FCMAT
FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
CSIS California School Information Services

Petaluma City Schools

Technology Review

August 3, 2010

Joel D. Montero
Chief Executive Officer

FCMAT
FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
CSIS California School Information Services

August 3, 2010

Greta Viguie, Ed.D., Superintendent
Petaluma City Schools
200 Douglas Street
Petaluma CA 94952

Dear Superintendent Viguie,

In November 2009, the Petaluma City Schools and the Fiscal Crisis and Management Assistance Team (FCMAT) entered into an agreement to provide a review of the district's technology services. Specifically, the agreement states that FCMAT will perform the following:

1. The objective of the technology review will be to provide a detailed report that demonstrates the current state of technology and use and provide recommendations regarding the organizational staffing of the technology department to support the district's need.

   A) The FCMAT team will create a staff technology survey that can be posted to the website or distributed to a sampling of classified, certificated and management staff to assist in the evaluation of the department support level, customer satisfaction and use of technology in the classrooms and departmental level.

   B) The team will interview site principals, department directors and classified staff to gather data regarding the types of application and hardware utilized at the district.

   C) The team will review and analyze the district's technology master plan and make recommendations, if any

2. The technology review will include an analysis regarding the level of support from the following:

   A) Network administration

   B) Website development and support

   C) Email support for district and site level staff

   D) Student attendance system

E) Financial reporting system

F) Hardware installation and setup

G) Application software used at district and site levels

H) Technology in the classrooms

3. Review the job descriptions and staffing of the technology department. This component will also include any site level support and its impact on the on the technology department.

   A) Review district board policies on the use and integration of technology for district level and site based instructional strategies. This component should include any obstacles or barriers that prevent the use of effective technology.

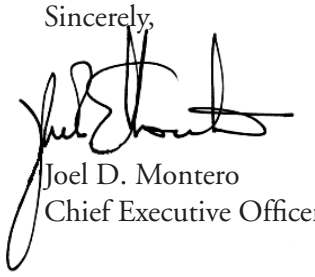
   B) Based upon the support level required by the district's technology department, provide staffing comparisons of districts of similar size and structure

4. Review the design network regarding safeguards of the data residing on the systems in the event of a catastrophic event or security breach. Review the processes of planning that exist to upgrade the hardware and software assets to remain current with today's technology. Provide recommendations regarding professional development training

The attached final report contains the study team's findings and recommendations.

FCMAT appreciates the opportunity to serve the Petaluma City Schools and extends thanks to all the staff of the district for their cooperation and assistance during fieldwork.

Sincerely,



Joel D. Montero
Chief Executive Officer

Table of Contents

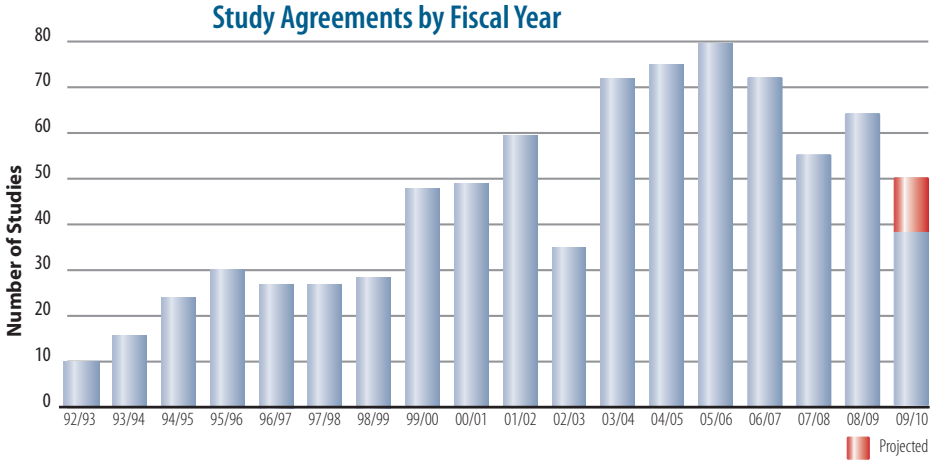
Foreword - FCMAT Background

The Fiscal Crisis and Management Assistance Team (FCMAT) was created by legislation in accordance with Assembly Bill 1200 in 1992 as a service to assist local educational agencies (LEAs) in complying with fiscal accountability standards.

AB 1200 was established from a need to ensure that LEAs throughout California were adequately prepared to meet and sustain their financial obligations. AB 1200 is also a statewide plan for county offices of education and school districts to work together on a local level to improve fiscal procedures and accountability standards. The legislation expanded the role of the county office in monitoring school districts under certain fiscal constraints to ensure these districts could meet their financial commitments on a multiyear basis. AB 2756 provides specific responsibilities to FCMAT with regard to districts that have received emergency state loans. These include comprehensive assessments in five major operational areas and periodic reports that identify the district's progress on the improvement plans.

In January 2006, SB 430 (charter schools) and AB 1366 (community colleges) became law and expanded FCMAT's services to those types of LEAs.

Since 1992, FCMAT has been engaged to perform nearly 750 reviews for local educational agencies, including school districts, county offices of education, charter schools and community colleges. Services range from fiscal crisis intervention to management review and assistance. FCMAT also provides professional development training. The Kern County Superintendent of Schools is the administrative agent for FCMAT. The agency is guided under the leadership of Joel D. Montero, Chief Executive Officer, with funding derived through appropriations in the state budget and a modest fee schedule for charges to requesting agencies.



Total Number of Studies..... 743
Total Number of Districts in CA.....1,050

Management Assistance	705	(94.886%)
Fiscal Crisis/Emergency	38	(5.114%)

Note: Some districts had multiple studies.
Eight (8) districts have received emergency loans from the state.
(Rev. 12/8/09)

Introduction

Background

Founded in 1858, the town of Petaluma is located approximately 30 miles north of San Francisco in Sonoma County and has a population of nearly 60,000.

The Petaluma City Schools include the Petaluma City Elementary and Petaluma Joint Union High School districts. The elementary district consists of six schools serving approximately 2,417 students, and the high school district consists of two junior high schools, a community day school for students in grades 7-9, a K-8 charter school, two comprehensive high schools, two alternative high schools, one continuation high school and one adult school. The high school district serves approximately 5,195 students. The city schools also sponsor two charter schools and acts as the local educational agency (LEA) for one independent charter school, Live Oak. Class size reduction has been implemented in grades K-3.

Thirty-four percent of elementary age students and 25% of secondary students are eligible for free or reduced price lunch. The districts employ 925 certificated and classified staff and have a combined annual budget of $65 million.

The districts enjoy the support of numerous volunteers. Parent groups include an educational foundation, PTA, service clubs, and groups to augment the athletic and fine arts programs. Volunteers also enrich classrooms and provide individual grants for teachers.

Study Guidelines

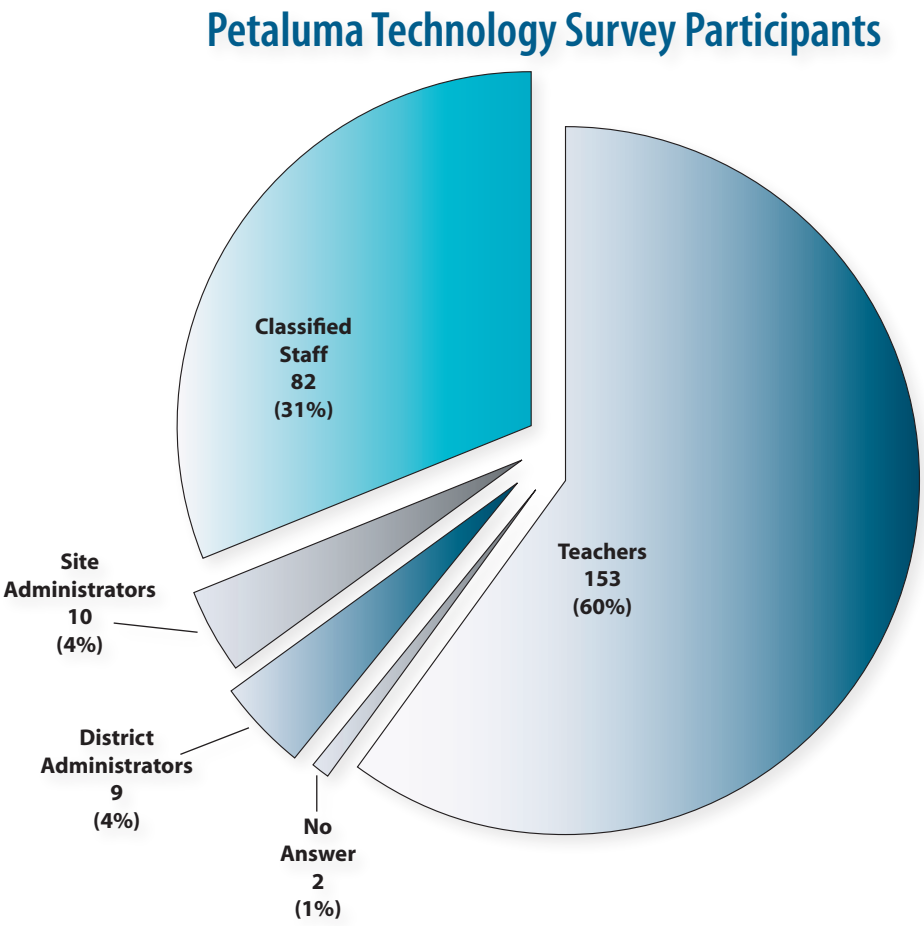
The Petaluma City Schools contracted with the Fiscal Crisis and Management Assistance Team (FCMAT) to perform a technology review. A FCMAT study team visited the district on February 24 and 25, 2010 to conduct interviews, collect data, and review documents. This report is a result of those activities.

