital resources may contain information that does not present both sides of an issue
2. discuss scenarios involving acceptable and unacceptable uses of technology (e.g., file-sharing, social networking, text messaging, cyber bullying, plagiarism)
3. recognize issues involving ethical use of information (e.g., copyright adherence, source citation).
4. describe precautions surrounding personal safety that should be taken when online

3_5.TC. Technology Operations and Concepts - By the end of Grade 5 each student will:

1. use basic input and output devices; access network resources (e.g., printers, servers); and use various peripherals (e.g., scanners, digital cameras, video recorders, projectors)
2. describe ways technology has changed life at school and at home
3. understand and discuss how assistive technologies can benefit all individuals.
4. know proper keyboard positioning
5. demonstrate proper care in the use of the computer hardware, software, peripherals, and storage media.
6. know how to exchange files with other students using technology (e.g., network file sharing, flash drives).
7. use digital tools to acquire new knowledge for personal growth and learning

METS Grades 6 Through 8**Grades Six through Eight (ages 11-14) – Michigan Technology Standards and Expectations
- (prior to the completion of Grade 8) DRAFT – 2/4/2009**

6_8.CI. Creativity and Innovation – By the end of Grade 8 each student will:

5. apply common software features (e.g., spellchecker, thesaurus, formulas, charts, graphics, sounds) to enhance communication with an audience and to support creativity
6. create an original project (e.g., presentation, web page, newsletter, information brochure) using a variety of media (e.g., animations, graphs, charts, audio, graphics, video) to present content information to an audience
7. illustrate a content-related concept using a model, simulation, or concept-mapping software

6_8.CC. Communication and Collaboration – By the end of Grade 8 each student will:

7. use digital resources (e.g., discussion groups, blogs, podcasts, video conferences, web conferences, Moodle, Blackboard) to collaborate with peers, experts, and other audiences
8. use collaborative digital tools to explore common curriculum content with learners from other cultures
9. identify effective uses of technology to support communication with peers, family, or school personnel

6_8.RI. Research and Information Fluency – By the end of Grade 8 each student will:

6. use a variety of digital resources to locate information
7. evaluate information from online resources for accuracy and bias
8. identify types of web sites based on their domain names (e.g., edu, com, org, gov)
9. employ data-collection technologies (e.g., probes, handheld devices, GPS units, geographic mapping systems) to gather, view, and analyze the results for a content-related problem

6_8.CT. Critical Thinking, Problem Solving, and Decision Making - By the end of Grade 8 each student will:

4. use databases or spreadsheets to make predictions, develop strategies, and evaluate decisions to assist with solving a problem
5. evaluate available digital resources and select the most appropriate application to accomplish a specific task (e.g., word processor, table, outline, spreadsheet, presentation program)
6. gather data, examine patterns, and apply information for decision making using available digital resources.
7. describe strategies for solving routine hardware and software problems

6_8.DC. Digital Citizenship – By the end of Grade 8 each student will:

5. provide accurate citations when referencing information sources
6. discuss issues related to acceptable and responsible use of technology (e.g., privacy, security, copyright, plagiarism, viruses, file-sharing)
7. discuss the consequences related to unethical use of information and communication technologies
8. discuss possible societal impact of technology in the future and reflect on the importance of technology in the past
9. create media-rich presentations for other students on the appropriate and ethical use of digital tools and resources
10. discuss the long term ramifications (digital footprint) of participating in questionable online activities (e.g., posting photos of risqué poses or underage drinking, making threats to others)
11. describe the potential risks and dangers associated with online communications

6_8.TC. Technology Operations and Concepts - By the end of Grade 8 each student will:

1. use proper keyboarding posture, finger positions, and touch-typing techniques
2. identify file formats for a variety of applications (e.g., doc, xls, pdf, txt, jpg, mp3)
3. use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of technology-produced materials
4. perform queries on existing databases
5. know how to create and use various functions available in a database (e.g., filtering, sorting, charts)
6. identify a variety of information storage devices (e.g., CDs, DVDs, flash drives, SD cards) and provide rationales for using a certain device for a specific purpose
7. use accurate technology terminology
8. use technology to identify and explore various occupations or careers
9. discuss possible uses of technology to support personal pursuits and lifelong learning
10. discuss security issues related to e-commerce

