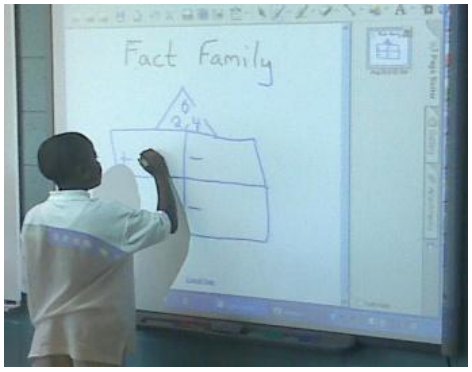
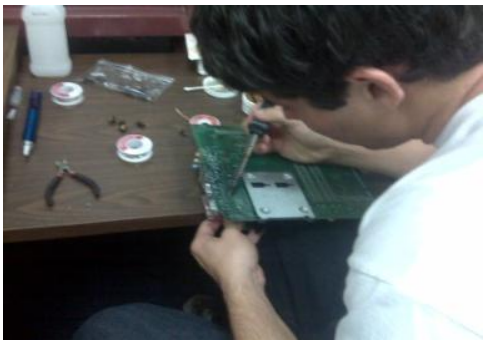
PINELLAS COUNTY SCHOOLS





2009-2011 TECHNOLOGY PLAN

Pinellas County Schools' three-year district plan for the use of technology to support highest student achievement, a safe learning environment, along with effective and efficient operations.

Approved by Pinellas County School Board:
05/12/2009

Pinellas County Schools Technology Plan 2009-11

TECHNOLOGY PLANNING COMMITTEE

Technology Planning Committee Members

John N. Just	Assistant Superintendent, MIS	Administration, MIS Department
Lynda Burdette	Teacher (Middle)	Seminole Middle School
Richard Cooper	Info Systems/Microcomputer Specialist	Administration, User Support
Barbara Dirscherl	Library Information Specialist	Palm Harbor University High School
Cynthia Ferris	Data Management Technician	Thurgood Marshall Fundamental MS
Jennifer Giuffre	Teacher (Middle)	Bay Point Middle School
Donna Hall	Library Information Specialist	Douglas Jamerson Elementary School
Mary Janca	Data Management Technician	Oak Grove Middle School
John Johnston	Principal (High School)	Pinellas Park High School
Bonnie Kelley	Supervisor, Library Media Technology	Administration, Library/Media Technology
Norman Kelton	Director, Networks & Telecommunications	Administration, Telecommunications
Beverly Lemon	Library Information Specialist	Cross Bayou Elementary School
Robert Liles	Director, Core Systems & User Support	Administration, MIS Department
Patricia Lusher	Supervisor, Academic Computing	Administration, Academic Computing
Denise Miller	Principal (Elementary School)	James Sanderlin Elementary School
Denise Nye	Library Information Specialist	Clearwater High School
Karol Pravda	Teacher (Elementary)	Mildred Helms Elementary School
Ronald Salafia	Technology Technician	Pinellas Park High School
Ann Smith	Teacher (Elementary)	Perkins Elementary School
Michelle Smith	Applications Administrator	Administration, MIS Department

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Mission

The mission of the Pinellas County Schools' technology plan is to provide students and teachers seamless use of technology as a tool to promote higher-order thinking skills. This will be accomplished by providing students and teachers access to digital technology, communication tools and/or networks to appropriately access, manage, integrate, evaluate and create content in order to become productive citizens in the civic, economic and educational life of the community.

Vision

It is the vision of Pinellas County Schools to prepare and support all stakeholders (administration, staff, students, families, and community) to safely and effectively participate in an information-rich, technology-infused society. Through our partnerships with parents, schools and businesses worldwide, we will facilitate student learning and provide real world experiences to help our students be responsible, information-literate citizens in the new global community.

2.1 About Pinellas County Schools

About Pinellas

Pinellas is home to 937,000 residents and hosts 13 million annual visitors. More than 30% of its land area is unincorporated; the rest is a diverse set of cities. Today, Pinellas County contains twenty-four municipalities ranging in population from St. Petersburg (248,232 residents) to Belleair Shore (62 residents). In addition, the unincorporated area (with 287,952 residents) includes such historic communities as Ozona, Old Palm Harbor (formerly known as Sutherland), Lealman, Dansville, and Crystal Beach, as well as several unincorporated communities that came into existence during the past thirty to forty years.