The objectives of the technology review are to provide a detailed report on current technology issues and use and provide recommendations regarding the technology department's organization and staffing to meet both instructional and business technology needs.

Methods and Procedures

With input from the district, FCMAT developed a 32-question staff technology survey. Invitations to complete the survey were distributed to all e-mail users among classified, certificated and management staff. Two hundred fifty-six responses were recorded.

The goal of the survey was to obtain unbiased information regarding the use and reach of and vision for technology. Participants were assured that all information collected would remain confidential. The survey was hosted at a third party location and did not seek to identify the source of information but to focus on the content and opinions provided by the participants.



The 32 questions in the survey were grouped into the following eight categories.

- Technology organization and support (five questions)
- Professional development support (five questions)
- Funding support (two questions)
- Hardware and software support (four questions)
- Network speed and security (four questions)
- Communications tools (five questions)
- Technology for instruction (five questions)
- General comments (two questions)

Appendix C includes a summary of the survey responses.

FCMAT staff conducted two days of interviews with district administrators, information systems staff, site administrators, classified and certificated staff. Strategic, systems, financial, and compliance documents were reviewed and discussed as part of the interview process.

Interviews with staff focused on understanding and measuring the level of technology staff support for administrative and educational technology, including the following:

- Network administration
- Website development and support
- E-mail support for district and site staff
- Student attendance system
- Financial reporting system
- Hardware installation and setup
- Software used at the district and sites
- Technology in the classrooms

Documents analyzed included the following:

- Technology Master Plan
- District board policies regarding the use and integration of district and site-based instructional strategies
- Board policies regarding instructional technology, including obstacles to the effective use of technology.
- Design of network and data safeguards
- Job descriptions and organizational charts

Study Team

The FCMAT study team was comprised of the following members:

Ajit Mandal *
Chief Executive Officer, Proxient, Inc., Benicia, CA
FCMAT Consultant

Joseph Baker *
Principal
Proxient, Inc., Benicia, CA
FCMAT Consultant

Gary Meissner *
Senior IT Consultant
Proxient, Inc., Benicia, CA
FCMAT Consultant

Gary Quiring
Implementation Specialist
CSIS

Mary Barlow
Deputy Administrative Officer
FCMAT
Bakersfield, CA

John Lotze
Public Information Specialist
FCMAT
Bakersfield, CA

* As members of the study team, these individuals were not representing their respective employers but were acting solely as independent contractors for FCMAT.

Executive Summary

Petaluma City Schools has a goal of expanding and improving technology support services to include instructional technology. The district is struggling to keep pace with a rapidly increasing demand to provide support for technology in schools and district offices. Staff are enthusiastic about the prospect of meeting the technology demands but are challenged with reduced staff and reduced financial resources. By centralizing fiscal resources and technology decisions, the district can create efficiencies in operations and create more equity among school sites.

FCMAT recommends that the district move from a decentralized system in which schools purchased and install educational technology independent of the technology department to a centralized approach in which the technology department coordinates all technology purchases, implementation, professional development and ongoing support. In the past, the district's technology department has offered support for administrative and financial systems but has not provided support for educational technology. Many factors contributed to this situation, including a lack of district policies and procedures related to purchasing, procurement and deployment of educational technology, and the technology department staff's lack of knowledge about educational technology. The district has recently made significant decisions to improve student outcomes through the use of technology, including implementation of the following projects:

- Switching to Aeries student information system
- Implementation of the Grade Book program at secondary school sites
- Elementary report cards
- Development of benchmarks and assessments
- Implementation of Read 180
- Deployment of the Aeries student information system Parent Connect parent portal

These large projects will affect the entire organization and provide an opportunity for the district to make procedural, operational and functional changes to the technology environment to meet implementation challenges and provide ongoing support for both educational and administrative technology. This expansion of the technology department's role will require a restructuring of job descriptions, duties and organizational changes.

Strategic Plan

To begin this restructuring and revision of the technology department, the district should review and revise its technology master plan, the current version of which is outdated and does not indicate centralized support for both administrative and educational technology. The strategic technology master plan should communicate a clear vision for how technology should support the education of students. The plan should include curriculum-driven technology goals, professional development planning, the role of technology support staff, funding, and a monitoring process to ensure that the plan is updated regularly.

The technology department should be reorganized to support the vision and goals delineated in the plan, with an emphasis on increasing educational technology support. The plan should be developed by the technology committee, which needs to be composed of members who represent the full range of administrative and educational technology users, administrators and support

staff. Recommendations from this study should guide the district as it develops its educational technology support structure.

Reorganization

From its inception, the technology department was assigned to support network, administrative technology and hardware systems. As the district implemented instructional, accountability and assessment technology, it purchased equipment and software in a decentralized manner. School sites and some departments research, order, purchase and sometimes install equipment and software without consulting and coordinating with the technology department, which is inconsistent with district policies. This has resulted in purchases of software products that are incompatible with existing equipment and purchases of technology that staff cannot maintain.

The instructional technology and business technology departments should be restructured to meet the district's goal to increase achievement for all students. This report provides sample organizational charts and staffing comparisons with districts of similar size or organizational structure, selected by Petaluma City Schools. Also included are recommended changes to job functions to show the department's revised role and responsibilities.

Help Desk

The district's help desk consists mostly of e-mail requests and is focused on administrative technology; the help desk is underused and does not capture and manage all help desk tickets.

Technology department staff are often focused on administrative technology needs. Teachers who receive a stipend to provide educational technology support at sites attempt to resolve educational technology issues for teachers and students before referring a user to the help desk. In some cases, if the issue cannot be resolved locally, the help desk is bypassed and a call is placed directly to technology department staff.

A help desk management system should be implemented to capture all help desk calls and the nature of those calls. This will ensure more efficient use of technology support staff and provide senior management with the ability to quickly analyze strengths and weakness and make adjustments to better serve staff and students. It will also provide senior management with a snapshot of the types of difficulties users are experiencing. In some cases professional development can be provided to reduce the number of calls in specific areas, thereby reducing demand of staff resources.

Professional Development

The district lacks professional development for both technology users and support staff. The district should assess the technical ability of each member of the technology department support staff and determine the professional development needed for each position's new duties. A special emphasis must be placed on providing professional development to technology department staff members so they can support the educational technology and instructional software and equipment used in the district and any future purchases that may be implemented. In addition, specific district employees in other departments have developed or acquired a broad knowledge of educational technology and its application in the classroom. Those staff members should provide direct professional development to classroom teachers districtwide.

Policies, Procedures and Systems

The district should review and revise educational and administrative technology board policies and procedures to reflect the move from a decentralized to centralized approach. Revised policies and procedures should be reviewed with all department-level managers prior to implementation, and monitored for compliance. The board-adopted technology master plan should state the technology equipment and software standards for every classroom, including teacher computer, student computers, and educational equipment and software. Standardizing equipment, systems and software provides cost efficiencies in purchasing, delivery and installation. To support this effort, the district should conduct a full assessment of software, equipment, and infrastructure. The amount and quality of educational technology varies greatly from school to school. The district should seek to provide a basic level of technology in each classroom before expanding or improving technology at school sites that already exceed the basic level. The district's technology budget should be revised to include the goal of technology equity among classrooms. This may require revisiting the technology funding allocation model. The district should develop procedures for determining replacement schedules for software and equipment. Some school sites have outdated and ineffective technology that is well past its typical life cycle. A replacement schedule will allow the district to quickly assess where to direct resources. This report includes recommendations and best practices in this area.

New System Implementation

The district implemented a new financial system this year and the Aries student information system three years ago. Implementation of any new technology system is challenging but can be improved with specific practices, clear and frequent communication, and planning. The district should use a more collaborative approach when considering a transition to a new system. Planning, research and discussion should involve the users who will be affected by the new system. The district has not systematically integrated professional development with the implementation of new hardware, software, or other technology. The district should determine the level of staff development required before implementing any system and plan to provide initial training and ongoing support.

Priority Ranking of Recommendations

To help the district plan effectively, each recommendation in this report has been given one of the following three levels of priority.

- ● Indicates issues that should be addressed as soon possible because they are critical to long-term success or are items that can be completed quickly.
- ◒ Indicates components that are important to operations or functions but can be placed slightly lower in a priority queue, usually dependent upon high priority items to be completed.
- ○ Indicates works in progress or process improvements that are usually long-term initiatives. Although important, these items usually require fundamental organizational changes in behavior and are multiyear efforts.

