

Parchment School District Technology Plan

http://72.52.215.55/page.php?menu_id=41

July 2009 – June 2012

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Executive Summary

Living in a global society where access to information is crucial has transformed the way we live, work and learn. Technology provides the efficiency and competitiveness that is required to function in our ever-changing world. We need to prepare our students to live and learn in this world. To meet these challenges, the Parchment School District has developed this technology plan.

In June 2002 the district completed the deployment of approximately \$2.8 million worth of technology purchased through bond funds. We are continuing to maintain this infrastructure and are upgrading it as needed to maintain the same or better level of service. More extensive upgrades are occurring at the high school due to a successful bond initiative in September 2007. Almost \$700,000 was allocated from this bond to upgrade technologies throughout the building with additional technology added to the classrooms. To give a clear vision and sense of direction to our technology integration efforts and make optimal use of the equipment, the district has selected the following technology goals:

1. Use technology to deliver curriculum and instruction and increase integration of technology literacy skills into instruction and the district's core curriculum as aligned to the state grade level content expectations (GLCE) and high school content expectations (HSCE).
2. Use data for measurement and analysis of student achievement so that administrators and educators have the information they need to increase efficiency and improve student learning.
3. Provide professional development to assure effective and competent use of technologies and/or integration of technology into instruction by staff and administrators.
4. Support and improve the District's ability to carry out management functions.
5. Maintain a safe, reliable district-wide integrated network system with sufficient capacity, equipment and staffing to meet the district's needs for effective and efficient operations.
6. Use technology as a tool for community/parental involvement and communication
7. Explore all avenues for funding of the technology plan
8. Annually review and evaluate progress on the technology plan.

The evaluation of these goals will help provide data to measure the district's successful use of technology. Three methods of evaluation will be used:

1. Technology Plan Evaluation Checklist - used to evaluate the progress toward completion of the existing technology plan.
2. Technology Support Index - used to evaluate the support systems needed to integrate technology into the curriculum.
3. ISTE's Classroom Observation Tool (ICOT)- used by building administrators to evaluate implementation of technology integration lessons by teachers.

The plan defines a number of strategies that are being implemented to assist the district in achieving its goals. A description of professional development strategies and other types of support for technology use and integration, as well as various requirements of the Michigan Department of Education, are also included. We believe that this plan will improve teaching and learning in the district as well as the efficiency and effectiveness of the entire Parchment educational community.

Introduction/District Mission

The Parchment School District is responsible for preparing its students to be productive, contributing members of society. The District's mission is: "To ensure that all students are challenged to excel in their individual social and intellectual growth, while achieving those essential academic and inter-personal skills necessary to become a successful, contributing member of society." Part of this mission is to provide the students with the technological skills to live and learn in the 21st century.

District Demographics

The district includes the city of Parchment and surrounding areas in northern Kalamazoo County. The September 2008 student count indicated the Parchment School District serves 1780 students in K-12. There are 110 teachers with additional support staff to assist student learning. The physical plant includes three K-5 elementary buildings, a 6-8 middle school, a high school, a 6-12 alternative/adult education facility and an administrative office. The free and reduced lunch percentage is currently at 46 %.

The district is connected to the Intermediate School District (Kalamazoo Regional Educational Service Agency, KRESA) via fiber. This is the district's connection to the Internet. It also allows access to shared services provided by the ISD and REMC. All of the district's buildings are networked together with fiber. Internet service, e-mail and phone service are provided to each building using this fiber. Each building has a local area network that provides connection to the services on the wide area network. Classrooms are equipped with computers, televisions with cable access, VCRs and telephones. Teacher computers are equipped with CD/DVD drives. The computers are used for management and instructional purposes. The television is connected to the teacher computer for large group presentation of computer programs and DVDs. Data projectors are available on a check-out basis for improved viewing of computer and video images.

The high school is currently going through an extensive renovation funded via a bond issue approved by the voters in September 2007. When completed, the classrooms in this building will no longer use televisions for video. Each classroom will be equipped with a data projector and sound system. All audio and video will go through these systems. As curriculum needs dictate, each classroom will also have a document camera and/or interactive white board. The television system is being upgraded from a coax system to a digital system. This technology will also position the district to provide access to selected television channels via the district's wide area network to all other buildings in the district. As part of the renovation, a door access and camera security system is being added to the building. This system will also be able to be expanded in the future to include other buildings.

District Technology Planning Process

In January 2008, the district formed the One to One Technology Integration Exploration Team. The team is comprised of lead technology teachers from each building in the district as selected by building administrators. They meet monthly to explore new hardware and software technologies. They provide leadership within their building to change instruction and learning to seamlessly integrate technology. They provide vision and direction for the district's technology initiative and serve as the district's technology planning committee. Representatives from the committee report to the Student Academic Leadership Team (SALT) which oversees all school improvement and curriculum initiatives throughout the district. Additional input is sought from members of the community. This is done by requesting suggestions on the tech plan web site and by presenting the plan to the building parent associations for their input. The final plan is presented to the Board of Education for endorsement before it is submitted to the Michigan Department of Education for approval. The District Technology Director is responsible for annually evaluating progress toward completion of the existing technology plan. The information gathered is shared with the One to One team, SALT, building level parent associations, and the administration.

The committee focuses its efforts and attention on the following:

- Recommendation of technology-related goals and evaluation strategies as well as professional development needed to accomplish the goals.
- Suggestions to effectively integrate technology into subject areas and grade levels.
- Suggestions for modifications of the technology plan after the year-end evaluation by the District Technology Director.

Technology Vision

The technology plan for the Parchment School District is based on the reality that technology is an integral part of the way we work, teach and learn. Use of technology will result in improved productivity, performance and learning for students, administrators, teachers, and district/school staff. Technology will be used to connect Parchment's students and staff to each other and to the larger world. Our ultimate goal is to improve teaching and learning through the use of technology tools. The primary goal is not learning about technology but learning with technology through its integration into district curriculum which incorporates state grade level content expectations (GLCE) and high school content expectations (HSCE).

Parchment Technology Goals and Objectives

1. Use technology to deliver curriculum and instruction and increase integration of technology literacy skills into instruction and the district's core curriculum as aligned to the state grade level content expectations (GLCE) and high school content expectations (HSCE).
 - Develop district-wide, grade-level assured experiences through collaboration between the teachers, administrators and curriculum leaders that integrate information literacy and technology skills within all curricular areas.
 - Work with grade level and content area groups to identify areas of instruction that can best be taught using technology resources as part of the district's curriculum mapping process.
 - Identify software and Internet resources that can be used for instruction. Emphasize the use of resources that already correlate to Michigan's GLCE's and HSCE's such as MORE, Net Trekker and Discovery Education.
 - Continue the use of online curriculum for credit retrieval. Investigate available options beyond the currently implemented NovaNet.
 - Train administrators on evaluation criteria for technology integration into curriculum.
 - Address NETS-S standards through technology-enhanced learning activities in each curriculum area as described by the Michigan Educational Technology Standards (METS).
 - Integrate the content area instruction with the METS as part of the process of curriculum integration.
 - Ensure that all students are technologically literate by the end of 8th grade - meeting NCLB requirements.
 - Increase the opportunities for formal technology instruction, assess all 8th graders, revise instruction and practices based on assessment results.
 - Teach at all levels skills required to evaluate the reliability and validity of information obtained on the Internet.
 - Advance student acquisition of 21st century learning skills.
 - Train teachers in instructional strategies that incorporate these skills and assess teachers on integration of the strategies into instruction.
 - Train teachers on the uses of Web 2.0 tools such as blogs, wikis, and collaborative resources that can be used to facilitate this.
 - Instruct students in the district's appropriate use guidelines, Internet safety, copyright issues and the ethical use of technology.
 - Continue efforts to educate the community and instructional staff and incorporate the information into all areas of instruction that make use of technology.
2. Use data for measurement and analysis of student achievement and office procedures so that administrators and educators have the information they need to increase efficiency and improve student learning.
 - Provide data management tools to track student performance on district priority standards.
 - Continue use of standardized testing to individualize instruction using Work Keys, MAP, ACT, MMD, Dibels, MEAP, etc.
 - Train Teachers and administrators to analyze results as a basis for change in curriculum and instruction.
 - Investigate alternatives for testing of 1st grade in math using a computerized solution.
 - Use a data warehousing solution to compare testing results between different types of assessments.
 - Implement use of classroom performance systems as a means of collecting formative assessment data.
3. Provide professional development to assure effective and competent use of technologies by all employees and/or integration of technology into instruction by staff and administrators.
 - Staff and administrators will participate in various professional development opportunities in technology that align with NETS•A and NETS•T.
 - Provide professional learning opportunities and tools to facilitate collaboration in the integration of technology in the curriculum among all educators.
 - Implement a professional development strategy to ensure that staff knows how to use new technologies to improve education.

- Staff and administrators will participate in various professional development opportunities about the ethical uses of technology, assessing student technology products, and district technology standards.
 - Ensure that all media specialists and building technology coordinators serve as the leaders in technology and 21st Century information literacy skills within their school buildings.
 - Implement assessments for technological competence of media staff, teachers and administrators.
 - Provide professional development to enable teachers and administrators to use data productively for students from the MAP, MEAP, district and classroom-based assessments.
 - Provide employees with appropriate training to use the management software required for job responsibilities. (e.g. grades, attendance, e-mail, work orders, student information system, POS (Point of Sale), etc.)
4. Support and improve the District's ability to carry out management functions.
 - Identify teacher, library and administrative/secretarial and support personnel functions to provide the support and software needed to improve these activities.
 - Investigate alternative Student Information Systems that provide more integrated functionality that currently available in the existing SIS.
 - Provide for interoperability of technologies through a plan to integrate data systems as much as possible so that administrators, educators and support personnel have the information they need to increase efficiency.
 - Maintain instructional continuity and administrative services in the event of equipment failure.
 5. Maintain a safe, reliable district-wide integrated network system with sufficient capacity, equipment and staffing to meet the district's needs for effective and efficient operations.
 - Ensure continued maintenance and support of existing infrastructure and end user technology.
 - Evaluate and revise as necessary the policies and procedures related to maintenance of hardware, software, infrastructure and security.
 - Implement an assessment of the telecommunications services, hardware, software and other services that will be needed to improve education.
 - Support and maintain communication systems for staff and students.
 - Provide video surveillance systems as needed to ensure student safety and reduce building vandalism.
 - Begin upgrading classroom technologies as funds allow. Upgrades for consideration currently are sound field integration, use of data projectors to manage all video and the addition of document cameras.
 6. Use technology as a tool for community/parental involvement and communication.
 - Continue to investigate the available resources in the surrounding communities and world that we want to access and the best way to facilitate this.
 - Investigate implementation of automated phone dialer for communication of routine reminders and emergency situations.
 - Continue use of a parent reporting system for grades at the secondary level and implement a similar system at the elementary level.
 7. Explore all avenues for funding of the technology plan.
 - Meet current and future funding requirements to support plan implementation.
 8. Annually review and evaluate progress on the technology plan.
 - Evaluate and make changes to this plan on a yearly basis.