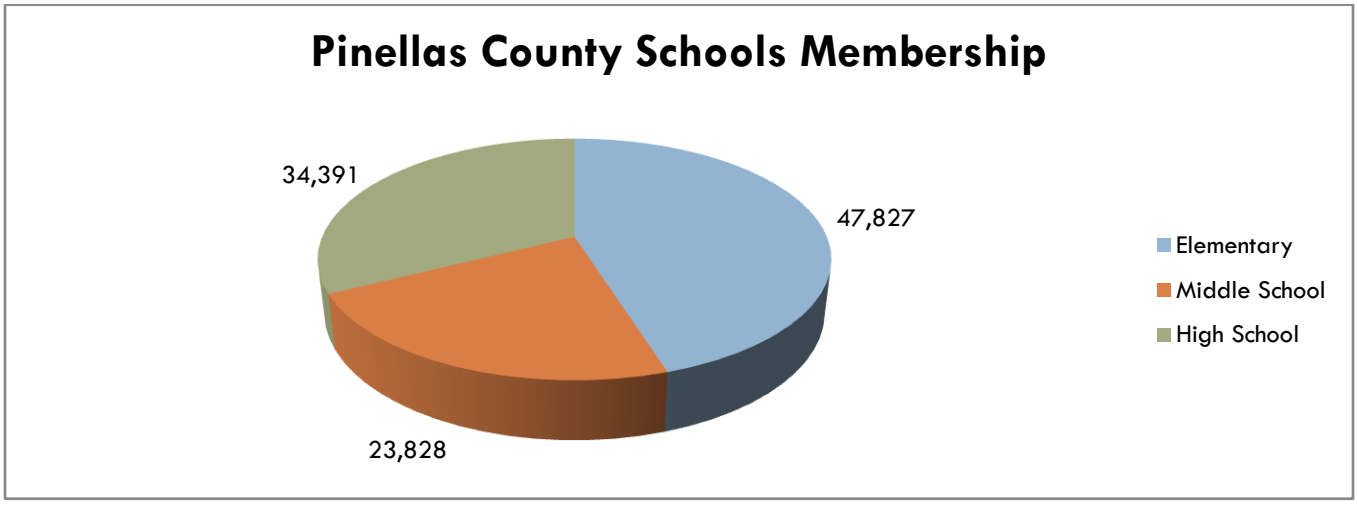
There are large cities such as St. Petersburg and Clearwater communities that retain their small town feel and connections with their historic roots, barrier island communities, and areas having a more suburban quality. It may be that this mix of cities, small towns, and suburban lifestyles on a beautiful peninsula in subtropical Florida is what will distinguish Pinellas County from other urban counties around the nation. This diversity of urban environments provides people with a choice of lifestyles.

Retaining and enhancing these distinctive community characteristics will provide a significant challenge, as well as enormous benefits, to the citizens of Pinellas County. Pinellas County will be the first county within Florida to achieve build out. Today only 6% of the county consists of vacant developable land.

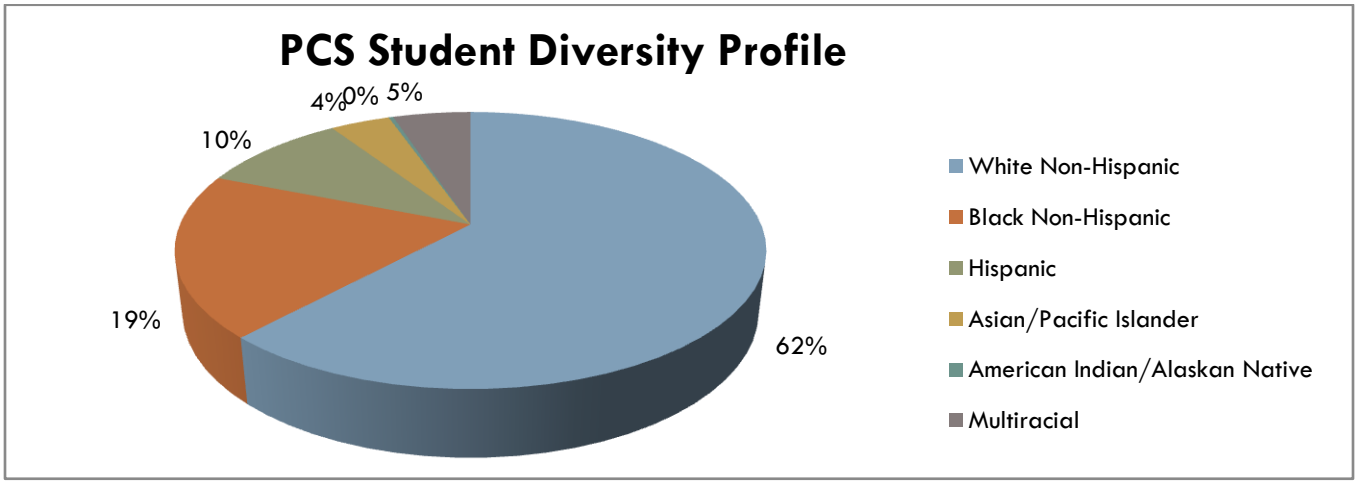
After years of sustained growth in the number of school-age children in Pinellas, there has been a decline in recent years that is projected to continue for at least the next five years. Despite this decline, the county citizens have shown their support for their schools through the approval of the Pinellas School referendum which funds teacher salaries and technology initiatives as well as programs in art, music and reading. The money is dedicated to Pinellas County classrooms. The entire amount supplements teacher salaries, additional training, textbooks, technology, supplies for special reading programs, and materials for art and music classes. The Independent Citizens' Referendum Oversight Committee publishes required quarterly reports for the public on how money is spent by the district based on the goals of teacher recruitment along with support of the reading, arts, and technology.