Findings and Recommendations

Technology Plan

The district's technology plan for July 1, 2008 to June 30, 2013 was developed to enable the district to qualify for E-Rate, Enhancing Education Through Technology (EETT) and other funding sources. Although the plan meets all requirements specified by the California Department of Education (CDE), it is not a living document that affects teaching and leaning districtwide.

The district plans and implements its infrastructure, hardware and software with a focus on business services. The technology plan does not include meaningful standards for technology in the classroom or technology department support for educational technology.

Although the technology plan adheres to best practices at the strategic level and focuses on seamless integration of technology instruction, it fails to effectively address the creation of tangible steps to implement its goals equitably districtwide. For example, Goal 1A, objective 1a, is sound, supporting students to improve performance in English language arts (ELA). However, there are no concrete actions or monitoring protocols that would result in systemic support at all schools. The plan states:

> District and school site administrators and teachers are responsible for the planning, development, implementation, and evaluation of all the aforementioned activities. Teachers are responsible for completing all necessary professional development and ensuring their instruction is based on standards-aligned objectives and research based programs, practices and arrangements.

The district's technology plan also states, "Each school site establishes a replacement policy for technology hardware and software." This policy prevents the districtwide standardization of technology at school sites, making it nearly impossible to implement districtwide systems that support learning.

These and other components of the district's technology plan will continue to create a lack of equity between schools in the use of technology to support student learning. Implementing standards for all technology equipment can help ensure equity for all teachers and students as well as provide support for effective training.

The vast majority of school staff noted a lack of concrete actions and procedures. A consistent theme in interviews was a perception that district leadership encourages technology but there are deficiencies in implementation, particularly installation, training and support. Site personnel lack an understanding of how to implement the technology plan and how to link efforts with district initiatives. The district also has no communications structure to provide senior management or the governing board with information to allow them to track progress or adjust the plan.

The district needs to develop a new technology plan that focuses on annual actions related to educational technology that support the district's long-term goals. The plan will need to identify action steps associated with each goal, the position(s) responsible for completing each action step, and a timeline for completion and monitoring of each step. Regular meeting schedules for job-alike groups, district technology staff and other staff at schools also need to be included.

Recommendations

The district should:

1. ● Develop a new technology master plan.
2. ● Require that each school site update its site technology plan to align with the district's technology master plan. Consider using site-based technology committees to develop a standard template for school technology plans.

3 ○ Ensure that the technology plan includes standard educational hardware, software and professional development that can be provided to every school and classroom districtwide.

Stakeholder Involvement

The district's technology plan includes a long list of staff, parents and community members involved in developing the plan, as well as nine committees that will monitor the implementation of the plan. However, there is no evidence that this is taking place. Limited monitoring of the plan is occurring at district technology committee meetings, but the group is isolated and communication with key district committees is limited or nonexistent. There are staff representatives from most of the school sites but no evidence that goals and objectives are communicated to school site staff.

There is limited evidence of communication that engages interested parties by providing a clear understanding of the steps needed to reach objectives and goals.

There is limited evidence of communication that engages interested parties by providing a clear understanding of the steps needed to reach objectives and goals. There is also no evidence of communication with interested parties regarding the technology plan's ongoing implementation. Communication regarding the success of areas in which the technology plan has been implemented is also not effective. As a result, staff are not fully aware of the progress made. The district's technology committee has not communicated effectively, and site staff and administrators indicated that there is little follow through when implementing key components of the technology plan.

The district could benefit from identifying key stakeholders from district departments and school sites and creating a new technology implementation committee to help guide the development and implementation of annual technology goals as well as monitor and communicate the progress in implementing the plan. The committee would need to be composed of staff from the district office and school sites who can work across departments for a common purpose. Administrators and teacher leaders from school sites who understand how to implement the plan would be ideal committee members. The committee would need to focus on identifying barriers to implementation and creating an interdepartmental approach to overcoming those barriers. Communication and regular reporting of progress to all affected parties should be a priority.

The district also needs to proactively establish two-way communication regarding all business and educational technology initiatives. This should include communication with all interested parties regarding short-term and long-term goals as well as progress toward those goals. Staff will need to be able to provide meaningful input regularly. Web-based communication, blogs and

other tools can enable all staff to participate and become more invested in technology plans and initiatives.

Recommendations

The district should:

1. ● Create a technology implementation committee.
2. ◒ Develop a communication plan to engage all affected parties.

Technology and the Curriculum

The district's technology goals for curriculum support are adequate but are not consistently tied to site plan goals and are not supported by a management process or organizational structure that enables systemwide implementation. The objectives and monitoring of each goal do not include the steps needed to implement systems and support them equitably districtwide. Core curriculum teachers support the use of technology, but many are not engaged because of a low level of district support for educational technology at the school sites. Educational software is not selected as part of the districtwide curriculum adoption process. Instead, it is selected at school sites according to available resources and how each administrator chooses to use allocated resources. As a result, some school sites use more sophisticated software applications while other sites do not have equipment capable of operating the software.

Teachers are involved in developing site technology plans, but actions at school sites to align technology initiatives with the district's educational goals are similarly inconsistent because the site technology plans are not aligned with the district plan. There has been some success in using technology such as Edusoft to manage assessment data to shape instruction, but teachers do not use it consistently. To close achievement gaps, the district will need to standardize technology resources districtwide. The district also does not use testing and benchmark standards consistently or districtwide. Common assessments are a positive development, but significant work is needed to achieve formative assessments.

The integration of technology to support the core curriculum is most successful in school districts where curriculum and instruction staff and technology staff work collaboratively to plan, implement and support initiatives. The district will need to revise its technology plan to include an organizational structure in which the technology department and the curriculum and instruction department work as a team on all educational technology initiatives.

The district also needs to create a process and organizational structure that links the adoption of educational technology software with the curriculum approval process. The district needs to strengthen the connection between the adoption of educational technology and curriculum approval.

Recommendations

The district should:

1. ● Create an organizational structure that allows the curriculum and instruction department and the technology department to work collaboratively on all educational technology initiatives.

2. ● Develop a process to vet and approve new technology purchases.

   The district should create a technology steering committee made up of teachers, technology staff members and district administrators to vet and approve selected technology applications and devices that meet the grade-level curriculum standards. The California Learning Resource Network website at http://www.clrn.org provides useful information regarding state-approved and aligned instructional technology.

3. ◒ Create a process and organizational structure that links educational technology and curriculum adoptions.

Monitoring and Evaluation

Although the district's technology plan includes structures, staff and a template for reporting, and although it requires an annual report to the governing board, the district has not systematically monitored and evaluated the technology plan or reported to the board. The district has also not monitored which initiatives succeeded and which failed. Centralizing support for business and educational technology will give the administration and board the opportunity to more systematically monitor, evaluate and adjust resources to meet needs.

The technology plan's Goal 2, District Professional Goal, states, "District site administrators and teachers will become proficient in the use of technology to improve student achievement data collection, analysis, reporting, and decision making."

The plan states that instruments used to evaluate progress are to include "district training records, usage records," and that staff assigned to monitor progress include "district curriculum, data, and technology administrators and school administrators." This type of broad structure for monitoring and evaluation of all areas has not led to any significant gains in the area of professional development.

Appendix B provides examples of monitoring and project management.

Recommendations

The district should:

1. ● Integrate the monitoring and evaluation of the technology plan into midyear and annual evaluations of the district's goals.

2. ◒ Identify specific staff responsible for monitoring and evaluation. Responsibilities should include involving all affected parties in the process. Progress should be

reported to school sites where results are validated, then reported to the district and the governing board.

Technology in the Classroom

Technology varies widely from classroom to classroom. One teacher described her classroom as having one teacher computer with old software, while another teacher described her classroom as having fully integrated technology including a digital projector, five student computers with the latest intervention software, and great support from parents. Staff at one school noted that they still used hardware that could only run Windows 95, virtually eliminating their access to current educational software. Technology department network security protocols and the age of hardware often limit Internet resources. Aging hardware also limits access to other technology resources. Maintenance of aging equipment is also hindered by a lack of spare parts.

Many teacher workstations are old and have too little memory, which minimizes application use. Teachers need Aeries, Edusoft, and other administrative applications to guide their instructional planning.

The capacity of older workstations in classrooms and network slowdowns affect teachers' ability to use advanced multimedia and teacher resources such as video streaming.

Technology varies widely from classroom to classroom.

The absence of a districtwide technology vision and systems and procedures for delivering educational technology to classrooms has led to an ad hoc school-by-school approach that results in some good examples of technology support for core instruction but leaves the majority of classrooms far behind. Staff face challenges when seeking support for installing educational hardware and software in classrooms. Although there are teacher leaders at school sites, until now, the issue of educational technology and training has not been brought to the level of districtwide leadership and support.

Staff members indicated a desire for technology standards for classrooms, libraries and labs. Staff currently use three disparate systems to track student progress but would like to use a single system. Elementary school staff are looking forward to a standards-based report card.