Curriculum Integration

The primary motivation for the implementation of the Parchment School District's technology plan has been and will continue to be to use technology to deliver curriculum and instruction and increase integration of technology literacy skills into instruction and the district's core curriculum as aligned to the state grade level content expectations (GLCE) and high school content expectations (HSCE) – Goal 1.

Recent brain research also points to the importance of integrating technology into instruction. We now know that “children raised with the computer —think differently. They develop hypertext minds. They leap around. It’s as though their cognitive structures were parallel, not sequential. Linear thought processes that dominate educational systems now can actually retard learning for brains developed through game and Web-surfing processes on the computer.” This topic was addressed in the article by Marc Prensky titled, “Do they Really Think Differently?”¹ This physiological change requires changes in educational delivery methods. Often these methodologies incorporate multi-media and technology.

A third factor that affects curriculum and technology is the need to integrate 21st Century skills into instruction. The Partnership for 21st Century Skills has developed a collective vision for 21st century learning that they believe will strengthen American education. In addition to the core curriculum there is a need to include information, media and technology skills, life and career skills, and learning and innovation skills. These skills are also represented in the recently published National Educational Technology Standards (NETS) The Partnership believes that only when a school or district combines the framework with 21st century professional development, assessments and standards, can the American public be sure that high school graduates are prepared to thrive in today’s global economy.²

The above factors mean that the district must continue to identify curricular and instructional needs that can be enhanced by technology. This is an on-going process. As we implement school improvement plans across the district, technology integration will be one methodology in improving student achievement. MEAP and MAP scores and other standardized test scores will be one measure of our success.

Classroom Computers

Most classrooms have two or more computers to be used by students and teachers. One computer is used in tandem with the large screen TV monitor for whole class instruction. As funds allow, the video display is moving to use of a data projector which will project television, DVD, computer and document camera images. Additional computers are provided in each room "as needed" to be used by students for individual instruction. Classroom computers provide a powerful tool for whole class instruction, as well as independent group and individual student activities. A classroom performance system is available for checkout to individual teachers. This system allows teachers to collect real-time data from their students and evaluate learning and understanding of concepts immediately. Examples of current and planned uses of technology within the curriculum include:

- **Reading**

One of the district's school improvement goals is to increase reading comprehension skills as well as comprehension of information reading. The following programs are a supplement to the grade level curriculum in the classroom.

Accelerated Reader software allows students to read books at their own level and their own speed. The computer tests their comprehension and gives them immediate feedback. The district currently owns books and quizzes that include both works of fiction and non-fiction. Research has shown that working with this software program and other similar programs improves reading comprehension skills. This program is heavily used within the elementary buildings and still strongly encouraged in grades 6 and 7. Evaluation of student growth using this program is measured annually.

Read Naturally software is used in each elementary building. Research has shown that student reading ability improves as students work through the reading fluency activities. Students who have been targeted for this instruction have made large gains in their reading skills.

The district uses the 2001 Houghton Mifflin reading series in grades K-5. This program provides Internet links that supplement the adopted curriculum. Teachers also add technology resources that provide additional enrichment and remediation.

- **Writing**

School improvement teams in grades K-12 set a goal that students will improve writing skills across the curriculum. The focus on Six Traits writing has started in the elementary buildings and continues throughout grade 8. Technology programs such as Inspiration will be used to help students organize their thoughts and convert the resulting mind maps into an outline which can be used in the students' writing. In locations where there are not enough licenses for Inspiration, web based applications can be used; possibilities are Bubble.us, Mindomo and Mindmeister. Due to the visual nature of this software, it is ideal for many students who learn visually as well as for those students with special needs.

Four teachers in the district are piloting the use of MP-3 players for writing reflection and evaluation. Research supports the use of writing conferences to increase student success in writing. By utilizing MP-3 players as a form of feedback and evaluation, students have one-on-one communication from a teacher on how to improve their writing.

Grades 9-12 approach the writing goal for the district by utilizing the John Collins approach along with an emphasis on the Six Traits from K-8. With the addition of document cameras, writing teachers will have the opportunity to evaluate authentic writing samples with students in real time. Student achievement in writing will be assessed through writing assignments as well as writing scores on the MEAP and ACT.

- **Math**

The third school improvement goal is to increase understanding of key math concepts using strategies that increase problem solving in math. Mathematics programs allow students to expand their math skills beyond the normal classroom curriculum. Software can be used to visually represent math concepts. By allowing students to enter data, make changes and see immediate results, these concepts are easier for students to understand. Using computers in these ways provides practice on the skills needed for math problem-solving. Web sites have been identified that provide these demonstrations. Teachers are making use of the Internet in this way.

In September 2007 the district adopted the KC4 math curriculum in grades K-9. This curriculum is aligned to Michigan's GLCEs and references additional web sites that can be used in instruction. Software has been purchased for the elementary classrooms to provide practice on math skills that correlate with the district's grade level math outcomes. As part of a TLCF (Technology Learning Challenge Fund) Grant the district purchased *Cornerstone Math* for use in Grades 3-8. This software assesses a student's math skills and recommends a prescription of activities to work on the identified deficiencies. It can be used for both remediation and enrichment. *Math Teacher Plus*, *Fathom* and *Geometer's Sketchpad* software was purchased for the high school math department. Due to staffing changes, the high school math department needs addition training on the software for optimal implementation.

During the 2006-07 school year the district purchased document cameras for the fifth grade teachers using Section 99 grant monies. These cameras allow teachers to demonstrate more complex math concepts using manipulatives. Expansion of this methodology is occurring as funds allow. Scientific and graphing calculators are used extensively at the high school. Teachers have TI presentation devices that allow them to display the calculator on the classroom television. A TI Navigator system was purchased via a grant program for a high school teacher. This system provides even more interactivity on calculator use than the presentation device. Middle school teachers use scientific calculators in their instruction.

- **Science**

Students can perform experiments through computer simulations that would be impossible in the classroom due to cost or hazard. Science probes can be attached to the computers to measure pH, light, temperature and motion for use in experiments. High school teachers are already making use of these resources. As part of a TLCF Grant the district purchased science software that supported the district's curriculum in grades 3-8. Teachers are using this software to teach concepts that have previously been difficult for students to understand. The middle school teachers are also developing Internet resources to support the district's science outcomes. As a district, this process is on-going. Anecdotal assessments will be collected on the change observed in students' learning of the concepts covered in these lessons.

- **Social Studies**

Simulations permit students to experience historical events "first hand." This permits greater understanding of the relevance of these events in today's world. Using the Internet, students have access to a vast amount of current information on geography and current events. This information is much timelier than textbooks or other printed materials. The textbooks purchased at the middle school and high schools are supported with software. The software includes testing materials and on-line resources. Textbooks are not scheduled for replacement as the teachers move to the use of more on-line content.

- **Computer Literacy**

To ensure that students in Parchment are technologically literate, a curriculum framework based on the National Educational Technology Standards for Students, was adopted by the Board of Education in June 2004. (See Appendix I) We are moving to use of the Michigan Educational Technology Standards (METS). These are scheduled to be

approved by the State Board of Education in the near future. We will be working to revise the existing framework to meet the new METS. These standards will be integrated into the existing content area curriculum. The work to tie these to curriculum maps will be done in grade/content level meetings. Teachers are being trained on the skills necessary to provide student instruction.

Computer Labs

Each building is equipped with 1-3 computer labs of 25-30 computers each. The labs at all levels are used for group instruction or individual practice as follows:

- **Computer Literacy** - Students learn basic skills in keyboarding (typing) as well as the use of the Internet, database technologies, presentation and publishing software and spreadsheets. The creation of multimedia presentations utilizing data, voice and video is also ongoing. At the middle school, a career based curriculum has been adopted. This curriculum covers the skills needed for students to meet the state's on-line graduation requirement, assist in the development of an individual educational development plan (EDP) and pass the 8th grade literacy test.
- **Tool Software** - Students use word processing, desktop publishing and presentation software to prepare papers and presentations for content area classes.
- **Curriculum Integration** - An entire class works together using subject-specific software, tool software or pre-identified Internet sites.

Networks

Communication networks allow information to flow from classroom to classroom, from building to building and between the District and the community through electronic mail and controlled data access. Other advantages of networking are as follows:

Internet Access - The network allows students and teachers from every classroom in the district to connect to the Internet and access information on a variety of topics. Teachers can access web sites that correlate to their textbooks to provide additional information, simulations, and supplemental activities on the concepts being taught. On-line software is used to provide learning opportunities that were not possible before. NovaNet online instruction is being used for alternative education students and high school credit retrieval. Teachers at all levels have access to educational movies that can be video-streamed into the classroom or downloaded for later viewing via Discovery Education. Teachers are beginning to make use of the Moodle server provided by the ISD. This course management system allows teachers to manage assignments, discussions, and curriculum content. These assessments can provide item analysis on each question giving teachers the information they need to improve instruction for their students. Teachers are also beginning to develop web pages that can be accessed by students both at school and home. These web sites provide support for homework activities tied to the outcomes currently being taught. Through the Michigan Electronic Library all students with Internet access can search periodical resources at home. All buildings have implemented a web-based communication system for use by parents and students. The middle school and high school use Edline. The elementaries use SnapGrades. These systems can be used to provide personalized homework, reference links and academic performance information.

Shared Resources - Library resources at the elementary, middle school and high school can be accessed from classrooms. Software and data can also be shared where appropriate

between classes and buildings. Administrators can consolidate and analyze data from all buildings in order to evaluate the success of instructional initiatives.

Telephones - Today's teaching techniques require a significant amount of communication between teachers and parents. A telephone in each classroom facilitates this communication. Phone mailboxes have been set up to receive messages. The recorded voice message can provide information about such things as special events and assignments.

TV Monitors, Data Projectors, Document Cameras, VCRs and ITV - A large screen TV mounted on the wall in each room in all buildings except the high school provides a means for sharing information with the entire class. Data projectors are being installed in the high school during the 2009-2010 school year. Output from a computer can be directed through the TV monitor or data projector to allow the entire class to share in a particular computer application (for example, an Internet demonstration of plate tectonics, JFK's inaugural address, examples of Impressionist Art, projections of microscope slides and instruction on using new computer software). Instruction via *PowerPoint* is occurring more frequently as teachers master this technology. With the flip of a switch, the TV/Data Projector can be used to receive instructional TV programs via cable transmission. Switch again and VCRs/DVDs or document cameras can be used to project materials on the monitor pertaining to a wide variety of educational interests. Through a simple change of channels, teachers have access to the video network. This network provides building-wide computer and video presentations. Live video broadcasts can be produced within each building for live or time delayed viewing. Data projectors are available on a checkout system. They can project at sizes up to 7'x7'.

Curriculum Timeline

2009-2010

- Include METS in the curriculum mapping project currently occurring in the district.
- Add a content area outcome to English that addresses use of graphic organizers.
- Train administrators in observations of technology integration into the curriculum.
- Explore alternatives to NovaNet for credit retrieval.