Pinellas County School System

The public school system in Pinellas County serves all 24 cities/municipalities within the county and the unincorporated areas. It comprises 132 schools and 27 additional sites serving over 106,000 students. The district's residents are as diverse as its geographic make up:



Based on 2008-2009 Florida School Indicators Report



Based on 2008-2009 Florida School Indicators Report

About PCS Technology

Pinellas County Schools has a Metropolitan Area Network (MAN) that spans the 280 square miles of the county to connect all 159 sites. Via a local service provider, the sites are connected to the Pinellas County Schools administration building central computer room with over 320 servers and to a central internet connection to the FIRN2 network at 150Mbps with a backup connection of 45Mbps.

There are over 34,396 computers in service less than three years old throughout the school district, which all have access to this network/internet connection. All are licensed for anti-virus through a district contract (including home systems of teachers and staff) through 2014. All classrooms have access to either a hardwired or wireless connection to the district network and resources. Students, teachers and staff all have individual network user IDs and passwords that provide them access to online services such as home folders, online learning portals and other district resources.

2.2 Planning Process

A committee, composed of 16 representatives from across the district, was formed and charged with the task of developing a three-year district technology plan. Sectors represented included: district offices (3), elementary schools (5), middle schools (4) and high schools (4). Committee members included teachers, data management technicians, library information specialists, principals, technology specialists and a technology technician. The committee also received support and advice from district technology experts. Web 2.0 tools (Wikis, Discussion Forums, Podcasting, etc.) were used to collaboratively build the plan over eight meetings, face to face and online. Input was solicited from teachers, students and the community via formal surveys and informal representation of various groups.

2.3 Community School/pTEC & Public Library Collaboration for Adult Literacy

Pinellas County offers a variety of educational opportunities for the community. The Clearwater Adult Educational Center (CAEC) offers quality lifelong learning in the form of Adult Basic Education and General Educational Development (ABE-GED). There are also ESOL (English Speakers of Other Languages) classes, vocational classes and personal enrichment opportunities.

pTEC offers post-secondary technical education, a viable alternative for a college education.

The Pinellas Public Library Cooperative consists of a system of municipal libraries that provide literacy instruction for learners of all ages.

3.1 Information-Based Processes

The District Technology Advisory Committee meets quarterly. The committee is comprised of community members, students, staff, school-based and district administrators, and one school board member. Representatives from the four district regions and Assistant Superintendent of MIS will convene to insure adequate representation among regions, academic grade levels and socioeconomic groups. Staff may include technology technicians, technology specialists, library information specialists, data manager technicians and district staff.

The committee will provide oversight and advisement for the use of district technology resources in accordance with the district technology plan. Data will be provided to the committee using sources such as, but not limited to, the (FLDOE) Office of Instructional Technology which provides an annual technology survey to all districts. The results of this survey are reported online to schools and districts providing valuable data to be used for school and district technology planning and for federal reporting required of EETT grant recipients. A superintendent's report will be generated annually.

3.2 Key Technology Services

Given the focus on providing a highly collaborative learning environment leveraged through the use of technology, the following needs are identified.

Learning with technology tools, including assistive technology, will do the following:

- Research to solve a problem
- Network
- Communicate and collaborate with experts and peers
- Create multimedia products to illustrate their learning
- Share their work with others beyond the classroom

Technology training and access for parents can promote increased parental involvement and collaboration with schools. With increased access to student records and assignments, parents can track progress on demand rather than waiting for midterm or end-of-term evaluative reports. With user friendly technology, parents will be able to collaborate with teachers to improve teaching and learning for each student.

Teachers and curriculum developers will use course management systems such as Moodle, Blackboard, WebCT, and Angel to retrieve and store technologically integrated curriculum. Empowering teachers to use technology will improve classroom teaching and learning. Professional development and technology support are key infrastructure components that guarantee the success of technology integration.

In addition, the American with Disabilities Act (ADA), Section 504 of the Rehabilitation Act, requires schools to provide assistive technology for students with disabilities, if

needed, to assure equal access to the school's programs and services. These acts are premised on the belief that all children can learn and achieve high standards. While this federal law lays the foundation for preparing students to develop their academic skills, business groups and other organizations have recommended that additional attention be paid to developing those 21st century technology skills required to be productive citizens in the community and workplace.

To specifically meet the needs of students, teachers, parents, and staff, a wide range of technology-laden services need to be implemented. These services include but are not limited to:

Telecommunications:

- Traditional person to person communication items such as telephone, cell phone, cell data service, and pagers
- Data Communications, including internet access, Local-Area Networking (LAN), Wireless Local-Area Networking (WLAN), and Wide-Area Networking (WAN)
- Newer video technologies such as IPTV and digital video distribution
- Networking infrastructure such as cabling, switches, firewalls, intrusion protection, and routers
- Network monitoring for identification and resolution of problems and compliance with service level agreements

Data Infrastructure:

- Legacy equipment for processing and storage of data
- Server technology for support of file sharing, printer sharing, processing and storage of client server applications, email, web applications, and data base systems
- Data Warehousing and Reporting Services for the consolidation of operational and strategic data for ease of access and reporting
- Monitor and management of the operation and environmental parameters of the data equipment to insure high levels of efficiency and operation
- Development and operation of disaster recovery and continuity of operation plans to minimize loss of data and operational capability
- Security monitoring in the areas of anti-spam, anti-virus, network access, and internet content filtering