The district has begun piloting the Read 180 research-based English language arts intervention program for English learners, students with disabilities, students from low-income households, and students from minority ethnic groups at one junior high school and one senior high school, but both sites have had problems with program setup and implementation. For example, one site encountered opposition from the technology department when they wanted to change how the equipment was to be installed, even though the changes requested focused on better meeting students' needs. In addition, the technology department was not able to analyze the existing equipment to determine if the proposed software would function properly. This resulted in additional implementation costs. Teachers felt more training was needed in the use of Read 180 software.

Implementation of the grade K-6 Envision math curriculum and software is in its second year; however, many teachers are struggling to use the technology components of this curriculum. Ongoing support is provided at the school site level, but, except in the case of voluntary study group sessions at elementary schools, it is limited to one staff member asking another for assistance.

Staff members indicated that professional development must be part of any technology plan and cited as an example the "No Colleague Left Behind" approach used at Grant elementary school, which pairs technology novices with advanced teachers so that the more technologically advanced teacher can mentor and provide on-site assistance to the novice.

Many school districts have successfully improved educational technology use by deploying a standard hardware and software package that can be more easily supported by technology staff. For software, the use of standard computer images for educational technology has enabled many school districts to improve the equity of access across all schools by ensuring that all teachers and students have similar software. Another important result is the ability of computer support staff to improve productivity through training on systems that are standard at all schools and the ability to remotely troubleshoot with imaged computers tied to a managed network.

Instructional Software

The district's technology plan contains lists of software available at school sites, and the district provided FCMAT with extensive lists of instructional software used. However, the district lacks standard procedures for instructional software acquisition, installation, implementation and support.

The district lacks standard procedures for instructional software acquisition, installation, implementation and support.

Without exception, site administrators and teachers indicated and technology staff confirmed that access to software is different from the lists provided in the plan and varies from school to school and from classroom to classroom, even when the teachers teach similar subjects. Because of these issues with implementation and because of limited professional development and ongoing support, many teachers either do not have or are not able to use most software. Grant Elementary School is the exception and has excellent and widely used software programs. All staff are ready for a more centralized support system, and there is growing support for systems that are supported districtwide.

The use of Edusoft varies from site to site, and missing data in Edusoft has led to a variety of issues, including confusion over the alignment of test questions with standards and teachers accessing benchmarks from the previous year because of a lack of communication. In addition, some teachers did not regularly use the benchmark tests. This affected the validity of the data and as a result the training. Some teachers came to trainings with no data, and in some cases principals resorted to processing data themselves rather than the teachers doing so and using it for formative assessment.

There has been districtwide training on the Aeries student information system, MUNIS and Edusoft software programs. However, the district lacks standard procedures for developing data entry codes. District staff also indicated that there are gaps in the Aeries data entry process and, although the district has user management procedures, they are not always followed.

Because of decentralization, the district has no policy or procedures regarding software selection. There are also no standard installation and set up procedures. The district is beginning to evaluate software and develop the process for doing so.

Districtwide standards and processes for software purchase and implementation, including input from school sites, vetting by the technology committee and approval by the cabinet, could provide a more systematic approach that ensures assent and support from all affected parties.

Recommendations

The district should:

1. ● Develop technology standards for all classrooms, with a focus on equity for all students and teachers. See Appendix E for a sample set of standards.

2. ● Ensure that technology staff implement procedures for improving communication with schools regarding installing and supporting technology in the classroom. Technology staff should make it their highest priority to communicate clearly before, during and after providing support or implementing new systems.

3. ● Consider developing and implementing districtwide software standards. As noted in the technology plan findings, software that supports the core instructional program should be part of the curriculum adoption process. Other software should be vetted by the technology committee with input from the school sites, and approved by the cabinet.

4. ◒ Develop an infrastructure, hardware and software plan that begins with the teacher and student experience in the classroom.

   All components of the plan should focus on delivering the tools and training to support the core curriculum through technology.

5. ◒ Ensure that the district technology team always provides support to district and school site staff, including expertise and research, to analyze and select the appropriate software.

System and User Support

The district is struggling to keep pace with a rapidly increasing demand to provide support for technology in schools and district offices. Staff are enthusiastic in trying to meet technology demands, but there are minimal staff and financial resources, few standards, limited communication, no sustainable training, no educational technology replacement plan, and little technical support because of reduced hours.

The district's main business information systems have been in place for many years. The technology department has focused on supporting these systems and networks at the district office and school sites. Historically, individual school sites have had to provide technical support for instructional technology tools at their sites, and thus the level of support varies greatly. At some schools, teachers with a high level of technology skills provide support, at others computer lab coordinators provide support, and at still others support is funded by their PTA or school site council.

The district's past practice was to end district support at the network connections in the wall. One group of teachers indicated their perception that technology support lacks a service-oriented approach and focuses more on what cannot be done.

Although the technology department's relationship with the educational services department has improved over the past year, technology staff are neither trained in nor comfortable with supporting and configuring educational hardware and software for teachers.

Support staff members' estimates of time spent in direct contact with school site staff ranged from a low of 10% of their total time to a high of 45%. This may indicate that technicians are under-used.

Outdated hardware and a lack of inventory procedures also hinder the technology department's ability to support systems and users. Support staff members' estimates of time spent in direct contact with school site staff ranged from a low of 10% of their total time to a high of 45%. This may indicate that technicians are under-used and could provide more technology support in the classrooms if they are provided with professional development on the software systems.

As indicated earlier, instructional software applications receive inconsistent district-level technology department support. In addition, staff do not always know who supports which systems and functions. Implementation of the Read 180 program is an example of a principal taking the initiative and bypassing the district's lack of educational technology support by using an outside vendor. In another instance, a principal hired a district staff member for three hours per day to provide support. Although seeking alternative support worked in these cases, it is not a sustainable long-term solution to the district's support issues. The district would be better served by the technology department providing adequate support for instructional technology initiatives. The district needs to manage technology more efficiently so principals are not drawn into time-consuming technology issues.

Resources to support labs in elementary schools are diminishing, and some schools outsource computer equipment support. Many lab coordinators support hardware and software and train teachers on an ad hoc basis. Some districts use mobile labs to increase technology use. In this time of limited resources, it may be helpful to review the allocation and use of educational technology resources and consider reallocating resources from labs to classrooms to provide all students with daily access to technology tools and resources.

Teachers are trained to contact the site technology representative for assistance and the district has procedures for requesting assistance, but teachers often remain unsure about how to get support and these protocols are often not followed. Instead, requests for help are often sent directly to technicians.

The human resources department uses a technology department notification form to inform the technology department of new employees, terminated employees, location changes and employee name changes. When the form is received, the technology services department provides employees with user IDs and passwords to access e-mail, address books, Aeries and other administrative applications. The form also indicates what training is needed. However, in spite of current procedures, there is a lack of communication with the human resources department and other departments about giving employees access to network and technology resources. The technology department notification form is not always sent on time and sometimes lacks information about what systems the employee is to have access to or what training is needed.

Trouble tickets are submitted to the help desk on paper, by e-mail or by phone. However, response to trouble tickets is slow and there is no communication to users regarding the status of their request. In addition, the district's procedures for making trouble calls are rarely followed. Staff also indicated that technology staff do not notify users in advance of visits to provide repairs or support. Technicians also schedule their own work, which may not result in an optimal balance of workloads. Use of the online help desk management system could improve support response time and tracking.

Recommendations

The district should:

1. Ensure that the technology department develops clear and sustainable communication with departments. Official communication on important issues should be provided via formal numbered and dated bulletins that are sent by technology management and that contain a subject heading and a message. The telephone or e-mail can be used for immediate communication in case technology work is expected to cause a service outage.
2. Reorganize and retrain the technology department to provide comprehensive support at school sites that focuses on teachers' and students' needs rather than on hardware and network support alone. Analyze needs at each school site and realign technology support staff to serve schools based on need while making the best use of limited staffing resources.
3. Review and update procedures for trouble calls to the help desk for both school site and district office personnel. Create and provide users with documentation that indicates how to submit requests for service.
4. Assess customer satisfaction regularly to identify successes and areas that need additional attention.
5. Improve communications with the human resources department and establish procedures to promptly provide new employees and employees whose status has changed with access to network and technology resources.

6. ● Research, acquire and implement a help desk system that includes the following features and capabilities:

   - A Web-based interface that is easy to use and graphically tabbed so administrators, teachers, and staff need only a web browser to use the application.
   - A relational database back end to ensure that all information is safely stored and to provide efficient management and reporting.
   - Help request prioritization to enable management to determine which technician is assigned to a new support call and balance the work load.
   - Client request and self-help capabilities to provide staff with access to self-help features and a simple interface to make and track support requests.
   - Remote access to users' computers to allow technicians to troubleshoot problems remotely.
   - The ability to gather inventory data on users' hardware and software.

   The district should also focus on fully implementing reporting features that enable a monthly review of the use of technology staff to accomplish the district's priorities such as support of educational technology at school sites.

7. ◒ Establish a structured way to obtain feedback from users regarding technology department staff and services. The feedback should include user input, regular staff evaluation and professional development plans.

8. ◒ Consider reallocating technology resources from labs to classrooms to provide students with more frequent access.