2009-2012

- Explore availability and acquisition of new software.
- Continue Discovery Learning or comparable video streaming subscriptions.
- Continue development and implementation of integration strategies and lessons correlated to district outcomes for software and Internet resources.
- Assess technology integration and revise curriculum K-12 as needed.
- Review current computer literacy outcomes at all levels and revise as necessary.
- Continue integrating computer literacy standards into the content area outcomes and assessments.
- Expand Read Naturally levels to include all levels to 4.5.
- Begin implementing Web 2.0 technologies into instruction as a vehicle for preparing students with 21st Century skills.
- Explore possibilities for on-line instruction as a method of Michigan Merit curriculum delivery.

On-line Learning

Learning can take place in a variety of situations, not all of which are in a face-to-face setting with the instructor and learner in the same location. Adult learners who face schedule conflicts from career and family responsibilities, or who feel uncomfortable with standard classroom environments need different strategies than a typical classroom setting. For these students NovaNet course work is currently available on-line. On-line courses are being used by professional staff to maintain their certifications via Learnport. Michigan's Virtual High School has courses available for use by Parchment's students. The computer literacy class uses a Moodle course to manage the students and their instruction. All students graduating from Parchment's alternative high school are required to take an on-line course that prepares them to take the WorkKeys exam.

NovaNet

This is an online comprehensive courseware system that delivers thousands of hours of standards-based, interactive curriculum, integrated assessment and student management & record keeping. This curriculum is aligned to Michigan's Merit Curriculum. The district currently has ten accounts. These are used by students for credit retrieval at the high school and alternative education opportunities. NovaNet offers:

- An online library of interactive curriculum that includes multimedia lessons.
- Self-paced, interactive curricula that adapts to a student's needs.
- Testing, assessment, student management, record keeping, and communications tools.
- An easy-to-use instructional management system allowing for curriculum control and customization.

Internet Resources/Web 2.0 Tools

Teachers are beginning to use more interactive Web 2.0 Internet Tools. Pilot programs using wikis, blogs, Moodle, podcasting and digital storytelling are being used for instruction. It is expected that use of these tools will increase. Web Quests and Electronic Field trips are already being used in the classroom. This usage will be expanded as teachers develop technology integrated lessons.

Timeline

2009-2010

- Continue use of *NovaNet* or comparable alternative each year as dictated by program needs.
- Increase enrollment by students in coursework offered via Michigan Virtual High School.
- Train teachers in the use of Web Quests and other Web 2.0 tools.
- Begin investigating the feasibility of offering more on-line coursework as a means for students to complete Michigan's Merit Curriculum requirements.

Parental Communication

In order for technology integration to be successful there needs to be a shared vision between the school and the supporting community (parents). Therefore, it is imperative that communication between the groups be maintained. The Parchment School District has successfully used a variety of methods in the past to communicate aspects of technology to the public. Technology is the fundamental vehicle for communication with our community and families. E-mail, telephones in every classroom, *Edline*, *SnapGrades* and the district web page promote parental involvement in a child's education.

Edline & SnapGrades

The district will continue using the *Edline* Internet system to communicate with parents in grades 6-12. This communication system allows parents to receive personalized information for their students about grades, attendance, school news, calendars and homework assignments. *Edline* authenticates every user and securely displays only the content that the district wants that user to see. A similar system called *SnapGrades* is available at the elementary level.

District Web Page

The district maintains a web page as a means of communication with the community. It is located at <http://www.parchmentschools.org/>. The web page includes general district information and the district technology plan as well as specific building information. Parents can access lunch menus, bus schedules, sports schedules, and student handbooks. From this link parents can access information about their student's class via Edline. The web page was redesigned in January 2009. Additional features were added allowing for RSS feeds and alerts. The success of this revision will be evaluated using web statistics as generated by the web host.

Parent Notification System

A parent notification system allows administrators to easily create personalized and timely voice messages, emails or correspondence, according to recipient preference. Messages can be scheduled for delivery at any time to alert parents, students and staff of absences, events, emergencies and other important issues. This system is currently not available in Parchment. We would like to implement this type of system as part of a phone dialer. Possibilities will be explored.

Timeline

2009-2012

- Evaluate the new district web site. Add additional features and content as indicated by the evaluation.
- Continue use of parent reporting systems individualized by student.
- Investigate implementation of a mass notification system.

Collaboration

Adult Education

The district provides a GED preparation resource center for adult learners. District facilities including computers are accessible for this program after school and evenings.

ESL

The district does not have an ESL program.

Professional Development

Technology is ever-present in today's society. The Internet has become a vast resource of information. The world is readily infusing technology into our daily lives. In addition to these realities, educational technology is creating innovative and exciting learning environments. Technology is affecting how teachers teach and work with curriculum. It is affecting how students learn. The world is changing and the educational needs of the 20th century are not those of the 21st. In order to fully realize the potential of educational technology we must train teachers not just in the mechanics of operating the equipment, but in the creation and implementation of technology integrated lesson plans that address these changes. Data suggests that when teachers are given specific instruction and practice in integrating technology into learning activities that involve student use of technology, they more frequently develop and use such strategies in their own classroom. This research was originally published at www.teachnet.org/TNPI/researchgrowthswanmull.htm.

Professional development offerings are consistent with skills teachers need to acquire in order to promote integration of technology in their classrooms. They follow the NETS standards from the International Society for Technology Education (ISTE) and facilitate teacher use of technology to help students accomplish the technology literacy outcomes at all levels. In Parchment, most of the teachers have received training on basic computer and software operations. While we will continue to offer this training as needed, the focus is training on integration strategies and development of lessons that incorporate technology into the district outcomes. It is also important to train support staff. Use of technology allows the staffs to more efficiently perform their jobs.

Previously teachers completed an annual self-evaluation on technology use. This instrument was originally based on the Code 77 Rubrics for the Mankato School District. The tool was used to measure the effectiveness of the training program. It was also used as a self-analysis to assist teachers in determining the areas they needed to learn and practice. Teachers currently employed in the district will be evaluated through principal observations. We are exploring the use of the ISTE Classroom Observation Tool (ICOT). Using this tool a principal can document technology use during classroom visits to identify how technology tools and strategies are being used in their building. This tool could answer questions about how new technology, software, or professional development is being implemented? What instructional strategies and student groupings are being used in classrooms to support learning? What professional development is needed?

To effectively evaluate staffs technology skills, administrators need to have a minimal level of educational technology ability. ISTE has also developed NETS for School Administrators. These standards are a national consensus among educational stakeholders of what best indicates accomplished school leadership for comprehensive and effective use of technology in schools.

Professional Development Strategies and Initiatives for Technology

Currently the District Technology Director implements the district's overall technology training with supervision by the district's Assistant Superintendent for Curriculum &

Instruction. This allows for coordination of the training necessary to meet the district's technology and instructional needs. As training needs are determined, all instructional staff, teachers, aides, support staff and administrators are considered. When it is necessary trainers are brought in from outside the district to provide additional viewpoints and resources.

- *One to One* - In January 2008 the district working with the One to One Institute, formed the One-to-One committee. This committee is comprised of teachers from all district buildings. In addition to serving as the district's technology committee, the current focus of the group is on being the pioneers of new technology in their own classrooms. These teachers then share their experiences and expertise with other teachers in their building during inservice days and staff meetings. They meet monthly to learn 21st Century instructional skills and strategies for integrating technology into instruction.

MI Champions - In January 2009 the district was notified that two teams of teachers had received MI Champions grants. This grant is intended to create a statewide model for professional development and to create Technology Integration Champions at the building level. The lessons these teachers learn will be shared not only within their buildings but between buildings that did not receive the grant.

District Technology Grants - In September 2008 the district implemented a technology grant program. While one goal was to increase technology use in classrooms, another goal was to provide the hardware necessary to push teachers forward with new methods of instruction. Grantees are required to attend up to six hours of training on instructional strategies related to the specific hardware they received. The district will be providing professional development opportunities for these teachers to train them to use the new technology in their classrooms. It is hoped that this program can continue in future years.

Administrator Training – Beginning October 2008 and continuing on a monthly basis, administrators have attended a two hour training session. These sessions have provided training on the use of data, Web 2.0 tools, classroom technology implementation strategies and technology visioning. This work will continue in a more expanded format during the summer.

Other

- All new staff is required to attend the new employee workshop. This takes place before the start of the school year and as needed during the year. The information covered includes technology protocols, network access, and email / voicemail procedures.
- All staff is required to access the Global Compliance network online to annually complete training on bloodborne pathogens, sexual harassment, hazard communications and other state and federal laws affecting K12 education in Michigan.
- Support staff is required to attend technology training necessary for them to perform their jobs.

- Tune Ups - After school tune-up sessions are available by request throughout the year. Attendance is voluntary and not compensated. Content changes based on perceived needs of the staff as recommended by Building Technology Coordinators and teachers or administrators. These are also used to introduce integration strategies for district curriculum software.
- The SALT committee recommends additional technology training. This allows technology training to be coordinated with a component of the district's building level school improvement plans.
- The school district supports staff attendance at technology workshops offered by the local ISD and state professional organizations.

Staff Development -Timeline

2009-2010

- Train high school teachers on instructional strategies using the new classroom technologies.
- Train high school math teachers to use existing math software.

2009-2012

- Increase technology training opportunities for district staff.
- Provide Mind mapping software training for all language arts staff.
- Expand number of staff attending conferences such as MACUL to develop teacher knowledge of hardware/software technology available for use in classrooms.
- Train "trainers" to enhance teacher use of existing computers and software.
- Provide training for teachers in the characteristics of 21st century learners as determined by current brain research and instructional techniques needed to address these characteristics.

Supporting Resources

Policies

Technology protocols have been written to address issues related to computers and associated peripherals, copyright, data network security, electronic mail, Internet, software, substitute staff, web page publishing, telephone and voice mail. All personnel and students who receive access to the district's networks must sign an AUP indicating they have read and agree to abide by each of the protocols.

Documentation

Documentation was written or provided by the companies contracted to set up the voice, video and data networks. Copies are on file in the district's technology office.

Michigan Electronic Library (MEL)

Michigan Electronic Library provides a free electronic library that provides access to databases containing full text magazine and newspaper articles archived as far back as 1986. Project MORE (Michigan Online Resources for Educators) correlates Internet resources to the Michigan GLCE's and HSCE's.

REMC

The video lending library is available online or via telephone. The REMC has also negotiated lower costs for Discovery Education's video streaming resources.

K-RESA Consortium

Parchment currently partners with KRESA for student information systems, financial accounting and human resources programs. KRESA also provides the SRSD/MSDS integration software that is used for CEPI reporting. Access to NovaNet and Discovery Education video streaming is improved as the ISD provides hosting services for these programs. The ISD also provides a data warehouse, District Data Analyzer (DDA). The district's computer technician services are contracted from the ISD.

The district is a member of the KRESA Consortium. This provides lower cost Internet access and packet shaping for the district's Internet use as well as reduced cost for the district's Edline membership. The ISD's Moodle server is being used by some teachers in the district to provide a content management system for student use. This usage is expected to grow. Staff training in computer use and software programs is available through our membership in the consortium.

Large scale purchases of technology and software have previously been coordinated through KRESA resulting in lower costs as well as coordinated training for member districts. School district technology coordinators attend every other month technology meetings. The meeting provides an opportunity for human networking and idea sharing. New product information is often presented. A similar monthly meeting devoted to instructional technology also is available.

Students with special needs who require adaptive devices for the use of technologies receive these from KRESA.