Software Development:

- Development and maintenance of software applications for legacy and new web-based application technologies
- Coordination and project management for implementation of application packages and services
- Primary responsibility for district-wide application areas including student information systems, enterprise resource management, and curriculum management and delivery

Technical Support:

- Provide support for all technology through a mix of local resources, contracted services, and equipment warranties for the normal life of the equipment
- Manage support through service level agreements and tracking system which allow for initiation of services by the end user and track activities through to the completion with additional monitoring through satisfaction surveys
- Leverage the use of Web 2.0 tools to empower end users to be as self-sufficient in the operation and support of their technology as possible
- Provide for 24/7 reporting of problems and requests for services through a multitude of communication methods including phone, email, chat, and web forms

Training:

- Provide infrastructure for staff to request, enroll, and document completion of training classes
- Provide infrastructure for the development, storage, enrollment, and monitoring of on-line asynchronously and synchronously delivered course materials in multimedia formats, including exams and surveys
- Provide infrastructure for an on-line class environment supporting voice, video, whiteboard, application and desktop sharing

3.3 District Technology Goals

Technology in Pinellas County Schools supports the district strategic plan and goals. The following is the alignment of those goals based on feedback from all stakeholders.

Goal 1 Highest Student Achievement

A. Each student shall demonstrate proficiency in reading, writing, mathematics, science, and social studies and meet district graduation requirements.

Since technology changes rapidly and all subject areas need unique tools, students in each classroom will have access to state of the art technology to meet their instructional needs. Digital age learning assessments will provide for differentiation of instruction and multiple learning modalities. Since self-directed learning promotes critical thinking, problem solving and decision making, students will benefit by taking ownership of their learning and being able to work at their own time and pace.

Pinellas County students will:

- Demonstrate real life application of digital media skills
- Access a repository of digital resources
- Demonstrate digital citizenship while actively participating in online learning environments
- Collaborate and communicate using a variety of digital media and formats to inspire learning, creativity and innovation
- Demonstrate knowledge of current technologies and be able to choose the tool that best meets their needs

B. The district will work to close and ultimately eliminate the achievement gaps by providing equitable access for students who don't have technological resources. The district will also support Exceptional Student Education (ESE) and socioeconomically challenged students by engaging community and building partnerships to provide access to technology beyond the school day.

- The district will insure the distribution of equitable technology resources based on current data and need
- Software and web based programs should be evaluated and aligned with curriculum standards (derived from Sunshine State Standards) and best instructional practices
- Technology will help make it possible to meet the diverse learning needs of our entire school population
- The district will provide extended opportunities for technology access to students, parents and members of the community
- The district will provide 24/7 secure access for parents to view their children's school information

Goal 2 Safe Learning Environment

A. The District will improve the safety, security, health, and management of the work and learning environment.

B. The district will encourage a digital citizenship curriculum developed by Academic Computing to be taught at all grade levels that addresses:

- Internet Safety
- Appropriate usage agreements *(see Addendums B & C)*
- Promotion and modeling of digital citizenship and responsibility
- Modeling legal and ethical aptitude
- Authentication requirement for students and teachers

Goal 3 Effective and Efficient Operations

A. The District will increase its effectiveness and efficiency by improving recruitment, retention, and development of employees, aligning expenditures to goals, and providing sufficient technology.

- Provide 24/7 employee access to Staff Self-Service, Learning Management System (LMS) course registrations, and online professional development
- Encourage staff members and teachers to model digital age work and learning
- Encourage and model a paperless initiative
- Employ data-driven decision making at the classroom, school, and district level
- Improve communication through the use of web pages, the course management system, and distance learning sites
- Engage in professional growth and leadership at all levels
- Increase allocations of Technology Technicians and Technology Coordinators based on data collected through ticketing system where budget is available.

B. Professional Development

- Teachers will be trained to use the technology tools and software necessary to support student achievement in all subject areas
- Ongoing, sustainable professional development will be made available to all teachers and staff members
- Professional Development will incorporate modeling best practices, building leadership capacity, and modeling/facilitating troubleshooting techniques
- NETS teacher standards will be used as a guide for professional development
- Innovative leadership will be used to inspire others
- Use virtual learning opportunities for teachers to further their professional development, such as through online communities and education portals

4.1 Major sources of funding for district-wide technology needs

Current Annual Technology Budget	Source of Funds	Amount
Hardware Refresh	Capital Outlay	$12,250,000
District-wide Software & Special School-based Projects	PSTF	$1,600,000
EETT Entitlement	Title II Part I	$305,904
EETT Competitive	Title II Part II	$718,999
Referendum	Property Tax Rolls	$1,300,00
Voice Service, Local	Operating	$718,462
Voice Service, Long Distance	Operating	$99,704
Wide Area Network & Internet	Operating	$1,193,435
Pagers	Operating	$20,541
Cell Phones, Blackberries	Operating	$490,556
Automated Calling System	Operating	$354,200
Telecommunications, Network Service and Repairs	Operating	$444,109
Repair of Computer and AV Equipment	Operating	$150,000