Technology Acquisition; Installation and Implementation; Inventory; and Replacement

Acquisition

The district lacks technology acquisition policies and procedures, and the district and its technology department provide limited involvement or leadership in this area. The district has a decentralized approach to hardware and software purchases: school sites and users purchase hardware and software, resulting in both difficulty and disparity. In some cases, the systems purchased are not compatible with the district's existing systems. The technology department does not review all purchases. There is a policy requiring that a purchase request be submitted for these items, but it is often ignored. If this policy were adhered to, many difficulties could be avoided.

There is little planning for major districtwide projects, and the district lacks both a software adoption policy and technology purchasing standards.

There is little planning for major districtwide projects, and the district lacks both a software adoption policy and technology purchasing standards. Most technology planning is ad hoc at school sites, resulting in unsustainable technologies. School site staff need support to research software and determine if it is compatible with the hardware.

The district has no long-range plans regarding infrastructure, hardware and software for classrooms and labs. The district needs to develop technology standards for schools, classrooms, labs and libraries to ensure equity.

Outdated equipment donated to the district sometimes makes it difficult or impossible to implement new software. Board Policy 3290, Gifts, Grants and Bequests, adopted June 25, 2002 specifies the following:

> Before accepting a gift, the Board shall consider whether the gift:
>
> 1. Has a purpose consistent with the district's vision and philosophy
> 2. Begins a program which the Board would be unable to continue when the donated funds are exhausted
> 3. Entails undesirable or excessive costs
> 4. Implies endorsement of any business or product

This policy is not always adhered to and the district has incurred expense to install, support and maintain equipment that may not meet district goals.

The district has developed a donation form that includes a location for the lead administrator's signature but no location for the director of technology's signature. The technology department will need to review all donations of technology equipment or software to ensure that they can be supported and sustained.

The district has no policy or procedure for determining if the network or the local computer hardware and operating system can support a particular application prior to a purchase. In addition some school sites or individual teachers bypass the technology department when purchasing

technology items. This has resulted in a number of issues that have hampered the use of technology in the classroom, including the following:

- A site purchased and installed an instructional application for the computer lab but could not run it because of an old operating system and a lack of memory.
- As mentioned previously, the district has not addressed implementation and training support when applying for and receiving technology grants. This has hampered the use of technology in the classroom, including in the following instances:
  - The district recently received a corporate donation of 3M projectors and required sites to complete an application to receive the devices and training. Although there was initial training on how to use the device for instruction, the district did not provide ongoing support.
  - The district supported school sites when applying for a grant to acquire SMART Boards but provided minimal support for the installation, which was completed by the vendor. Site-based grants did not include funding for professional development to support implementation and use, and the district has provided no professional development. Thus the use and integration of these devices varies greatly.

Recommendations

The district should:

1. ● Establish a districtwide technology purchasing policy and process that includes technology department review and approval for all purchases.
2. ◒ Use districtwide technology standards to identify priority technology needs.
3. ◒ Develop districtwide technology standards for student computers, teacher computers, educational software and equipment, and data systems.
4. ◒ Ensure that the donation form is used when accepting technology donations, and revise the form to include a location for the director of technology's signature.
5. ◒ Ensure that the technology department assesses every proposed donation of technology equipment and software to ensure that it meets or exceed the district's standards, and that it can be sustained and supported even when the donated funds or equipment have been exhausted.
6. ◒ Provide ongoing training and support for new hardware and software to ensure effective implementation.

Installation and Implementation

The district's ability to effectively implement and use technology is hampered by ineffective communication between the technology department and other departments and school sites. The lack of communication results in a lack of clarity regarding the status of technology projects. The technology department also does not always cooperate in implementation efforts when they are asked to step in after a system has been selected or a vendor has failed to properly install the system.

District technology staff have created standards for business-related system hardware installation. There is a standard image for all business computers and a process that enables efficient implementation and support; however, there is no standard image for computers used in classrooms. There is also no evidence of standards for educational technology hardware and setup. A standard image for all computers would improve the district's capacity to maintain and support instructional technology.

The district has experienced significant issues recently in communication and project management related to software implementation and support, highlighting weaknesses in this area. Many implementations take longer than anticipated because of a lack of project management practices. In addition, failures to respond to educational software implementation requests have led to school sites pursuing their own implementation and support strategies. Staff who use software systems have frequently been excluded from the implementation team, and implementation plans have not been communicated to users.

The district needs a new strategy for allocating all hardware and software; the strategy should begin with a focus on what is needed in classrooms to achieve technology equity.

Interviews and a lack of technology department communication protocols also indicated a consistent trend of poor communication related to hardware installation and set up, including in the following instances:

- A lack of coordination and quality assurance has led to problems with SMART board installations and installation of 3M projectors.
- Hardware received from grants has not been implemented in a timely manner, and no communication was provided regarding follow-up training or support.
- The technology department implemented software to manage computers, but staff did not understand that they could no longer install new applications on their computer themselves. While this may help advance the goal of standardizing the software on every computer, staff should be informed of the new policy.
- Communication regarding time lines for implementation are not effective; school site staff have become frustrated because a realistic installation date was not communicated

The district needs a new strategy for allocating all hardware and software; the strategy should begin with a focus on what is needed in classrooms to achieve technology equity.

Recommendations

The district should:

1. ● Establish and use standard images for all computers.

   The image should contain the standard, approved educational software. Images for elementary, middle and high school classrooms will differ but will enable improved support and training.

2. ● Develop a long-term technology plan that includes hardware and software standards for schools, classrooms, labs and libraries to ensure equity and support.

3. ● Ensure that prior to installing equipment the technology department clearly communicates expectations to those who are receiving the equipment. Communication should include an inventory of the equipment they are receiving, the staff member responsible for installation, training, and whom to contact to resolve issues after installation.

4. ● Ensure that whenever a major technology project is implemented, the technology department develops a project management plan that includes processes and standards. The plan should also include a time line, a list of equipment, who is responsible for installation, and who is responsible for follow-up support. This information should be communicated to all staff affected by the implementation.

5. ● Ensure that the technology department, in cooperation with senior district administration, creates a process to identify software deployment priorities for the upcoming year. Prioritize all requests and agree on a time line based on the district's priorities rather than those of competing departments.

6. ◒ Include technology managers in interdepartmental meetings and communications to ensure coordination of services, adequate needs assessment and evaluation of services against identified needs.

Inventory

The district lacks a process for regular inventory of educational software and hardware.

Recommendations

The district should:

1. ● Perform a physical inventory of all technology equipment at schools and district offices. Include information such as manufacturer, asset number, serial number and location. Results should be entered into an asset management system and maintained regularly. Consider exporting or linking this information to a help desk management system.

Replacement

The district lacks an adequate and up-to-date replacement plan for its technology assets, including its network infrastructure.

The district has no plan for the replacement of aging computers. The last California Technology Assistance Project (CTAP) survey of the district was completed in 2008, at which time more than 70% of the district's computers were more than four years old. It is difficult to run current applications on older equipment because of speed and memory requirements, and older equipment is difficult for technical staff to maintain. Teachers may also avoid using older technology because of a belief that it is prone to failure.

Recommendations

The district should:

1. ● Create a districtwide replacement plan for hardware and software that identifies the budgets for both business services and educational technology. The plan should include replacement of desktop computers every four years. The district should consider all available funding sources and create mechanisms to optimize purchasing power, such as off leases, donations, grants and bond measures.

2. ◒ Ensure that the technology plan includes minimum standards for all hardware, software and peripheral technology equipment for classrooms.

   This should include wireless access points, computer hardware, operating systems, educational software and equipment such as digital projectors and SMART boards. Appendix E includes sample standards.

3. ○ Consider hiring a qualified network contractor to analyze and document the network infrastructure to identify equipment, software, and new standards that should be included in a revised technology replacement plan. The review should include end-of-life components and new standards for the district's wide area network (WAN) and the local area networks (LANs) at each school site. Documentation should include LAN - WAN diagrams, wired and wireless standards, environmental standards, network hardware standards, server build standards, monitoring tools, and security management systems.

Professional Development

Because the district's organizational structure for technology has historically been decentralized, the majority of professional development for instructional technology is determined at the school sites and varies greatly; there is minimal districtwide coordination. The district's professional development calendar has only basic professional development offerings, and staff members consistently indicated that districtwide professional development related to educational technology is lacking. The only technology-related professional development supported by the district's education services department is the voluntary 45-minute study group sessions provided by lab coordinators at the elementary schools on early release Wednesdays. However, even this training is developed and implemented by school sites, not the district.

Training for software is also inconsistent; it is provided variously by vendors, the county office of education, interested teachers and even parents. As a result, some staff do not understand or use many of the software applications. More training is needed for programs like Edusoft. The county office of education provided Edusoft training, but the system was not used regularly and ongoing support is needed. Because of the lack of training and issues with the Edusoft setup, sites sometimes use the wrong data from previous years. There is also no system for tracking training, monitoring its effectiveness or determining who needs training on which systems.

Site staff indicated that they would like the district to coordinate and provide standard professional development regarding the use of technology in the classroom.