Support Contracts

Support contracts are maintained with outside contractors for the Novell network and the telephone system. They provide programming and repair services.

Curriculum Software

Software purchases are made with curriculum funds to insure coordination with the district's outcomes. Software was also purchased through two TLCF grants in 1999 & 2001. These purchases included large-scale adoptions of *Accelerated Reader*, *Inspiration*, and *Cornerstone Math & Reading*. While the software is old by technology standards it is still effective at meeting curriculum needs. The main tool software used by the district is comprised of MS Office products, specifically *Word*, *Excel*, *PowerPoint* and *Publisher*. The District Technology Director provides troubleshooting, training, and integration support for the software provided by the district.

Management Software

Management software is provided in all departments as listed below

- Student Information System (SIS), Human Resources (HR), Financial Accounting (FA), and SRSD/MSDS - This school district management software is supported by KRESA who developed the software.
- *BusStops* - The transportation department uses this software to create and track the busing system.
- *PS1000* - This POS food service software is used for inventory, free and reduced meal application processing, and student meal accounting.
- *Athena* - This is the library circulation system used 6-12
- *Follett* - This is the library circulation system used K-5
- *School Dude* - This is an on-line tracking system for maintenance and custodial work orders.
- *Schedule Star* - This on-line software is used to manage the Athletic programs at the high school.
- *CMS* - This software is used to manage the district's web site.

On-line Subscription Services

The district currently subscribes to the following on-line services.

- *Edline* - a communication tool that provides parents access to their child's personalized information in grades 6-12
- *SnapGrades* - a communication tool, gradebook and report card program that provides parents access to their child's personalized information in grades K-5.
- *NovaNet* - curriculum modules.
- *Discovery Education* - Provides educational movies for downloading or live video streaming.
- *School Dude* - on-line tracking system for work orders.
- *Barracuda* - e-mail spam service and content filtering
- *Symantec Antivirus* - desktop virus protection
- *ScheduleStar* - management of the high school athletics program
- *ScheduleFinder* - PDA software that syncs with SIS to provide a mobile version of the student information system.

Training Manuals

Teachers that attend district sponsored technology training receive a training notebook. Additional chapters are added for each workshop that participants attend. The chapters provide help sheets for the different operations that are demonstrated as well as suggestions for instructional applications and Internet resources.

Web Site

Routine maintenance and updating of the district's web site is managed locally. More sophisticated programming is contracted out. The district determines what information is delivered via this medium.

Infrastructure

Wide Area Network

Maintaining the existing infrastructure and equipment levels is essential to achieve Parchment's technology vision of improving teaching and learning through the use of technology tools.

The district's buildings are networked together with fiber. Direct connect Internet service, e-mail and phone service are provided to each building using this fiber. The district connects to the Internet using 10MB fiber. All of the districts servers are centralized and access to these is possible via the WAN. The proxy server was replaced in April 2009. The original proxy server also provided content filtering and firewall security via BorderManager software. Support for Border Manager is slated to be discontinued in the next 1-2 years. For this reason, a hardware solution for content filtering and firewall was implemented. A security server and a media server were added to provide services for the high school. Adding them to the district's Network Operating Center (NOC) allows for expansion into other buildings in the future.

Local Area Network

Each building is connected to centralized services via a LAN utilizing switches. Authorized personnel have access to student information for their building.

Each building is equipped with 1 – 3 computer labs with access to the Internet and networked software through the LAN/WAN. Configuration of the labs is flexible enough to allow for adaptive devices and wheelchair access.

A video distribution system is available in each building. This network is self-contained by building. Using this network, it is possible to show a VHS tape, present a live broadcast or run a computer presentation throughout the building. At the high school this is a digital system that will eventually be available to all buildings throughout the district. The roadblocks to full usage in the other buildings are the lack of cabling and funding. These issues will be resolved over time.

A digital surveillance system is available at the high school. This system is flexible enough to permit additional cameras to be installed throughout the district as funds become available. This would ensure an additional layer of student security and reduce vandalism.

Classrooms

Each classroom is wired to support the connection of five computers. This allows for future growth. Classrooms are currently equipped with 2-3 computers for management and instructional purposes. Each computer has access to the Internet through the LAN/WAN. Each classroom is equipped with a 32" television and VCR. Data projectors and sound systems are installed in the high school classrooms. The local cable company provides CATV. The TV/data projector is also connected to the teacher computer for large group presentation of computer programs. Each classroom is equipped with a telephone. Teachers have access to data projectors, DVD players, CD burners, digital cameras, document cameras, scanners, and video streaming. The high school will have a classroom configuration that includes a data projector that manages the computers, DVD player, document camera and interactive whiteboard.

Timeline

2009-2012

- Continue preventive maintenance as scheduled.
- Survey staff to determine hardware and software needs.
- Assess district hardware to determine necessary upgrades.
- Continue district replacement plan for desktops.
- Upgrade the telephone/voicemail system.
- Evaluate equipment functionality and upgrade as needed.
- Conduct district-wide inventory of system hardware and software.

Technical Support

Generally there is a quick response time for troubleshooting, hardware repairs and problems with network connectivity. It is understood that maintenance of the technological infrastructure and support systems is necessary to accomplish the district's technology vision.

Personnel

1. Contracted

- Maintenance contract for phone service is maintained.
- Support contract is maintained for data networking services. This provides approximately 50 hours per year for network maintenance, troubleshooting, repairs and training.
- Support contracts are maintained for the management systems, Athena, Follett, PS1000, BusStops, School Dude, Schedule Star, HR, FA, and SIS.

2. In-house

- Full time District Technology Director (25 yrs. experience) oversees and implements the district technology plan and support systems.
- Part time Technology Support person (5 yrs. experience) is responsible for hardware maintenance and repair. He has A+ certification.
- Building Technology Coordinators provide as needed hardware and software troubleshooting service.

Equipment

- The existing, video and phone equipment were purchased through bond funds from September 1999 to June 2002. The equipment is now out of warranty. Maintenance contracts are in place to provide phone system support. The main switches at all buildings were replaced in April 2005. An extended warranty on the main district switch provides an additional 3 years of warranty service. Most of the districts servers were replace in July 2005. A SAN (storage area network) was implemented resulting in the need for fewer servers. Teacher/Staff desktop computers and lab computers are replaced every 5 years according to the desktop replacement plan. These computers will all be a minimum of Pentium IV, 2.8Ghz computers as of August 2009. Additional classroom computers are Pentium III or better.
- Dollars will be budgeted to provide upgrades and replacement as needed after the warranty period expires.
- Hardware is inventoried and is audited every two years. The inventory is on file with the insurance company.
- Computers are physically cleaned and reformatted as needed.

New Technology Initiatives

- Investigate the feasibility of adding sound field technology to the elementary classrooms.
- Expand use of Classroom Performance System.
- Expand video surveillance systems to ensure student safety and reduce building vandalism.
- Implement wireless networking throughout the high school.

Security

- Access to the network is controlled through network login. Access is granted after users agree to follow district technology protocols.
- Firewalls are in place to control access to the network from outside the school district using a Watchguard hardware solution..
- A Barracuda content filtering hardware solution was installed Spring 2009. This system allows for authentication to the Internet. Student Internet access is given only if a signed AUP is on file in the district. These must be renewed annually.
- A hardware solution provides e-mail spam and virus filtering
- Norton Anti-virus is installed on all desktops with automatic virus definition updates occurring weekly.
- Desktop security is controlled through Novell Policy Manager and Zenworks.

Timeline

2009-2012

- Continue preventive maintenance as scheduled.
- Assess district hardware to determine necessary upgrades.
- Continue support contracts.
- Continue scheduled replacements per the district's server and desktop replacement plans.
- Upgrade the phone system – Summer 2009

Timeline

Note: This timeline includes all timelines listed in other sections of this document.

2009-2010

- Include METS in the curriculum mapping project currently occurring in the district.
- Add a content area outcome to English that addresses use of graphic organizers.
- Train administrators in observations of technology integration into the curriculum.
- Explore alternatives to NovaNet for credit retrieval.
- Train high school math teachers to use existing math software.
- Train high school teachers on instructional strategies using the new classroom technologies.
- Investigate the purchase of software to assist with district developed surveys.
- Upgrade the phone system.
- Revise email protocol to reflect mandated changes for saving emails.

2009-2012

- Explore availability and acquisition of new software.
- Continue Discovery Learning or comparable subscriptions.
- Continue development and implementation of integration strategies and lessons correlated to district outcomes for software and Internet resources.
- Assess technology integration and revise curriculum K-12 as needed.
- Review current computer literacy outcomes at all levels and revise as necessary.
- Continue integrating computer literacy standards into the content area outcomes and assessments.
- Expand Read Naturally levels to include all levels to 4.5.
- Begin implementing Web 2.0 technologies into instruction as a vehicle for preparing students with 21st Century skills.
- Explore possibilities for on-line instruction as a method of Michigan Merit curriculum delivery.
- Continue use of NovaNet or comparable alternative each year as dictated by program needs.
- Increase student enrollment in coursework offered via Michigan Virtual High School.
- Train teachers in the use of Web Quests and other Web 2.0 tools.
- Begin investigating the feasibility of offering more on-line coursework as a means for students to complete Michigan's Merit Curriculum requirements.
- Evaluate the new district web site. Add additional features and content as indicated by the evaluation.
- Continue use of parent reporting systems individualized by student.
- Investigate implementation of a mass notification system.
- Increase technology training opportunities for district staff.
- Provide mind mapping software training for all language arts staff.
- Expand number of staff attending conferences such as MACUL to develop teacher knowledge of hardware/software technology available for use in classrooms.
- Train "trainers" to enhance teacher use of existing computers and software..

- Provide training for teachers in the characteristics of 21st century learners as determined by current brain research and instructional techniques needed to address these characteristics.
- Continue preventive maintenance as scheduled.
- Survey staff to determine hardware and software needs.
- Assess district hardware to determine necessary upgrades.
- Continue district replacement plan for desktops.
- Evaluate equipment functionality and upgrade as needed.
- Conduct district-wide inventory of system hardware and software.
- Continue preventive maintenance as scheduled.
- Assess district hardware to determine necessary upgrades.
- Continue support contracts.
- Continue scheduled replacements per the district's server and desktop replacement plans.
- Technology budget is evaluated and adjusted as needed.
- Application for USF funds is submitted.
- Alternative funding sources for software and training are sought.
- Annually assess results of the Classroom Observation Tool.
- Annually complete Technology Plan Evaluation, report the results and revise the plan for the following school year.
- Annually complete the Technology Support Index
- Expand use of Classroom Performance Systems.