- ***Hardware Refresh:*** The Furniture, Fixture and Electronics category of capital outlay funds are allocated for the three-year lease of computer equipment in each school, based upon the ratios of one computer per teacher and one computer for every three students. This program provides for the continual and equitably distributed refreshing of modern computers for teachers and students.
- ***District-wide Software & Special School-based Projects:*** This is used to purchase district-wide licenses for software such as SRI, Reading Counts, Destiny, Anti-virus, SIS (Student Information System), River Deep and others used throughout the district by all or most users. Also included are: special curriculum projects such as Read 180, Technology/AV programs, one-to-one projects, EDS, and various initiatives as directed by the Superintendent.
- ***Enhancing Education Through Technology Title II Part I (EETT) Entitlement:*** This is a grant program funded through the Florida Department of Education. The funds will be used for instructional learning systems software, computer hardware, presentation support equipment, professional development, and administrative costs. These funds are recurring.
- ***Enhancing Education Through Technology Title II Part II (EETT) Competitive:*** This is a grant awarded to districts through the Department of Education based on a competitive application process. These funds will be used to enhance student achievement and increase technology integration by teachers. This will be done by providing comprehensive professional

development, the purchase of wireless mobile computer labs, computer software and classroom performance systems. These funds are non-recurring.

- ***Referendum Funds:*** These funds are generated through a referendum ballot that was passed in the general election of November 2, 2004. Voters approved an additional one-half mill ad valorem tax for school district operating expenses to preserve the visual and performing arts, reading, and technology programs for four years beginning July 1, 2005. This funding source was renewed by voters in 2008 for an additional four years until 2013.
- ***Voice Service, Local:*** These funds are E-Rate eligible and are allocated to provide local voice service for district sites.
- ***Voice Service, Long Distance:*** These funds are E-Rate eligible and are allocated to provide long distance service for district sites.
- ***Wide Area Network & Internet:*** These funds are E-Rate eligible and allocated to provide wide area network services between district sites and administrative headquarters, which then provide internet service through the wide area network.
- ***Pagers:*** These funds are E-Rate eligible and are allocated to fund paging service for the district.
- ***Cell Phones, Smartphones:*** These funds are E-Rate eligible and allocated to provide cell phones and smartphones to appropriate school district employees for district use only.
- **Automated Calling System*:*** This service is the automated message delivering service the district uses to deliver messages to parents and staff. This software is available to all schools for attendance, event, and other calls. It is also used by the district to inform/alert to public and/or staff members.
- ***Telecommunications, Network Service and Repairs:*** These funds are allocated for maintaining our voice and data network in operational optimized condition.
- ***Repair of Computer and AV Equipment:*** These funds are needed for out-of-warranty equipment, including projector bulbs. These repair costs are funded by savings in the operating fund budget.

4.2 Annual budget and objectives

MIS will develop an annual budget to accomplish the following objectives outlined by the District Technology Planning Committee and which were reviewed, revised, and reported to the District Technology Advisory Committee.

- The district will provide all schools with a secure infrastructure wireless network to accommodate a minimum of 18 network nodes per classroom. Common areas will have the capacity for a minimum of 60 network nodes. At least one network drop will be available in each classroom and workspace.

- The district will issue a laptop to all full-time instructional personnel. Exceptions to the standard configuration of the district-issued laptop will be made at the principal's discretion.
- The district will provide funding to maintain the ratio of one computer for every three students. If schools meet or exceed this ratio, they will have flexibility to purchase additional technology equipment within the framework of the technology plan.
- The district will provide professional development for the use of technology and for instructional technology.
- The district will provide common software applications such as anti-virus, office productivity, student information system, digital grade book, presentation, and email client software for all computers (later referred to as "district standard software").
- The district will provide a better ratio of technology support staff to computer users where data suggests need based on reports of service tickets.
- The district will provide resources such as network equipment, servers, software solutions, and for other needs identified from reports of service tickets.

4.3 District allocation of technology funding

District technology funds will be used to support district standard software, support of special programs around the district (one-to-one computing initiatives, technology magnet programs, etc.), development of software solutions in coordination with the district's strategic direction and other improvements as suggested by data collected and reported to the District Technology Advisory Committee.

5.1 Technologies to meet district goals

In the spirit of the goals laid out in this plan and through input from the District Technology Advisory Committee, appropriate technologies to meet district goals will be identified. Due to the dynamic nature of technology, course corrections may be necessary and are best handled by the committee being briefed by staff and industry experts on the latest technology. All school sites will have a Technology Committee to assess, recommend, and improve their short and long range plans in accordance with the district plan.

5.2 Acquisition of software and technology-based educational materials to support the Sunshine State Standards

Staff from Instructional Materials and Academic Computing will work closely to insure that all materials meet district technology standards and can be implemented within the current system. The office of Academic Computing will also solicit feedback from schools and other institutions across the state of Florida to find appropriate digital materials that conform to the Sunshine State Standards. This process will be done in

coordination with the ESE and ESOL departments to insure that all students have equitable access to these digital instructional materials.