When the district acquires new instructional technology hardware or software using grant funds, the need for professional development and support is rarely addressed unless the grant includes a professional development requirement. District support has focused on successfully meeting the grant application requirements, not on addressing the district and/or site implementation plan to ensure that staff receive appropriate technical and professional development. Staff members' comments regarding professional development indicate that the level of support varies from site to site. The train the trainer model of professional development has been tried but has not been successful in sustaining some technology initiatives. Librarians have ideas for using technology to support instruction; the district needs to provide a means for teachers and librarians to work together to achieve this.

A lack of professional development is one of the two most common hindrances to teachers' integration and use of technology tools (the other hindrance is inadequate technical support). Site staff indicated that they would like the district to coordinate and provide standard professional development regarding the use of technology in the classroom.

Technology Staff Training

The district's technology staff have received little or no training. Interviews and documentation reviewed indicate that there is no sustained program for improving technology support staff members' skills and thus their productivity. Only three individuals have received training during the past year. The lack of training needed to support the various software used throughout the district has increased the time needed to troubleshoot simple problems.

Training of technology support staff is essential if the district is to successfully add educational technology and software support to their responsibilities.

Recommendations

The district should:

1. ● Make professional development in the area of technology a high priority. Professional development should be systematically planned and implemented for every new software or hardware deployment, and combined with curriculum and instruction and other departments to leverage limited resources. The professional development model should not be created in isolation; the district should copy what works and use exemplary schools as a model of how a district and schools can develop sustainable professional development.

2. ● Survey staff regarding professional development needs.

   Work with the district's technology steering committee to develop a survey of teacher professional development needs regarding technology skills. Use the results to drive professional development activities.

3. ● Assess staff training needs for Edusoft and other applications. Use assessment results to develop a training plan for each of the applications. Seek established resources to provide training.

   For example, California School Information Services (CSIS), a division of FCMAT, has a training session for district leaders and staff that are new to data management or are having issues with their data governance. The training is free and consists of two two-hour WebEx sessions, held a week apart. Further information is available at http://www.csis.k12.ca.us/e-learning/services-registration/default.asp

4. ● Ensure that regular and focused training is provided for technology department staff.

   The technology department should assess its staff members' training needs, including the need for training in critical instructional software used at the district and school sites. Specific staff may be trained as experts on certain software packages, but all staff should be familiar with all software so they can provide basic support.

5. ◒ Develop districtwide professional development opportunities based on survey results and in collaboration with the curriculum and instruction department.

   These training opportunities should be offered at the district and at school labs when appropriate, and should be conducted by district employees who have been identified as proficient in their subject area and the use of the technology or software application. Training in newly implemented systems and software should be mandatory and provided by the district or by the vendor as part of an in-service or staff development during a minimum day. Continued support during implementation should be provided by identified district experts who can serve in the field.

6. ○ Explore and adopt online training opportunities so that teachers and staff can access training from any location with an internet connection.

7. ○ Provide an Intranet site on the Web for teachers to collaborate and post best practices in technology integration. These can include instructional strategies, sample lessons, Web resources, wikis and blogs for ongoing collaboration.

Fiscal Issues

The district's technology funding and budget is out of date and needs to be aligned with current budget assumptions and priorities. Funding for educational technology has declined steadily for the past three years, with some dramatic reductions from year to year. For example, from fiscal year 2007-08 to fiscal year 2008-09, annual equipment funding declined from $114,000 to $15,000. The Aeries implementation in 2007-08 accounted for the majority of the expenditures for that fiscal year.

The district's decentralized technology planning and implementation creates fiscal inefficiencies; individual school sites hire consultants and purchase and install software. There is little evidence that purchases are grouped to reduced costs. The use of consultants who do not receive guidance or support from district technology leaders results in duplication of efforts and limited benefits to those who use technology to support core instruction.

Although the parent-teacher associations at some schools support technology, a districtwide fiscal plan must be developed to ensure equity. Districtwide grant writing would be beneficial to the schools, and funding for a technology replacement plan will be needed to keep technology current. Two parcel taxes provide support for technology in schools: Measure D provides $115,000 annually to the elementary school district, and Measure C provides $330,000 annually to the high school district.

Recommendations

The district should:

1. ● Develop a new funding plan and allocation strategy for hardware and software.

   The technology department and business department should collaborate to review all hardware and software technology spending districtwide. All site budgets should also be reviewed and duplication of technology spending and efforts identified. Allocations should focus on classroom needs and equity.

2. ● Develop a comprehensive plan to fund technology staffing to support essential systems and district goals.

   The plan should provide strategic support and approach technology staffing in a comprehensive manner rather than allow schools to fund technology staff in an ad hoc manner.

3. ◒ Seek funding from alternative sources such as grants and community fund-raising.

Network Administration

Because of a lack of financial and technology resources, network organization, support and capacity do not always meet classroom and instructional needs. Network management and related support issues are becoming major obstacles to supporting technology in the classrooms. Numerous school site and department staff indicated that the network is slow, does not have the capacity to support instructional applications, and has restricted connectivity (including wireless access). Many of these issues are a result of aging hardware, including older workstations that are often inadequate to fully support some instructional applications and services. The technology department has restricted connectivity (including wireless access) because of valid concerns about security. The district indicated that providing widespread wireless access would be prohibitively expensive in the current financial climate; the focus is on wired delivery of wired internet access.

The district has not established a formal process for reviewing instructional technology services or possible changes to security settings. Security restrictions on technology are also not clearly communicated to staff. In one instance a planned online activity connecting a high school class at Petaluma High School and another high school across the county was terminated without notice because technology staff perceived a security issue. This and other similar events have adversely affected technology use to support learning.

Many principals and teachers have requested wireless network access. School sites often set up their own wireless access only to have the technology department attempt to shut them down due to security concerns. The district should evaluate the educational value of a wireless network, assess the need for it, make a determination, and communicate that decision.

A review of the network is needed to locate bottlenecks and identify support issues. The technology department should research the issue with wireless contractors to determine costs and methods of implementation. These findings should then be submitted to the technology committee so that new standards can be developed and recommendations provided to the district administration for consideration.

Recommendations

The district should:

1. ● Inventory aging technology by developing criteria for collecting information on desktop computers that are more than four years old, including memory, operating systems, CPU speeds, and requirements for educational and business software.

2. ● Ensure that the technology department provides all district and school site staff with a list of support staff, contact information and responsibilities so that every staff member understands whom to contact for the type of technology support and Internet access they need.

3. ◒ Ensure that the technology department researches standardizing wireless network access for schools with wireless contractors to determine costs and methods for implementation. Findings should be submitted to the technology committee so that new standards can be developed and reviewed annually.

4. ◒ Develop a network infrastructure that focuses on delivery of educational content to classrooms.

   The network design should address specific issues to support educational technology, from the Opt-E-main routers' settings at speeds supporting streaming video to the LAN structure to support connectivity in each classroom. The district should also develop clear network management protocols that will support and encourage educational technology use.

5. ◒ Consider using a qualified network contractor to analyze, document and propose solutions to improve network performance and security.

   The review should include the district's wide area network (WAN) and the local area networks (LANs) at each school site. Meanwhile, the district should immediately address any known issues that can be easily solved, such as bandwidth adjustment on the WAN if needed.

Network and Data Security

The district has a documented disaster recovery plan dated October 22, 2009. The plan includes backup and recovery of key systems including Internet access, payroll, Aeries and GroupWise e-mail. The plan largely reflects procedures for the district office but does not include procedures for school disaster recovery, such as backup of school servers.

The district office depends on four major technology services and applications, in the following order of priority.

1) Internet access

2) Accounting

3) Aeries (student information system)

4) GroupWise (e-mail)

According to the district's disaster recovery plan for business technology, most server software is downloaded and/or backed up from the internet. The rest of the software is located in the technology office or in the fireproof safe in the network operations center (NOC). The plan includes an equipment inventory for the NOC and all site main distribution frames (MDFs).

All servers are backed up daily at the district office, and the daily tapes are stored in the fireproof safe in the NOC. At the end of every month one tape per server is placed in the district's safe deposit box at Wells Fargo bank. These tapes are saved for a minimum of two years. The district saves end-of-year tapes until there is no way to restore them with current technology.

The district uses modern and effective firewall, Web content management, and spam filtering technologies. These technologies are implemented predominantly through various hardware appliances, including Cisco ASA firewall for network address translation (NAT) and stateful packet inspection, Palo Alto Networks app firewall, the Smartfilter DA content filter, and M+Guardian spam manager.

Enterprise antivirus software (CA eTrust Threat Manager Suite) is installed on all clients and servers.

Recommendations

The district should:

1. ● Review and revise the disaster recovery plan to ensure that procedures in the plan are being followed and that the plan includes new requirements, including school technology functions such as server backup.

2. ◒ Maintain spare equipment for mission-critical systems, redundant routers, servers and other equipment to enable immediate replacement of failed network equipment. For components that are too expensive to keep spares on hand, ensure that there is a vendor support contact that can provide replacement within one business day.

Systems

Student Attendance System

The district is implementing the Aeries Grade Book software system in secondary schools. Some teachers have been resistant to this change because they prefer to use other grade books such as Easy Grade Pro. Schools are not always aware of and do not always follow established standards for entering data in the Aeries program correctly and on time. There is also no clear process for correcting and entering missing data. However, the district plans to create standards for Aeries system data entry.