METS Grades 9 Through 12**Grades Nine through Twelve (ages 14-18) – Michigan Technology Standards and Expectations (prior to the completion of Grade 12) - DRAFT – 2/4/2009**

9_12.CI. Creativity and Innovation – By the end of Grade 12 each student will:

8. apply advanced software features (e.g. built-in thesaurus, templates, styles) to redesign the appearance of word processing documents, spreadsheets, and presentations
9. create a web page which meets accessibility requirements (e.g., Dreamweaver, iGoogle, Kompozer)
10. use a variety of media and formats to design, develop, publish, and present projects (e.g., newsletters, web sites, presentations, photo galleries)

9_12.CC. Communication and Collaboration - By the end of Grade 12 each student will:

10. identify various collaboration technologies and describe their use (e.g., desktop conferencing, listserv, blog, wiki)
11. use available technologies (e.g., desktop conferencing, e-mail, groupware, instant messaging) to communicate with others on a class assignment or project
12. collaborate in content-related projects that integrate a variety of media (e.g., print, audio, video, graphic, simulations, and models)
13. plan and implement a collaborative project using telecommunications tools (e.g., ePals, discussion boards, online groups, groupware, interactive web sites, video conferencing)
11. describe the potential risks and dangers associated with online communications
14. use technology tools for managing and communicating personal information (e.g., finances, contact information, schedules, purchases, correspondence)

9_12.RI. Research and Information Fluency – By the end of Grade 12 each student will:

10. develop a plan to gather information using various research strategies (e.g., interviews, questionnaires, experiments, online surveys)
11. identify, evaluate, and select appropriate online sources to answer content related questions
12. demonstrate the ability to use library and online databases for accessing information (e. g. MEL, Proquest, Infosource, United Streaming)
13. distinguish between fact, opinion, point of view, and inference
14. evaluate information found in selected online sources on the basis of accuracy and validity
15. evaluate resources for stereotyping, prejudice, and misrepresentation
16. research examples of inappropriate use of technologies and participate in related classroom activities (e.g., debates, reports, mock trials, presentations)

9_12.CT. Critical Thinking, Problem Solving, and Decision Making - By the end of Grade 12 each student will:

8. use digital resources (e.g., educational software, simulations, models) for problem solving and independent learning
9. analyze the capabilities and limitations of digital resources and evaluate their potential to address personal, social, lifelong learning, and career needs
10. devise a research question or hypothesis using information and communication technology resources, analyze the findings to make a decision based on the findings, and report the results

9_12.DC. Digital Citizenship – By the end of Grade 12 each student will:

12. identify legal and ethical issues related to the use of information and communication technologies (e.g., properly selecting, acquiring, and citing resources)
13. discuss possible long-range effects of unethical uses of technology (e.g., virus spreading, file pirating, hacking) on cultures and society
14. use proper netiquette in communications
15. discuss the possible consequences of unethical uses of information and technologies
16. identify ways that individuals can protect their technology systems from unethical or unscrupulous users
17. create appropriate citations for resources when presenting research findings
18. adhere to fair use and copyright guidelines

9_12.TC. Technology Operations and Concepts - By the end of Grade 12 each student will:

1. complete at least one online credit, or non-credit, course or online learning experience
2. use an online tutorial and discuss the benefits and disadvantages of this method of learning
3. explore career opportunities and identify their related technology skill requirements
4. be familiar with a variety of emerging technology resources (e.g., podcasting, webcasting, compressed video delivery, online file sharing, graphing calculators, global positioning software)
5. identify an example of an assistive technology and describe its purpose and use
6. participate in a virtual environment as a strategy to build 21st century learning skills
7. routinely apply touch-typing techniques
8. assess and solve hardware and software problems by using online help or other user documentation
9. explain the differences between freeware, shareware, open source, and commercial software
10. participate in experiences associated with technology-related careers
11. identify common graphic, audio, and video file formats (e.g., jpeg, gif, bmp, mpeg, wav, wmv, mp3, flv, avi, pdf)
12. demonstrate how to import/export text, graphics, or audio files
13. proofread and edit a document using an application's spelling and grammar checking functions
14. have access to and utilize assistive technology tools