5.3 Acquisition of grade-appropriate, up-to-date technologies to meet district needs

Acquisition of sufficient quantities of grade-appropriate, up-to-date technologies to accommodate student and staff needs for instruction and assessment will be determined annually through the needs assessment process. Schools will receive a yearly allocation of student computers including laptops, desktops and netbooks. Should schools go below the 3 to 1 ratio, they will be allowed to purchase printers, smart boards, and other technology equipment. The district will maintain contracts and coordinate with the purchasing department to provide competitive pricing. Through the use of netbooks (smaller scale laptops that are at least half as expensive as laptops), schools should be able to maintain lower than a 3 to 1 ratio and therefore spend funds on other technologies within the framework of the technology plan.

The district should support a paperless way of work and a “green” workplace. If printers must be purchased, they should be geared toward more efficient/larger scale printers as opposed to printers in all offices and classrooms. By providing more netbooks and encouraging digital submission of work, more materials can remain in a digital format rather than being printed.

5.4 Technology requirements for acquisition, support, and maintenance

All technology will be ordered based upon quarterly developed price lists posted to the ‘Technology’ section of the ‘Purchasing’ Intranet site or the AV Bid List. Any purchase not on the standard specifications listed on these sites, regardless of funding source, must be approved by MIS management.

Items requiring installation must have an installation quote, and warranties must be purchased for the expected useful life of the system.

Netbooks	3 Years
Laptops	3 Years
Desktops	3 Years
Servers	4 Years
Network Switches, Routers	5 Years
Smart Boards	5 Years
Printers	3 Years

Only warranted items will be supported by the district. The cost of out-of-warranty parts and service far outweighs the replacement cost in most instances.

5.5 Technical guidance for technology purchases

MIS staff will conduct research on industry trends and new technologies through conference/workshop attendance, consultation with industry experts, coordination with other districts and Florida institutions. All decisions will be data driven, providing resources to the most needed areas of the district. Analysis of service tickets will be used to determine needs for technological solutions in the areas of, but not limited to, networking equipment, staffing, hardware, software, and services. Benchmark assessments performed by an outside agency will compare key indicators with like districts to determine any gaps in staffing and/or resources in general.

6.1 Equitable and Effective Access

To insure effective and equitable access to telecommunications and other technologies to support teaching and learning, the district will do the following:

- Use adaptive technologies to accommodate the exceptional students' needs, including hardware, software and other devices as well as working with resources and software provided by Florida Diagnostic Learning resource System (FDLRS)
- Provide appropriate technologies for classroom and home education for exceptional student education programs
- Provide access to the administration building via a fiber connection and filtered access to the Internet for all schools and instructional sites
- Ensure the equitable distribution of resources to support achievement of the Sunshine State Standards
- Provide software/hardware that works on both Windows and Macintosh platforms
- Ensure equitable distribution of computers to all schools through the refresh program, a three-year program designed to lease modern technology equipment to maintain a 3:1 student-computer ratio in the classroom
- Provide access to the best teaching practices and curriculum resources through technology for teachers, parents and students
- Provide access to student information systems, parent communication tools, electronic grade book, electronic textbooks, online tutorials and collaborative resources
- Provide VPN access for administrators and a limited number of individuals approved by principals or supervisors
- Provide a program for data collection and ease of access IEP for teachers and specialists
- Provide appropriate access and partnerships for access to external instructional service and programming providers, such as public libraries, charter schools,

remote teaching sites, home school connections, online products, and school system developed services
- Provide web-based programs for a credit recovery program and enhanced curriculum through offsite locations
- Provide access to student information for teacher and administrator decision making
- Provide an updated technology Disaster Recovery Plan. *(see Addendum A)*
- Provide teachers and administrators with policy amendments, school and district collected data and updates through a variety of technology-based systems
- Provide effective support staff, mechanisms, and systems using a ticket tracking system and monitor compliance of Service Level Agreements established for each area of support with quarterly reports to the District Technology Committee

6.2 Acceptable Use

Employee Use of Electronic Resources Policy

The Pinellas County school district provides electronic resources including computers, networks, software, internet access, and facsimile machines to support the educational mission of the schools. These resources enhance the curriculum and learning opportunities for students and school staff and the ability of the schools to conduct district business. A copy of the policy, which explains the acceptable use of these resources by employees, is posted on the district website. *(see Addendum B)*

Network/Internet Use Agreement for Students

This agreement must be signed by students and their parents before students have access to the Internet at school. Students are expected to follow all the guidelines of responsible, ethical behavior when accessing district network systems. *(see Addendum C)*

To maintain the integrity of systems, programs and information resources, the district will:

- Encourage secondary sites to use online web-based programs that will help monitor plagiarism and copyright infringement issues involving student works
- Require yearly training for staff and students to review current district policies and procedures for legal and ethical standards
- Encourage schools to work with district offices to maintain a fixed assets inventory
- Require schools to collect an Internet Usage Agreement and the Media Release for each student on a yearly basis, signed by a parent/guardian and entered into the Student Information System
- Clean all data from retired systems to DOD (Department of Defense) specifications before disposal or resale

6.3A Technology Protection Measure (Web Filtering)

The district will filter access to the Internet as per state and federal guidelines to protect against access by adults and minors to visual depictions that are obscene, child pornography, or harmful to minors. This access will be disabled for adults engaged in bona fide research or other lawful purposes and differentiated by student and staff members' access levels.