A review of the district's implementation of the Aeries software system indicates that the district needs to review priorities for continued deployment of features such as Grade Book and the parent portal. Previously, a district Aeries group met every other week during implementations, but this group has not met this year to address crucial next steps in implementing the system. As a result, there is no clear process for communicating and supporting the linkage of the Aeries and Edusoft databases, both of which are critically important.

Training of counselors in Aeries data entry is inconsistent, and there is no training for staff in K-6 schools. Teachers also lack training in using the Aeries grade book function; however, a pilot program is in progress. Sometimes district staff must develop student data manually because of a lack of training in how to extract the data from Aeries. Significant time is lost on these activities.

Training and guidance regarding improving data quality in Aeries is similarly inconsistent. District staff bypass site staff and clean the data themselves to ensure data quality, thus ensuring site staff members' continuing inability to improve data quality.

Staff also experience challenges in extracting data from Aeries to develop custom reports to help monitor student performance and behavior, and key staff members do not understand the relationship between Aeries and Edusoft.

The district's Aeries support structure is fragmented and ineffective. Staff are not trained to use the Aeries system fully to improve access to data with reduced time. The district is struggling to implement the Aeries parent connection portal. In addition, implementation of Grade Book has just begun and ongoing support will be an issue as the implementation continues.

Recommendations

The district should:

1. Adopt a single standard for grade book software to minimize training and ongoing support needs.
2. Develop an Aeries project management plan that addresses the implementation of these new components. The plan should include monitoring to ensure the project is progressing as planned. A project manager should be assigned and the revised plan should be disseminated to all who use or depend on Aeries.
3. Re-evaluate Aeries training and determine which position should provide training for basic Aeries functions and Aeries browser interface (ABI) attendance.

Develop written procedures or training aides or video of screen shots with narration as tools to assist with training.

4. ◒ Develop data entry standards for the Aeries software system. Review data entry requirements and the monitoring and timing of Aeries data collection, and develop a data management calendar that includes responsibilities across schools and departments to ensure that the district maximizes potential funding and meets state and federal reporting requirements.

5. ◒ Evaluate all staff resources at schools and district offices and determine how they might be used to ensure ongoing support of Aeries. Prepare a report of actions to be taken and implement those actions.

Financial Reporting System

The district is moving to the MUNIS financial system from the Sonoma County Office of Education's financial system, which was supported by county office staff. Before implementing MUNIS, the decision was made to exclude the technology department from the implementation and ongoing support structure because of concerns about their capacity to provide support.

Staff indicated that more training is needed in use of the MUNIS system and that they are not trained to fully use the system's functions. Transactions posted in the system often do not show in the budget balances until a few days later. Staff who manage budgets do not always have the correct access to view their budget. Additional training is also needed in understanding MUNIS reports.

Recommendations

The district should:

1. ● Review training documentation and revise it as needed.

2. ● Evaluate and assess staff members' training needs and gaps in knowledge, and develop a basic and ongoing training plan. The district should develop a basic training course, an advanced course and ongoing training.

3. ● Ensure that the business department reviews all MUNIS documentation, and provide all eligible users at both the district and school sites with a list of support staff contact information and responsibilities so that they understand whom to contact for MUNIS support.

Website Development

There is inequity among school websites because of a lack of standards, training, and support. Schools maintain their websites largely on their own. Website updates take days or longer, and there is no staff member responsible for training.

The technology department has a one-page document that outlines the structure for websites, but it is a high level document that provides no guidance to departments or sites, and any effect it may have is not apparent in school and department websites.

The district lacks meaningful standards for website structure and development, and there is no intranet for sharing such resources. The district also lacks a central web-based calendar. At the same time, staff are interested in the potential for website use, particularly podcasts and streaming video.

There is strong staff interest in an intranet to share information across the district.

There is no evidence of training to help school sites or departments use websites to improve communication. One department noted that it had purchased a template-based web site development tool because it had no support or training.

There is strong staff interest in an intranet to share information across the district, such as online calendars for administrators, event calendars for schools and the district office to improve communication, and teacher postings of instructional strategies, sample lessons, web resources, wikis and blogs for ongoing collaboration and sharing of best practices in curriculum delivery and technology integration. Staff members also expressed interest in web-based access to training, and in the use of web-based communication of student academic information and homework assignments. Website templates are an efficient tool that, once implemented, can allow nontechnology staff members to easily update website content. Many districts use this technology to maintain control and standards while enabling school site and department staff to manage content.

The district needs communication tools that allow sharing of meeting minutes and calendars. Web-based communication is underused but could save staff time and improve communication at both the district and site level.

Because of staffing limitations and the historically decentralized approach to technology support, the district has no structure for supporting and managing web-based communication. A comprehensive web management tool would allow district offices, schools, teachers and departments to easily manage their websites, thus reducing support issues.

Recommendations

The district should:

1. ◒ Develop and use standard website templates for elementary, middle, high school and district department sites. The templates should have a consistent look and feel.

   Designate one staff member per school site or department to build, support and maintain the website. Provide training for all website administrators at least annually.

2. ◒ Consider forming a team of principals, teachers and administrators to develop requirements for a web-based communication and an Intranet for staff.

3. ◒ Evaluate each school and department's website development training and development support needs. This may provide assistance in the short term until the district can implement a comprehensive web management solution as recommended below.

4. ○ Purchase and implement a comprehensive web management tool that replaces the various tools currently in use. This should only be done after requirements have been defined for teacher, school and district websites; parent access; intranet features for calendars, podcasting, blogs and collaboration; and other desired functions.

E-mail

Almost all staff members use e-mail successfully. Staff noted that it is difficult to use the current e-mail system from home. The current Novell GroupWise e-mail system's support for post office protocol (POP) e-mail accounts is not enabled because of the heavy support requirements of this protocol.

Recommendations

The district should:

1. ● Review the e-mail access policy and change it if necessary to include all staff.

2. ◒ Consider migrating the current Novell Groupwise e-mail system to a Microsoft Exchange e-mail environment for improved management, support and user experience.

Staffing, Organization and Job Descriptions

The district's technology department is organized primarily to support business systems rather than educational technology.

The technology department's organizational structure, staffing and staff skill sets are not optimized to meet the goals of the district's technology plan. Layoffs in the technology department have also hampered support efforts, as have reduced hours. A review of the department's various job descriptions is needed to match skills with job functions. Unless current structures and practices are changed, the district will not be able to move to a more centralized support system for educational technology.

Staffing

Staffing Comparisons

FCMAT obtained technology department staffing data from five California school districts selected by Petaluma City Schools. The comparison districts surveyed were Cotati Rohnert Park School District, Santa Rosa City Schools, Windsor Unified School District, Novato Unified School District and Sonoma Valley Unified School District.

Although comparative information is useful, it is not the only measure of appropriate staffing levels. California school districts are complex and vary widely in demographics and resources. Careful evaluation is needed because generalizations can be misleading if significant circumstances are not taken into account.

The following table lists enrollment and staffing information for the comparison districts based on 2008-09 California Basic Educational Data System (CBEDS) information as well as data from the comparison districts.

Technology staffing comparison, selected California school districts

District	Cotati Rohnert Park	Santa Rosa City Schools	Windsor USD	Novato Unified	Sonoma Valley USD
Enrollment	6,400	16,750	5,515	7,951	4,742
Total Employees	674	1,458	527	770	539
Technology Director	**Technology Coordinator**	**Chief Technology Officer**	**Technology Systems Specialist II**	**Director of Information Technology Information Technology Systems Supervisor**	**Lead Information Technology and Network Specialist**
Technology Department Staff	**Information Systems Engineer** (Network design and management, system integration and administration,) **Information Systems Technician III** (Senior technician build and deploy software packages, conduct performance monitoring and analysis of computer systems, peripherals, and servers) **Information Systems Technician II**	**System Support Specialist** (software and help desk) **Technology Assistant (8 FTE)** (hardware software support) **Maintenance Technician** (hardware installation) **Operations Coordinator II** (data support, computer centers) **Senior Secretary MIST** **Senior Secretary Technology** **(2 FTE) Server Administrator** **Database Administrator** **Network Administrator** **(2 FTE) Programmer/ Analyst**	**Technology Systems Specialist I** (installs, maintains, enhances hardware, software and data systems)	**Information Technology and Network Specialist** (administration and support of administrative and instructional networks including hardware and software installation) **Network Supervisor (Information technology strategic planning; operational management; project management; LAN & WAN support; server group support; support group supervision)** **Technology Support Technician III (Senior technician responsible for PC, Macintosh, & printer installation, configuration, repair and maintenance; network and server administration. Responsible for network software installations)** **2 FTE Technology Support Technician II Resolves district site computer problems for desktops and servers on PC and Mac platforms. Manages Apple Mac integration and imaging for servers and desktop's. Oversees the IT School Dude)** **Computer Operator/Technical Support I& II** (provides direct support on basic user issues, hardware software upgrades) **Student System Technician (Manages Student Information System obtains SSIDs, assists users to create queries and reports;** CALPADs) **Student System Technician (Manages the SIS; assists users to create queries and reports; Maintains calendars, bell schedules, student accounts, ABI and student photo uploads; oversees user agreements; schedules the District Prof. Dev. Center)** **Information Services Coordinator** (Maintains and support financial and business system users)	**Network Support Specialist** (planning and implementation of all systems, security maintenance and administration of those systems)

District	Cotati Rohnert Park	Santa Rosa City Schools	Windsor USD	Novato Unified	Sonoma Valley USD
Assessment and Accountability Staff	**Assessment & Evaluation Analyst** (assessment/ standardized testing and data analysis)	**District Testing Coordinator** **District Assessment Data Specialist** **Report Writer**		**Director of Assessment Accountability & Specialized Programs TOSA – Professional Development Curriculum & Assessment**	**Director Curriculum & Instruction**
Educational Technology Staff	**Assistant Superintendent of Instructional Services** **Instructional Services Technician** **(2 FTE) Computer Lab Technician**	**Curriculum Resource Assistant**	**Tech Curriculum Specialist** (stipend TOSA – develop PD for instructional Technology) **Instructional Para-Professional – Computers** (computer lab aide)	**Computer Lab/Site Network Technician** (operate computer lab assist with site minor user issues) **Instructional Technology Mentor**	

Source: 2008-09 CBEDS (CDE DataQuest), and interviews with districts

Novato Unified School District also has a computer lab position which does not perform basic user support.