Budget

Projected Technology Expenditures

	2009-10	2010-11	2011-12	3 Year Total
Maintenance & Repair				
Equipment Repair	6500	6500	6500	19500
Network Service Contracts				
-Network Support	5500	5500	5500	16500
-Voice System	12500	12000	12000	36500
Phones				
Basic Service	24000	24000	24000	72000
Long Distance	100	100	100	300
Cell Phones	9600	9600	9600	28800
Pagers	500	500	500	1500
Software & Supplies				
Purchases & Upgrades	7000	7500	8000	22500
NovaNet	11000	11000	11000	33000
Edline/SnapGrades	7600	7600	7600	22800
Schedule Finder	1200	1200	1200	3600
United Streaming	2500	2750	3000	8250
Staff				
Technology Director	100000	102000	104000	306000
Technician (Part time)	27000	28000	29000	84000
Building Technology Coordinators	10000	10250	10500	30750
Staff Development (Title II Tech)	2200	2200	2200	6600
Support Contracts				
-Anti-virus Software	4000	5000	6000	15000
-Athletic Software	250	250	250	750
-Food Service Software	1500	1500	1500	4500
-Internet	15000	15000	15000	45000
-Library Software	2300	2300	2300	6900
-Maintenance Software	1000	1000	1000	3000
-Novell	6000	6000	6000	18000
-Pole Rental	400	400	400	1200
-Spam Filter	500	500	500	1500

-Student & Office Management	25000	25000	25000	75000
-Transportation Software	1500	1500	1500	4500
-Web Content Filter	3000	3000	3000	9000
-Web Site	6500	6500	6500	19500
Upgrades / Replacements				
Computer Replacements	110000	110000	110000	330000
Phone System Upgrades	95000			95000
Server Replacement		70000		70000
Addition of New Technologies via Grants	30000	30000	30000	90000
			Total Expenses for 3 years	\$1,481,450.00

Coordination of Resources

Grants

Parchment was awarded TLCF grants for staff development & technology integration in 1999 and 2001. The Parchment Foundation has awarded grants for pilot programs in technology integration.

The district has successfully gained funding for individual teacher grants through MACUL for a video editing system and multi-media software.

The HS athletic department received an NFL grant that provided a video editing system.

The elementary libraries received a Gilmore foundation grant for library circulation software.

District grants were awarded to 11 teachers in the district for hardware that was required for integration of curriculum.

Other Sources

Parchment's Parent Associations and other building fund raising efforts have provided software for classroom use.

Microsoft has donated software as part of a matching donation program for employees.

In District Coordination

The district has and will continue to pool resources from various funding sources to purchase technology and provide training. An example of sources used in the past include: technology budget, curriculum budget, Title I, Title II, special education, staff development budget, and building budgets.

Universal Service Fund

The district applies annually for USF reimbursement.

Timeline

2009-2012

- Technology budget is evaluated and adjusted as needed.
- Application for USF funds is submitted.
- Alternative funding sources for software and training are sought.

Evaluation

All technology evaluations will be overseen by the District Technology Coordinator. The evaluations will be done annually. The district's progress toward implementing technology is currently evaluated using two instruments, the *Technology Support Index*, and the *Technology Plan Evaluation Checklist*. The *Teacher Self Evaluation Rubric* was used in the past to evaluate teacher computer skills. This was discontinued as no longer necessary since it assessed only basic usage skills not integration skills. The newly developed *Technology Integration Evaluation Tool* will be used in the future. The results obtained from all evaluations will be shared with the Assistant Superintendent for Instruction, building administrators and the district technology committee. The affected committees will identify focus areas for improvement. They will also identify strategies to solve the identified deficiencies. These will be implemented the following year.

School Improvement

School improvement teams continually look for ways to incorporate technology when implementing strategies for School Improvement. The district is working on the following goals:

- Increase reading comprehension skills as well as comprehension of information reading.
- Improve writing skills across the curriculum.
- Increase understanding of key math concepts using strategies that increase problem solving in math.

All of these goals lend themselves to the integration of technology and each have strategies using technology associated with them as indicated earlier in the curriculum section of the plan. Each will be evaluated as part of the school improvement process.

ISTE's Classroom Observation Tool (ICOT)

ICOT is a free online tool that provides a set of questions to guide classroom observations of a number of key components of technology integration. A principal can document technology use during classroom visits to identify how technology tools and strategies are being used at their site.

Technology Plan Evaluation Checklist

The District Technology Director evaluates technology goals, objectives and implementation strategies. The tool is used annually to evaluate progress toward completion of the existing technology plan. The annual checklist is derived from the timelines within the technology plan. The categories will include accomplishments and progress toward goals. The information gathered will be shared with the District Technology committee and the administration. A sample of the checklist used in 04-05 is included in the appendix. Strategies that were not effective or that were not implemented are moved to the next school year if it is determined by the committee that the strategy is viable and valuable.

Technology Support Index

This evaluation tool is used to assess equipment, staffing, professional development and management of the infrastructure necessary to provide the support necessary for integration of technology into the curriculum. It was developed by Dr. Chip Kimball in conjunction with The International Society for Technology Integration (ISTE) and the Gates Foundation. The evaluation is done by the technology support staff annually. The information is used to determine infrastructure needs and updates.

Evaluation Matrix

Evaluation Tool	Evaluated By:	Purpose	Timing
ICOT	Building Principals	Assess the implementation of technology integration into the curriculum.	Throughout the year
Technology Plan Evaluation Checklist	District Tech Coordinator, District Technology Committee	Assess the strategies used to achieve the stated goals and outcomes. Strategies assessed are those that are listed in the timelines for each school year.	Evaluate in June, report and revise in September
Technology Support Index	District Technology Coordinator, Technology Support Personnel	Assess equipment, staffing, professional development and management of the infrastructure needed to provide integration of technology into the curriculum.	Evaluate in April

Timeline

2009-2010

- Investigate the purchase of software to assist with district developed surveys.

2009-2012

- Annually assess results of the Classroom Observation Tool.
- Annually complete Technology Plan Evaluation, report the results and revise the plan for the following school year.
- Annually complete the Technology Support Index
- Expand use of Classroom Performance Systems.

Curriculum - Appendix I

Standard One - Basic Operations and Concepts

- Students demonstrate a sound understanding of the nature and operation of technology systems.
- Students are proficient in the use of technology.

Computer Labs & Classroom Technology Resources											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Demonstrate proper use and care of hardware, software, and other media (disks, CD's, etc.)
											Demonstrate logging in, logging out, using passwords, selecting applications, opening and saving files
											Explain what a Local Area Network and Wide Area Network are.
											Explain the purpose of a LAN and WAN (saving files, printing, Internet access, access to network servers)
											Select appropriate software for specific tasks
											Troubleshoot problems in the operation of computer hardware and software
System Components - their function and importance											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Identify a monitor
											Identify a CPU (Central Processing Unit)
											Identify a keyboard
											Identify a mouse and demonstrate its functions (click, double-click, click and drag, scrolling)
											Identify a floppy drive, hard drive and other storage devices
											Identify printers (laser and inkjet) and other peripherals (speakers, microphones, scanners)
											Identify RAM (Random Access Memory) and it's impact on running programs
Operating System											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Demonstrate the use of navigation, file and folder management
											Identify the term Operating System
											Identify various Desktop operating systems in use now (Windows 98, 2000, XP, Mac OS)
											Identify a Network Operating System (Novell, NT, etc.)

Standard One - Basic Operations and Concepts

Understanding Operating System Terminology											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Define Desktop
											Identify icons and shortcuts
											Identify Taskbar (Windows environment)
											Identify the difference between folders and files
											Identify a window
											Demonstrate minimize, maximize, and resizing windows
											Demonstrate Right-click (Windows environment)
Maneuvering Within Operating System Environment											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Demonstrate opening and closing programs and files from hard drive or network
											Demonstrate booting up, logging in, logging out, and shutting down
											Demonstrate switching between open programs
											Demonstrate how to change printers
											Demonstrate accessing Help from on-screen menus
File Management - Using Explorer File Management											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Explain the purpose behind saving & backing-up information
											Demonstrate how to use other program components within operating system, My Computer, Accessories (calculator, notepad, etc)
											Demonstrate copying or moving files/folders
											Demonstrate cutting/pasting/files/folders
											Demonstrate naming/re-naming files/folders
											Demonstrate creating directories for file/folders

Standard 2 - Social, Ethical and Human Issues

- Students understand the ethical, cultural, and societal issues related to technology.
- Students practice responsible use of technology systems, information, and software.
- Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Help maintain all computer equipment and software
											Help maintain the appearance and cleanliness of labs and classrooms
											Demonstrate awareness of the district's Acceptable Use Policy (AUP)
											Explain Internet Netiquette
											Demonstrate awareness of Copyright © Infringement and plagiarism as it pertains to Internet and software issues
											Demonstrate ethical use of student's files, accounts, and work
											Explain the importance of having updated virus definitions.
											Develop legal and ethical network behavior (awareness of computer viruses, hacking, etc.)

Standard 3 - Technology Productivity Tools

Students use technology tools to enhance learning, increase productivity, and promote creativity.

Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

Keyboarding (Type to Learn, Typing Tutor, etc)											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Demonstrate simple, practical recognition of keyboard layout
											Participate in intermediate keyboarding instruction: proper finger placement/technique, use of Home Row, posture
											Develop keyboarding speed and proficiency
Word-processing (MS Word)											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Open a word processing application
											Create documents reflecting classroom assignment needs - stories, poems, letters, etc.
											Edit text with mouse or keyboard
											Use the undo and redo function - deleting and restoring text
											Demonstrate naming files and saving files in different formats
											Use various fonts, font sizes and styles (boldface, underline, italics)
											Demonstrate sentence and paragraph formatting (justification, spacing, indentation)
											Identify parts of the application screen - Title, Menu, Tool, & Formatting bars, Rulers, Scroll, Task, & Status bars, Help
											Use Spell check, grammar check, and proofread
											Insert clipart, or photos - positioning and sizing
											Demonstrate page setup - margins, page orientation
											Use paragraph indentation - tabs, and hanging indents
											Print specific pages, print multiple copies
											Copy, cut, paste, and move text
											Use bullets and numbering
											Select a printer
											Insert Text Boxes, Word Art, drawing tool objects
											Insert page breaks, headers and footers, page numbering
											Create, format, and edit tables

Multimedia Slide Shows (MS PowerPoint)											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Plan and create a presentation using a template
											Insert and edit text
											Insert and edit clipart and/or digital images
											Save a presentation
											Run a slide show
											Insert drawing objects
											Add slide transitions
											Use the various view and print options
											Evaluate slides and presentations for effectiveness
											Deliver an effective presentation
											Plan and create a presentation from scratch
											Insert background
											Insert sounds
											Insert video clips
											Add animation to presentations
											Add animation effects to each component in a slide (PowerPoint)
											Insert and format action buttons
											Save presentation using "Pack And Go" (PowerPoint)
Graphic Organizers - (Kidspiration, Inspiration, Graph Club)											
K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Navigate between various views within the graphic organizer (picture view, writing view)
											Create a simple diagram in picture view
											Save, close, open, and print project
											Add, edit, format links connecting ideas
											Categorize ideas
											Add, move, edit, link symbols in the diagram and add text to symbols
											Add ideas in writing or outline view, format and spell check
											Cut, copy, and paste ideas
											Create a well-developed web, idea map, or concept map using the picture and diagram or writing view
											Move ideas up or down in the hierarchy
											Align or position symbols and adjust page breaks for printing

Standard 6 - Technology Problem-Solving and Decision-Making Tools

- Students use technology resources for solving problems and making informed decisions.
- Students employ technology in the development of strategies for solving problems in the real world.