6.3 Technology Protection Measure (General)

The safety and security of students are the highest priorities when reviewing and developing district policies, regarding the use of electronic mail, chat rooms, and other forms of direct electronic transmission. To this end, the district will:

- Install and maintain anti-virus software with automatic updates for work and home computers to prevent the downloading of harmful viruses to the network
- Maintain a firewall
- Contract with an outside firm to perform security analysis and make suggested modifications to ensure the security of systems and data
- Require authentication to the district network, with unique username and passwords for all students and employees and managed by Active Directory. All computers are required to login using this username and password, or by the restricted guest wireless network, for access to the Internet and network resources
- Enforce a ten minute time out policy for faculty/staff/administration computers to ensure that systems are not left logged on while users are away from their computers

7.1 Network management and improved support for end-users in classrooms

WAN Support

The network bandwidth and access will be monitored for capacity and speed to provide satisfactory performance based upon programs at each site.

LAN Support

The LAN equipment and LAN wiring will be monitored for capacity and speed to provide satisfactory performance based upon the programs at each site.

Wireless Support

The district will provide secured wireless access and authorized "guest" wireless access to each school and major administrative center based upon availability of funds through a variety of sources such as school budgets, E-Rate, capital outlay (FF&E).

Internet Access

The district will provide adequate internet access with limited downtime during normal school hours.

Internet Filtering

Filtering will be differentiated through the use of employee and student log-in information based on what is appropriate for the educational and maturity level of the student and the research needs of teachers and administrators.

Network OS Management

Recognizing the fact that the district network consists of many layers and protocols, an overall network management architecture needs to be in place to facilitate troubleshooting and management of the many components without sacrificing one for the other.

7.2 District technical support options for equipment maintenance and replacement

Desktops and Laptops

The district will provide support for all warranted equipment and software. Sites may take advantage of district training to become self-maintainers under vendor programs.

Servers

The district will provide support for all warranted equipment and software.

Printers and Copiers

Wherever possible, the district will discourage printing and encourage electronic media, storage, and communication. Use of low cost services will be promoted where printing and copying is necessary. District will provide support for all warranted equipment and software. Sites may take advantage of district training to become self-maintainers under vendor programs.

Educational Technology (including A/V)

The district will provide support for all warranted equipment and software. Sites may take advantage of district training to become self-maintainers under vendor programs. Wherever possible, equipment and software will be standardized to control support costs and minimize training requirements, so teachers may go to any school and find familiar and common teaching tools and resources.

Network Equipment

The district will provide support for all warranted equipment and software as well as provide hot spares (equipment ready to swap out in case of failure) to minimize the effect of network-caused outages.

Support Model

The technology support plan provides for a multi-level model, starting with on-line self-service, on-line problem reporting, and multiple levels of technical support. All aspects of the service are recorded within the ticketing system and monitored by the Help Desk.

- **School-Level:** As part of the school technology plan, each school should establish a technology team composed of individuals selected by the site. The district will provide funding for a better ratio of technology support staff to computer users where data indicates a need.
- **Help Desk:** Specific training and knowledge in the support of diverse hardware and software; able to track and complete all assigned tickets; cross-trained to provide depth of support
- **District Field:** Highly trained technical staff with broad knowledge of all technical areas; able to travel to schools and other sites to provide hands-on trouble-shooting and guidance/training for site-based staff; assigned to tickets by the Help Desk as well as general coverage of certain schools
- **District Technical Staff:** Highly trained technical staff with specific and profound knowledge of certain technologies; able to provide remote assistance and troubleshooting in support of Help Desk tickets
- **Vendors:** They provide warranty and non-warranty service as well as authoritative knowledge of their particular products and services; ability to participate in Help Desk ticketing system to troubleshoot and resolve problems.
- **Technology Wiki and Other Knowledge Bases:** Local knowledge bases of technical information, procedures, and processes. Anyone is able to query information and provide personal troubleshooting and problem resolution.

Assessment of Support Plan

Different management tools will be used to assess the success of the implementation of the support plan. At a minimum, these will include the following:

- **Service Level Agreements:** Through the ticket system, problems will be addressed in a timely manner; the ticket writer will know a time frame in which the problem will be resolved or ameliorated.
- **Satisfaction Surveys:** Random satisfaction surveys will be generated with support requests to be filled out and returned by customers. The feedback will be used to assess how problems are addressed and handled as well the customer's level of satisfaction with the process.
- **Cost Containment/Reduction:** Decisions concerning support options will be based upon reducing or containing the cost of support while increasing customer satisfaction through increased efficiency, whether through staff or contracted service vendors.

8.0 Professional Development Plan

Research clearly supports professional development. Students grow when teachers grow. A comprehensive professional development plan includes three levels of support: acquisition of knowledge/skills; knowledge in practice, and knowledge of practice or inquiry/action research. It is only when all three levels of professional growth are provided that real change can occur.

The most common level of professional development, and least effective when done in isolation, is acquisition of knowledge/skills. This is the traditional training referred to as knowledge for practice.

The second level of professional development, knowledge in practice, is the support provided to individuals when they return to the work site and begin implementing the new trainings. Staff developers are critical at this stage as they support, guide, model and coach teachers who are working on new strategies and practices. Collaboration and dialogue among peers and staff developers can generate reflection and make public the new knowledge and skills being created and perfected.

The third level of professional development is knowledge of practice, or inquiry/action research. Teachers focus on raising questions about and systematically studying their own classroom teaching. Teachers and administrators involved in inquiry benefit greatly from the collaboration, support and coaching of the staff developers.

8.1 Methods for increasing the use of technology

- Development and acquisition of new programs and software that promote the integration of technology into everyday curricular needs
- Integration of technology as a meaningful component within all curriculum training, using district-level coordination for training and support
- Coordination of district-level training and support:
    - Monthly Technology Coordinator meetings
    - District curriculum staff

    - Curriculum content supervisors
    - Library Information Specialists training opportunities
    - Curriculum Technology Integration Project (CTIP)
    - Administrator Technology Integration Project (ATIP)
    - Integration Technology to Enhance Curriculum (ITEC)
- Learning Management System (LMS), coordinated by the PCS Professional Development Department, categorizes technology related component numbers to address staff training needs through easy online access
- Provision of equitable facilities, instructors, materials, equipment and funding for all professional development
- Identification and acquisition of technology-based professional development delivery systems that minimize teacher time away from the classroom and provide training in the most cost-effective manner

8.2 Ongoing training and technical assistance

The delivery systems for ongoing training and technical assistance available to district teachers and administrators are as follows:

- **Face-to-Face:**
    - State, national, and international professional organizations (ISTE)
    - Florida Digital Educator Program (FDE)
    - State University system partnerships
        - Florida Center for Instructional Technology (FCIT)
        - Florida Center For Interactive Media (FCIM)
    - FLDOE Instructional Technology
    - District level
    - Site based (technology team, committee(s), full faculty/staff)
    - Coaching, mentoring and modeling
    - Peer tutoring
- **Online Training:**
    - Web based training from online resource vendors
    - An asynchronous, open source Course Management System (CMS) to deliver 24/7 professional development with increased number of online components
    - Online professional development curricula through EETT grant funds with 24/7 online training opportunities
    - Florida Diagnostic and Learning Resource System (FDLRS)
    - Florida Virtual School (FLVS)
- **Distance Learning:**
    - Digital Learning public access cable programming on topics designed to demonstrate how to integrate technology
    - Synchronous online tools

9.1 Impact of technology on student achievement and curriculum integration

The impact of technology on student achievement and curriculum integration throughout the district will be measured using a variety of strategies.

- Documentation of technology integration into curriculum lesson plans
- Increased use of computer generated reports (for example FCAT Explorer, Destination Reading and Math, EDS) reflecting growth in the use of technology as related to the Sunshine State Standards
- Evidence that schools incorporate technology as a teaching and learning tool into academic goals in their school improvement plan
- Comparison of Florida Innovates profile data (including School Technology Resources Survey, Inventory of Teacher Technology Skills and the Student Tool for Technology Literacy Inventory) from year to year indicating levels of technology literacy

9.2 Mid-Course Corrections

The District Technology Advisory Committee will meet quarterly throughout the year to stay informed of new developments and to make recommendations for change as deemed appropriate.

The MIS and Academic Computing staff will meet regularly to coordinate district efforts to develop, maintain, and implement technology resources.

10. E-Rate Program

The Universal Service Discount Program for Schools and Libraries known as E-Rate was created in 1997 to ensure that schools and libraries have affordable access to advanced telecommunications services. Under the program, discounts ranging from 20% to 90% on telecommunication services, internet access and internal connections are provided to eligible schools and libraries, subject to a $2.25 billion annual cap.

The district is committed to fully using all funds available through the E-Rate program.

Staff keeps abreast of all program requirements and obligations. Each year an assessment of telecommunication services, internet access, and internal connections needed to support our technology plan is completed and used for application for funds from the program.

The district compares aspects of the program to its budgeted funding requests and applies for funds as appropriate.

The district keeps appropriate records and adheres to all federal required statutes.

11. Enhancing Education Through Technology (EETT) Grants

EETT is a federal, No Child Left Behind (NCLB), Title II D Entitlement grant with the following goals:

- **Primary Goal:**
  - Improve student academic achievement in elementary and secondary schools through the use of technology
- **Additional Goals:**
  - Assist all students in crossing the digital divide by ensuring that they are technologically literate by the end of eighth grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability
  - Encourage the effective integration of technology resources and systems with teacher training and curriculum development
  - Establish research-based instructional methods that can be widely implemented as best practices by state and local educational agencies

The district entitlement and competitive grants have focused on teacher professional development. Pinellas was awarded a competitive grant in 2002-2003, 2003-2004, 2004-2005, 2006-2007, and 2008-2009. *(see Addendum D for complete EETT Application)*