K	1	2	3	4	5	6	7	8	Introduced	Reinforced	Proficient
											Conduct research to determine the effect something may have on a real-world problem or natural occurrence
											Utilize applications to create a finished project that will share curricular ideas to all audiences using graphs, charts, drawings, or typed descriptions
											Through a careful decision making process, utilize the correct software application to complete an assignment or collaborative project, in school or the community
											Utilize computer applications to replicate, and help with an evaluation process to evaluate articles and reports in the popular press, in scientific journals, on television, and on the Internet, using criteria related to accuracy, degree of error, sampling, treatment of data, and other standards of experimental design

Appendix II



Classroom Observation Tool



The **ISTE Classroom Observation Tool (ICOT®)** is a free online tool that provides a set of questions to guide classroom observations of a number of key components of technology integration. ICOT was developed by staff and consultants in the Education Leadership Department at the International Society for Technology in Education (ISTE) with support from Hewlett-Packard Company. For free access to the ICOT software and online tools, visit <http://www.iste.org/icot>.

1. Setting

Date: _____ School: _____

Project/Program: _____ Site Code _____

Observer: _____ Teacher: _____

Grade: _____ Subject: _____

#Students: _____ Observation Start time: _____ End time: _____

(You can track technology use by three-minute intervals throughout the observation using the three-minute chart at the end of this form.)

2. Room description and student characteristics:

3. Student groupings (check all observed during the period):

- Individual student work
- Student pairs
- Other (please comment):

- Small groups
- Whole class

4. Teacher roles (check all observed during the period):

- | | |
|--|--|
| <input type="checkbox"/> Lecturing | <input type="checkbox"/> Facilitating/Coaching |
| <input type="checkbox"/> Interactive direction | <input type="checkbox"/> Modeling |
| <input type="checkbox"/> Discussion | |
| <input type="checkbox"/> Other (please comment): | |

5. Learning activities (check all observed during the period):

- | | |
|--|--|
| <input type="checkbox"/> Creating presentations | <input type="checkbox"/> Test taking |
| <input type="checkbox"/> Research | <input type="checkbox"/> Drill and practice |
| <input type="checkbox"/> Information analysis | <input type="checkbox"/> Simulations |
| <input type="checkbox"/> Writing | <input type="checkbox"/> Hands-on skill training |
| <input type="checkbox"/> Other (please comment): | |

6. How essential was technology to the teaching and learning activities?

- 1. Not needed; other approaches would be better.
- 2. Somewhat useful; other approaches would be as effective.
- 3. Useful; other approaches would not be as effective.
- 4. Essential; the lesson could not be done without it.

Comment:

7. Technologies used by teacher (check all observed during the period):

- | | |
|--|---|
| <input type="checkbox"/> Calculator | <input type="checkbox"/> Presentation |
| <input type="checkbox"/> CD-ROM | <input type="checkbox"/> Science Probe |
| <input type="checkbox"/> Database | <input type="checkbox"/> Shared Editor (wiki) |
| <input type="checkbox"/> Desktop Computer | <input type="checkbox"/> Simulation |
| <input type="checkbox"/> Digital Camera | <input type="checkbox"/> Spreadsheets |
| <input type="checkbox"/> Drill/Practice | <input type="checkbox"/> Tablet Computer |
| <input type="checkbox"/> E-mail | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Graphics | <input type="checkbox"/> Videoconferencing |
| <input type="checkbox"/> Handheld Computer | <input type="checkbox"/> Web Authoring |
| <input type="checkbox"/> Laptop Computer | <input type="checkbox"/> Web Browser |
| <input type="checkbox"/> Library Database | <input type="checkbox"/> Web Log |
| <input type="checkbox"/> Outliner | <input type="checkbox"/> Word Processing |
| <input type="checkbox"/> Podcast | |
- Other (please comment):

8. Technologies used by students (check all observed during the period):

- | | |
|--|---|
| <input type="checkbox"/> Calculator | <input type="checkbox"/> Presentation |
| <input type="checkbox"/> CD-ROM | <input type="checkbox"/> Science Probe |
| <input type="checkbox"/> Database | <input type="checkbox"/> Shared Editor (wiki) |
| <input type="checkbox"/> Desktop Computer | <input type="checkbox"/> Simulation |
| <input type="checkbox"/> Digital Camera | <input type="checkbox"/> Spreadsheets |
| <input type="checkbox"/> Drill/Practice | <input type="checkbox"/> Tablet Computer |
| <input type="checkbox"/> E-mail | <input type="checkbox"/> Video Camera |
| <input type="checkbox"/> Graphics | <input type="checkbox"/> Videoconferencing |
| <input type="checkbox"/> Handheld Computer | <input type="checkbox"/> Web Authoring |
| <input type="checkbox"/> Laptop Computer | <input type="checkbox"/> Web Browser |
| <input type="checkbox"/> Library Database | <input type="checkbox"/> Web Log |
| <input type="checkbox"/> Outliner | <input type="checkbox"/> Word Processing |
| <input type="checkbox"/> Podcast | |
- Other (please comment):

9. NETS Teacher Standards Addressed:

- 1A.1. operating system procedures
- 1A.2. routine hardware and software problems
- 1A.3. content-specific tools
- 1A.4. productivity tools
- 1A.5. multimedia tools
- 1A.6. interactive communication tools
- 1A.7. curriculum-based presentations/publications
- 1A.8. curriculum-based collaborations
- 1A.9. appropriate technology selected
- 2A.1. developmentally appropriate learning activities
- 2A.2. technology-enhanced instructional strategies
- 3A.1. learning experiences address content standards
- 3A.2. learning experiences address student technology standards
- 3B.1. technology supports learner-centered strategies
- 3C.1. technology applied to develop students' higher order skills
- 3C.2. teacher applies technology to develop students' creativity
- 3D.1. class management facilitates engagement with technology
- 3D.2. technology integrated as a teacher tool
- 3D.3. technology integrated as a student tool
- 3D.4. student grouping varied as needed to facilitate learning
- 4A.1. student learning of subject matter assessed with technology
- 4A.2. teacher assesses student technology skills
- 4A.3. teacher employs a variety of assessment strategies
- 6A.1. teacher models legal and ethical technology practices
- 6A.2. teacher explicitly teaches legal and ethical technology practices
- 6B.1. diverse learners enabled and empowered.
- 6D.1. safe and healthy use of technology promoted
- 6E.1. equitable access to technology for all students.

Comments:

10. Three-Minute Chart.

During each 3-minute period, was technology *in use* by students and/or teachers, and was the time spent with technology *used for teaching and learning* (as opposed to recreation or routine tasks such as boot-up and log-on)?

Technology is:	:00- :03	:03- :06	:06- :09	:09- :12	:12- :15	:15- :18	:18- :21	:21- :24	:24- :27	:27- :30	:30- :33	:33- :36	:36- :39	:39- :42	:42- :45	:45- :48	:48- :51	:51- :54
In use by students																		
Used for learning																		
In use by teacher																		
Used for learning																		

11. Estimated time technology used (if 3 minute chart is not used)

Total minutes technology used by students _____
 Minutes students used for learning _____
 Total minutes technology used by teachers _____
 Minutes teachers used for learning _____

Domain One – Equipment Standards

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Cycling of Equipment	No replacement cycle has been defined.	Equipment is placed on a replacement cycle greater than 5 years.	Equipment is placed on a 4–5-year replacement cycle.	Equipment is placed on a 3-year or better replacement cycle.	\$\$\$\$
Brand Selection (e.g., Compaq, Dell, Apple, IBM, etc.)	No brands are specified; purchasing is done by price only, and is site controlled.	A district brand is selected, but changes from year to year depending upon what vendor is providing the best selection at the time.	A district brand has been selected, typically for more than one year, but is not strictly enforced allowing for purchasing of some equipment that is outside the standard.	A district brand has been specified, and all purchases are made within that brand over an extended period of time.	Neutral
Model Selection	There are no limitations on model selection.	A model line has been selected, but many choices are given within that line.	A model line has been selected, and choices are limited to 3–5 models.	Model selection is limited to one or two, with few variations.	Neutral
Platform (e.g., Apple, Windows, Sun)	The district supports two or more platforms, and platform choice is left to individuals in the district.	The district supports two or more platforms, but choices are made by schools at large and are generally uniform.	The district supports two platforms with one predominant platform for general use, and a second platform for specific programs and/or instructional applications.	One platform only is selected for district computers regardless of application. Instructional applications may be compromised.	Neutral
Standard Operating System (OS) (e.g., Win 3.x, Win95, Win98, Win2K, Mac 8, Mac 9, Apple II, etc.)	Four or more OS versions are used, and all are “supported” by the district.	Three OS versions are used, and the older OS computers are either migrated or receive no support.	Two OS versions are used, with most equipment migrated to the most recent OS.	One OS version is used district-wide, with all computers migrated to that OS.	\$\$
Application Software Standard	No software standards have been established.	Software standards are established. Nonstandard installations are permitted and some support is provided.	Software standards are established. Nonstandard installations are allowed but no local support is provided.	Software standards are established and only those applications on the list are permitted on computers.	Neutral
Donated Equipment	Donated equipment is accepted with no regard to whether it meets district equipment standards.	Donated equipment is accepted with minimum performance requirements with no regard to brand or age.	Donated equipment is accepted with minimum performance requirements and suggested brand. Equipment is less than 3 years old.	Donated equipment is accepted but only if it meets specific brand, model, performance, and system requirements. Equipment is less than 2 years old. Cash donations are encouraged so new standard equipment can be purchased.	Neutral
Granted Equipment	Grant equipment decisions are made by the grantee or grantor and are not influenced by the district.	The district is consulted regarding grant equipment. Cash grant equipment is purchased according to the standard. Equipment grants are readily accepted regardless of brand.	All cash grants meet district specifications. Equipment grants are approved before submittal, by the technology department. Standardization is encouraged.	All grant equipment, purchased and given, must meet district specification or it isn’t allowed on the district network or in the school.	Neutral

Domain One – Equipment Standards

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Peripheral Standards (e.g., printers, scanners, digital cameras, projectors, video, etc.)	No peripheral standards are set.	Peripherals are standardized by brand but models within the brand are not. The peripheral standards change frequently and are rated for consumer use.	Peripherals are standardized by brand and model, but the list contains many options with some consumer-rated items.	All peripherals are standardized, with specific models identified that are primarily rated for industrial/school use. Brands and models are limited.	\$
Surplus Practice	Equipment isn't added to surplus until it is no longer usable and is supported as resources allow.	Surplus equipment is supported by district personnel but as a low priority.	Surplus equipment is no longer supported by district personnel but can be used by schools until it breaks.	Surplus equipment is taken out of service when it reaches the replacement age even if it still works. Equipment is donated to students when possible.	Neutral
Break/Fix Agreements (Warranties)	No additional warranties are pursued beyond the standard warranty (1 year).	Extended warranties are purchased but do not cover the life of the equipment and does not include peripherals (3 year, computers only).	Extended warranties are purchased to extend the standard warranty on computers and peripherals but do not cover the equipment lifespan (3 year, all equipment).	Warranties are purchased to cover the life of the equipment (5 or more years).	\$\$\$
Security Procedures	Security guidelines and common practice are loosely defined or do not exist creating substantial security vulnerabilities.	Fairly secure guidelines are in place but are not followed closely. Both guidelines and practice provide vulnerabilities.	Fairly secure guidelines are in place and followed, but more stringent guidelines would provide better security (e.g. no password rotations, etc.).	Very secure guidelines are in place and are consistently practiced including limited admin access, password rotations, and alpha-numeric password protocols.	Neutral
Security Hardware and Software	No firewall exists and there are no security software standards in place.	A firewall is in place but ports are commonly opened. Software security standards are limited to promises by the vendor with no auditing activity.	A firewall is in place and opening of ports is limited. Software security standards are in place for major systems along with periodical security audits.	A firewall is in place and opening of ports is very limited. Software security standards are in place for ALL systems along with periodic security audits.	\$\$

Domain Two – Staffing and Processes

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Organizational Structure	Direction comes from multiple points within the organization, and reporting is not functionally logical. Cross-functional collaboration is difficult or non-existent.	The reporting structures are difficult to identify, and direction comes from multiple points in the organization. Cross-functional collaboration exists.	The technical support functions and instructional technology functions report differently, but each unit is cohesively organized and there is communication between units.	All of the technology functions report through the same unit in the organization, providing for a logical chain of command and communication structures with the unit clearly supporting the district mission.	Neutral
Contracted Primary Support	No contracts are used for primary support. Contracted support may be used as a supplementary strategy.	All support is contracted out, but the contract provides personnel minimums rather than a performance contract.	All support is contracted out and written to a specific performance contract requiring a 5 day maximum turnaround.	All support is contracted out and written to a specific performance contract requiring no more than a 72 hour turnaround.	\$\$\$\$
If Contracted Primary Support is used, skip to the Escalation Process at break, otherwise continue					
Contracted Supplemental Support	Contracted support is not used.	Contracted support is used for emergencies, but not as a part of the overall support strategy.	Contracted support is used as part of the overall support strategy, but has not been evaluated to determine the most strategic places and circumstances to use contractors.	Contracted support is strategically used as an effective part of the overall support strategy to solve complex problems and/or realize savings and efficiencies.	\$\$\$
Staffing to Computer Ratio	Computer-to-technician ratio is over 250:1.	Computer-to-technician ratio is between 150:1 and 250:1.	Computer-to-technician ratio is between 75:1 and 150:1.	Computer-to-technician ratio is less than 75:1.	\$\$\$\$
Formula-Driven Technology Staffing (e.g., X computers + X network drops + X applications divided by Y = # of technicians)	Staffing formulas are not used or considered.	Formulas for staffing are considered but are limited in scope and are not used to drive staffing.	Comprehensive formulas have been developed, considering multiple dimensions of the environment, but are only used as a guide and do not drive staffing.	Comprehensive formulas have been developed and drive staffing as a normal part of operations. Formulas include multiple dimensions of the environment.	\$\$\$\$
Certification of Technical Staff	Certification is not a priority in the organization and concerns are raised about time away from the job to pursue certification.	Appropriate technical staff is encouraged to become certified, but no support is provided towards certification.	Some technical staff is certified in appropriate areas, others are involved in district-supported programs towards certification.	Most technical staff is certified in appropriate areas (e.g., A+, Cisco, CNE, MCSE, etc.) and new certifications are strongly encouraged and district supported.	\$\$
Differentiated Job Descriptions	Technical support employees do it all creating redundancies and inefficiencies.	Technical support employees do it all, but redundancies are not created due to size and/or staffing levels.	Some differentiation in jobs has occurred, although assignments are not provided based upon skill-set competencies.	Job descriptions are fully differentiated creating specialization and efficiencies, and a clear avenue for support.	Neutral
Technician Retention	Employee turnover is high primarily due to low employee satisfaction.	Employee turnover is high primarily due to other employment opportunities.	Employee turnover is moderate (excluding retirement), and employee satisfaction is good.	Employee turnover is low (excluding retirement), and employee satisfaction is high.	\$

Domain Two – Staffing and Processes

Support Capacity and Efficiency					
	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Competitive Compensation	Technical positions are poorly competitive, offering compensation in the bottom 50% of equivalent organizations in the area.	Technical positions are moderately competitive, offering compensation in the 50th to 75th percentile of equivalent organizations in the area.	Technical positions are competitive, offering compensation in the 75th to 90th percentile of equivalent organizations in the area, and offering competitive non-compensation benefits.	Technical positions are very competitive, offering compensation in the 90th percentile of equivalent organizations in the area, and in some cases, competing with private businesses for talent.	\$\$\$
Continue from here if Primary Contracted Support was selected, all others continue					
Escalation Process for Technical Issues	No escalation process is in place, and the path for resolution is unclear.	A clear path for resolution is in place, but no escalation process is recognized.	An escalation process is in place with two steps of escalation and significant crossover between levels.	A well-defined escalation process is in place, with three or more steps of escalation, and a clear path for resolution.	\$
HelpDesk	No HelpDesk support is provided.	A HelpDesk is provided but is not adequately staffed. The HelpDesk is used for emergencies, not as the first line of defense.	A central HelpDesk is in place and staffed, but it is not used systemically as the first line of defense.	A central HelpDesk is in place with trained staff, and the district culture embraces the HelpDesk as the first line of defense.	\$\$
Use of Online Knowledgebase for Technical Help	Staffs seek no help from online help both due to availability of resources and district culture.	Some staff seeks online help, but the behavior is not pervasive and the resources are limited.	Many staff seeks online help and there are several broad resources available. Use is not organizationally pervasive.	Most staff seeks help from online knowledge bases as their first resource for help from diverse and comprehensive resources. This is a pervasive part of the culture.	\$\$
Software Support Protocols and Standards	No list of supported software is provided for users.	A list of supported software is provided, but no differentiation is made for the kind of support a given category of software will receive.	A list of supported software is provided and differentiation is made for the kind of support a given category of software will receive; however, users do not follow the different processes closely.	A list of supported software is provided, with clear differentiated support processes for each set of software that are consistently used.	Neutral
New Equipment Deployment	The school and local staff are responsible for the deployment of new equipment.	The technical staff manages deployment of new equipment requiring a substantial reduction in regular service during deployment.	Additional help (internal or contracted) is utilized for imaging and tagging of equipment, but setup is the responsibility of the regular technical staff creating some delays in regular service.	Additional help (internal or contracted) is utilized for all deployment functions providing no delays or disruptions in regular technical service.	\$\$
Documented Procedures	Little or no documentation exists for technical tasks — requiring users and technical staff to invent their own solutions.	Some documentation exists for technical tasks but is not widely shared or used. Most documentation is limited to few technical staff only.	Documentation exists for many technical tasks but is not well written and is not systematically updated as procedures are developed.	Documentation exists for most technical tasks and is used by most user groups. Well-written documentation production is a normal part of operations.	\$\$

Domain Two – Staffing and Processes

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Support by Teachers	Teacher(s) provide all of the technical assistance in the building.	Teacher(s) provide much of the technical assistance in the building with release time or stipend.	Teacher(s) serve as the contact point, and perform some of the technical work in conjunction with technical staff.	Teacher(s) are used as the contact point in the building, but do not perform technical support work.	Neutral
Student Support	Students provide support for the school in an ad-hoc manner due to limited district support. No technical support curricular program exists for students.	Students are used extensively, in an official capacity and substantially supplant district support.	A curricular program is designed to train students in technical support. Students are used to supplant some of the district's support system but are not considered the official technical support strategy.	A curricular program is designed to train students in technical support. They support district technology but in a peripheral way as part of their instructional program only.	Neutral

Domain Three – Professional Development

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
APPLIES TO ALL STAFF					
Comprehensive Staff Development Programs	There is no formal staff development program in place, and training is provided infrequently. The organization depends upon individuals' own motivation to build expertise.	A staff development program is in place but is limited, voluntary, and uses a single dimension in its delivery.	A staff development program is in place. It is not comprehensive in nature in that it does not impact all staff and does not offer the depth required to change the organization.	A comprehensive staff development program is in place that impacts ALL staff. The program is progressive in nature and balances incentive, accountability, and diverse learning opportunities.	\$\$\$\$
Online Training Opportunities	Online training opportunities do not exist.	Online training opportunities exist, but are limited in scope and are available to a limited number of employees.	Online training opportunities are available for staff onsite and remotely, but are limited in their offerings.	Online training opportunities are provided for staff both onsite and remotely, and represent a diversity of skill sets.	\$\$
Just-in-time Training	No just-in-time training process or delivery system has been put into place.	Just-in-time training is used, but the process and delivery system has not been refined so that it can be used realistically within the organization.	A process and delivery for just-in-time training is in place, but has not been adopted by the organization as a mechanism for solving issues.	A process and delivery system has been established for just-in-time training organization-wide and is used consistently.	\$\$
Expectations for All Staff	Expectations of staff are not clearly defined and are not part of the organizational culture.	Expectations of staff are articulated but are limited in scope.	Expectations of staff are articulated and are broad in scope, but have not been adopted as part of the organizational culture.	Expectations for all staff are clearly articulated and are broad in scope. Performance expectations are built into work functions and are part of the organizational culture.	Neutral
Troubleshooting as Part of Professional Development	No form of troubleshooting is integrated into the professional development program.	Troubleshooting is built into the professional development program but is limited in scope and is provided inconsistently. Roles and responsibilities are not clearly defined.	Troubleshooting is built into the professional development program and is used as a major strategy for technical support. Technical versus end-user roles and responsibilities are not clearly defined.	Basic troubleshooting is built into the professional development program and is used as a first line of defense in conjunction with technical support.	\$
APPLIES TO TECHNOLOGY SUPPORT STAFF ONLY					
Training for Technical Staff	Technical staff is only given training to take care of the immediate issues in the district. Advanced training is not encouraged.	Technical staff receives consistent training around emergent issues. Advanced training is not district sponsored but is encouraged.	Technical staff receives consistent training around emergent issues and have limited district-sponsored opportunities for advanced training.	Technical staff receives ample training as a normal part of their employment, including training towards certification.	\$\$

Domain Four – Enterprise Management

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Trouble Ticketing System	No trouble ticketing system exists.	A simple trouble ticketing system is in place, but is not electronic and/or is simple in its implementation, not allowing for universal tracking of issues and establishing trends.	A trouble ticketing system is in place and is used extensively for responding to technical issues. Analysis of issues, response times, and possible trends is not done systematically.	All technical issues are recorded and delegated to appropriate resources through an electronic trouble ticketing system. All technical issues are tracked and evaluated through this system.	\$\$
Virus Protection	No virus software is used.	Virus software is used, but it is client-based and therefore often out of date.	Server-based virus software is used, but the parameters for its use are loosely defined and updates are not consistent.	Server-based virus software is available, used, and automatically updated.	\$\$
Network Infrastructure and Bandwidth	Network access is limited and is not available in every location.	Network access is available to all locations, but does not impact all computers and is limited in bandwidth.	Network access is available to all locations but segments of the network are limited in bandwidth.	Robust broadband network access is available to all locations allowing for network tools to be effectively utilized.	\$\$\$\$
Desktop and Software Standardization Tools (Profiles)	No desktop standardization tools or practice are used.	Desktop standardization tools are in place, but are mostly ignored once the equipment is deployed.	Desktop standardization tools are in place, but changes users make are not automatically corrected.	Desktop standardization tools are used to provide a common desktop for all users and access to common software. Changes to the desktop are automatically corrected.	\$
Network Sniffing Tools	No network sniffing tools are used.	Network sniffing tools are used for problem diagnosis only.	Network sniffing tools are used for problem diagnosis and limited preventative maintenance.	Network sniffing tools are used to both diagnose problems and establish performance matrices for preventative maintenance. The network is systematically monitored using these tools.	\$\$
Online Knowledgebase	No online knowledgebase is present.	An online knowledgebase is in place, but it is limited in scope and is not readily used in the organization.	An online knowledgebase is in place and is employed by users. It is not designed to easily expand and users do not use it as a first line of defense.	An online knowledgebase is in place and is expansive in its detail. It is used readily and automatically grows based upon trend data generated in other tracking systems.	\$\$
Integrated and Systemic Electronic Communication	Electronic communication is limited and has little use for providing technical support.	Electronic communication is available to many staff but is not integrated at all into the daily work of employees.	Electronic communication is available to everyone in the organization but is not readily used for technical support.	Electronic communication is available to everyone in the organization and is integrated into daily work so that it can be used for technical support.	\$
Remote Computer Management	No remote management is available.	Remote management is available for servers only.	Remote management is available for all computers but is not used extensively.	Remote management is available for all computers and is used as a primary strategy of support.	\$\$\$

Domain Four – Enterprise Management

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Imaging Software	Imaging software is not used.	Imaging software is used in the most primitive sense — only providing recovery services with the imaging software provided by the vendor.	An image is used for delivery of the machine but is not used to clone all of the software on the machine. Only the basic OS and basic software is imaged. Imaging is used as a troubleshooting strategy.	Imaging software is used for delivery of new machines, and as a troubleshooting strategy. Software installed through the imaging process is comprehensive.	\$
Metering and Application Push Technology (e.g. SMS or ManageWise)	Metering and Push technology is not used as a support strategy.	Metering and Push technology is used for metering but is not used for installation and updates, and its use is limited in scope.	Metering and Push technology is used for metering and some software updates, but major software installations are handled on the individual computer.	Metering and Push technology is used for all software distribution, technical updates, and for metering of software use on the district's computers.	\$\$
Server Farms and Centralized Services	Every site has its own server and, in some cases, multiple servers. Backup and server management takes place locally.	Each site has only one server with some services (e.g., e-mail, student information system, etc.) provided centrally.	Many servers are consolidated into a few locations and most services are provided centrally.	All servers and services are centralized requiring minimal server management outside of one location.	\$\$\$
Application Service Providers (ASPs)	No ASP services are utilized.	One or two ASP services are used, but it does not impact support due to the peripheral nature of the product.	A number of district <u>or</u> commercial ASP services are used but is limited to one category of software (e.g., productivity, research, libraries, content, etc.).	A district <u>or</u> commercial ASP model is used for most major software applications after a thorough cost/benefit and risk analysis.	\$\$\$
Thin-client Computing	Thin-client computing is not used.	Thin client is used but is limited to a small number of users for specific applications.	Thin client is used for most users of administrative systems and some productivity software. (Not instructional applications)	All administrative and productivity software for staff is delivered through a thin-client model. (Not instructional applications)	\$\$\$
Vendor-specific Management (e.g., Insight Manager)	Vendor tools are not installed or considered when purchasing hardware.	Vendor tools are available and have been purchased but are mostly unused.	Vendor tools are used in a limited way for diagnosis and prevention.	Vendor tools are used extensively for diagnosis of issues, to streamline processes, and for preventive measures.	\$
Quality Assurance (QA) and Customer Follow-up	Surveys are conducted generally as part of other departmental survey work within the organization or not at all.	QA surveys are conducted, but they are not automated and are only done annually.	Surveys specific to technical support are conducted. However, they are done only periodically, and the data is used sporadically.	QA is measured by a random and automatic system that tracks customer satisfaction and closed tickets. Data is collected throughout the year. Questions asked are specific to technical support and the data is used to make adjustments.	\$

Domain Four – Enterprise Management

Support Capacity and Efficiency

	Low Efficiency	Moderate Efficiency	Satisfactory Efficiency	High Efficiency	Fiscal
Student/Fiscal/HR/ Assessment Systems	Student/Fiscal/HR/Assessment systems are not in place.	Student/Fiscal/HR/Assessment systems are partially in place, but are not reliable or intuitive.	Student/Fiscal/HR/Assessment systems are in place and are reliable, but do not integrate well with other systems and are not intuitive.	Student/Fiscal/HR/Assessment systems are in place, reliable, intuitive, and integrate nicely with other productivity tools.	\$\$\$

Appendix IV

Tech Plan Evaluation 07-08

Progress	
Ongoing	Coordinate School Improvement goals with technology goals.
Done	Investigate feasibility of providing video streaming to the elementaries.
Done	Integrate library skills into the elementary curriculum.
Not Done	Add a content area outcome to English that addresses use of Inspiration.
Done	Implement a district Intranet.
Done	Purchase an extended warranty for the proxy/backup server.
Postponed	Investigate the installation of security surveillance system to improve student safety.
Ongoing	Explore availability and acquisition of new software.
Ongoing	Continue development and implementation of integration strategies and lessons correlated to district outcomes for software and Internet resources.
Ongoing	Continue identification of Internet sites that support District outcomes and post on the district's Intranet.
Ongoing	Assess technology integration and revise curriculum K-12 as needed.
Ongoing	Continue integrating computer literacy standards into the content area outcomes and assessments.
New tool is needed	Continue administrator observations of technology integration into the curriculum.
Postponed	Review current computer literacy outcomes at all levels and revise as necessary.
Ongoing	Schedule Continuing Education classes.
Results show additional teacher training is needed	Track progress on <i>Accelerated Reader</i> and <i>Cornerstone Math & Reading</i> .
Delete – This was not effective due to security constraints	Continue support of the District Intranet.
Ongoing	Expand use of Classroom Performance Systems.
Ongoing	Continue use of <i>NovaNet</i> each year as dictated by program needs.
Deleted – lack of interest	Explore feasibility of video field trips.
Done	Survey district families to determine the number of households that have Internet access.
Ongoing	Continue district <i>Edline</i> instruction for parents.
Delete – Not applicable	Train Parchment community Library personnel in use of <i>Edline</i>
Not Accomplished	Provide time for teachers to develop website (<i>Edline</i>).
Done	Hold quarterly technology committee meetings.
Ongoing	Schedule Continuing Ed classes.
One to One	Increase technology training opportunities for district staff.
Not Accomplished	Expand number of staff attending conferences such as MACUL to

	develop teacher knowledge of hardware/software technology available for use in classrooms.
Building Coordinators and One to One	Train “trainers” to enhance teacher use of existing computers and software.
Ongoing	Continue preventive maintenance as scheduled.
NA – no hardware purchases	Survey staff to determine hardware and software needs each year.
NA – not an upgrade year	Assess district hardware to determine necessary upgrades.
Ongoing	Continue district replacement plan for desktops.
Postponed	Upgrade the telephone/voicemail system.
Ongoing	Evaluate equipment functionality and upgrade as needed.
Done	Conduct district-wide inventory of system hardware and software.
COW proposed for 08-09	Add a computer lab at the middle school as funds become available.
Ongoing	Continue preventive maintenance as scheduled.
Ongoing	Assess district hardware to determine necessary upgrades.
Ongoing	Continue support contracts.
Ongoing	Continue scheduled replacements per the district’s server and desktop replacement plans.
Ongoing	Technology budget is evaluated and adjusted as needed.
Done	Application for USF funds is submitted.
Ongoing	Alternative funding sources for software and training are sought.
Eliminated as results were no longer deemed accurate	Complete the teacher Self- Evaluation Rubric report the results and chart growth.
Done	Assess results of the Technology Integration Evaluation Tool.
Postponed	Investigate the purchase of software to assist with district developed surveys.



PARCHMENT SCHOOL DISTRICT

Student Network/Internet Use Form

2008-2009 School Year

The district reserves the right to monitor any and all activities on its hardware and networks, and also reserves the right to terminate a student’s privilege to access the Internet. The district follows all guidelines as defined by the Children’s Internet Protection Act. Students will not be permitted to access the Internet independently until this agreement is executed and returned to the school of attendance. This does not preclude an instructor in the District from accessing and/or employing the Internet as an educational resource within the classroom under his or her direct supervision. It is intended, rather, to establish guidelines for independent student research.

Acceptable Use Protocol

The purpose of the Internet is to support research and education in and among academic institutions by providing access to unique resources and offering the opportunity for collaborative interactions of an academic nature. As such, it is recognized that students may work independently on the Internet for such purpose. It is further recognized and understood that some access points may contain material, information or software which can be considered defamatory, inaccurate, abusive, obscene, profane, sexually oriented, threatening, racially offensive or illegal. The District does not condone the use of such materials, and prohibits their usage in the school environment. Filtering software is used to block access to these types of information. Additionally, District personnel will monitor and supervise the use of the Internet but cannot guarantee total control of the content residing in other systems.

Students and parents understand that the following infractions will result in disciplinary measures, as determined by individual school protocol.

- Damaging computers, computer systems or computer networks.
- Using another person’s password or trespassing in another person’s folders, work or files.
- Violating student Internet Protocols (as listed in the student handbook).
- Accessing e-mail, chat groups or news groups unless under the direct supervision of a classroom teacher
- Accessing, publishing, submitting, displaying or sharing prohibited materials as outlined above.
- Publishing any advertising or solicitations to use goods or services.
- Conducting any business or activity or soliciting the performance of any activity which is contrary to law.
- Restricting or inhibiting others from using and enjoying the Internet and data network.
- Maliciously attempting to harm or destroy data of another student, the Internet or any of the agencies or other networks connected to the system.
- Introducing software and/or data on school technology equipment and systems from outside sources.
- Using, copying or distributing copyrighted material without the expressed consent of the author.

Printed Name of Student _____ Home Phone _____

School _____ Grade _____

I understand that violation of the above prohibitions will result in disciplinary measures, as determined by individual building policies. I hereby certify that I will abide by the conditions set forth in this document.

AS MY CHILD’S PARENT/GUARDIAN MY SIGNATURE INDICATES THAT I GRANT PERMISSION FOR MY CHILD TO INDEPENDENTLY ACCESS THE INTERNET.

Signature of User	Date	Signature of Parent/Guardian or Student 18 or over	Date
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PARCHMENT SCHOOL DISTRICT
Staff Technology Use Form
2008-2009 School Years

The district reserves the right to monitor any and all activities on its hardware and networks, and also reserves the right to terminate a user's privilege to access the Internet and Data Network.

I have read and agree to abide by each of the following protocols listed below:

- Computers and Associated Peripherals
- Copyright
- Data Network Security Protocols
- Electronic Mail (E-mail)
- Internet
- Software Protocols
- Substitute Staff Technology Protocols
- Telephone Protocols
- Voice Mail
- Web Protocol

Printed Name of Staff Member _____

Building _____

Signature of Staff Member

Date