Although each school district surveyed organizes its technology department differently, all technology departments report to the assistant superintendent of business services or the chief business official. In the districts surveyed, each technology department has a senior position that supervises department staff and requires at least a bachelors degree or higher in computer science or similar field. The comparison districts divide technology support differently from Petaluma City Schools. The three areas of technology support in comparison districts are administrative or business systems; instructional and classroom technology; and data management or assessment and accountability.

Included within the administrative and business systems support are the network and infrastructure, servers, hardware and system software needed to maintain functional administrative, financial and student information systems. Support for these systems is divided between hardware and systems software. Technicians usually specialize in a specific system and hardware. In addition, equipment or user support is managed and prioritized using a work order system, with lower level support directed to technician I level staff and more complex issues directed to more senior staff. Each comparison district has one systems and network engineer; at least one staff member responsible for installation of hardware, servers and peripherals; and at least one staff member responsible for supporting data base systems such as the student information system, financial and assessment and accountability systems.

Most districts surveyed include some support for student and staff workstations at each school site, either through a part-time technician, a stipend position, or a teacher on special assignment (TOSA). In some districts the computer lab technician also resolves low level user support issues and supports users with educational software. Most of the comparison districts also maintain a help desk management system to track and manage all support. Most of the districts monitor and provide support remotely.

Each district organizes data management and assessment and accountability differently. In some districts all staff report to the director of information technology (Novato) and in some the assessment and accountability department coordinates with the technology department (Santa Rosa). In both cases, the accountability and assessment department manages state testing, develops reports and queries for administrative staff to assess student progress, provides administrative support, and maintains the student assessment data system.

Each district manages professional development differently, though in most cases technology department staff provide professional development for e-mail login, provide basic functions to support infrastructure and educational services, and coordinate professional development for new educational software.

Usually, the more workstations a district acquires, the more technology department staff are needed to support those systems. The following table shows the number of students per computer at each of the selected comparison schools.

Number of students per computer in selected comparison school districts

Students per computer	Petaluma City Schools	Cotati Rohnert Park	Santa Rosa City Schools	Windsor USD	Novato Unified	Sonoma Valley Unified
Elementary	4.8	5.6	5.9	6.4	4.6	5.8
High	5.7	3.6	4.8	3.5	6.9	2.1
Community Day	4.2	2.5	N/A	N/A	N/A	1.3

Support Staff

In Petaluma City Schools, Some support staff are assigned to locations geographically (west and east of the river) rather than according to the needs of each school site. Currently, 5.3 full time equivalent (FTE) technology department staff positions are assigned to support technology at school sites; however, most of the support is focused on administrative needs. School sites use teachers, outside contractors and parents to support technology in classrooms. This exceeds similarly sized Cotati-Rohnert Park School District's staffing level of 3.0 FTE, including the technology coordinator, and similarly sized Windsor Unified School District's staffing level of 2.0 FTE

In the elementary district, a 0.5 FTE PC support technician is assigned to schools, and there is a 0.5 FTE Aeries-only technician for all schools. In the secondary schools, two full time technicians provide instructional technology support to secondary schools east and west of the river, respectively.

Each school receives funding from Measure C to support technology. As discussed in the fiscal section of this report, the district should consider centralizing this funding and redirecting it to support district-level staff. Technology department job descriptions need to be reviewed and revised, and individual areas of specialization for systems and equipment or network support determined.

Low level requests for assistance need to be managed remotely using a help desk system and imaging software. This will reduce the need for on-site assistance from teachers on special assignment and computer lab technicians.

Recommendations:

The district should:

1. ● Consider reassigning technology staff to more effectively support all schools based on needs and the district's priority of supporting educational technology.
2. ◒ Consider developing system specialty areas for support staff, and provide training as needed.

Organizational and Reporting Structure

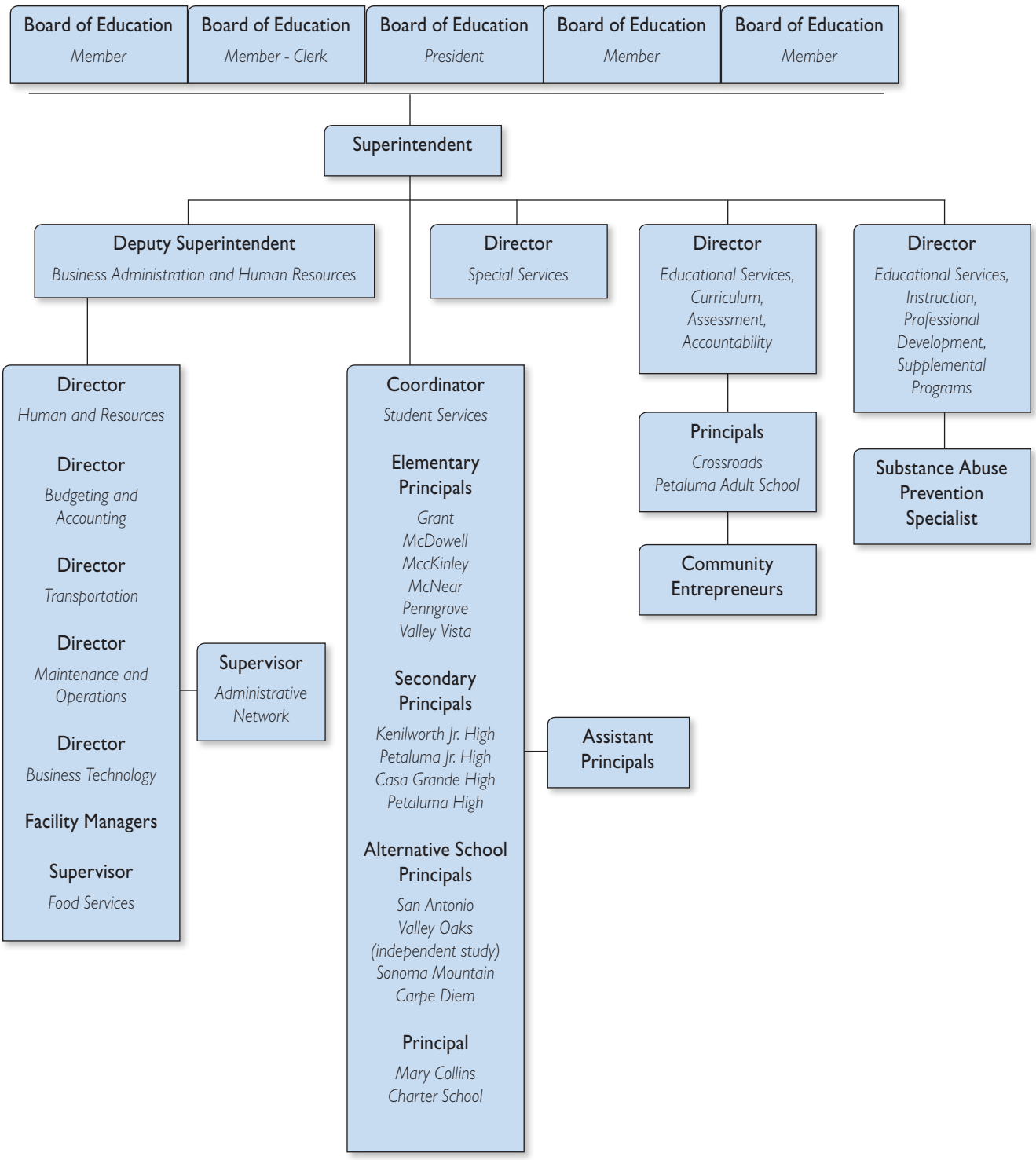
The technology department's organizational and reporting structure prevents it from supporting educational technology. The technology director's job title is "Director, Business Technology," and the job description does not include support of teaching and learning through technology. Similarly the organization of the technology staff has resulted in ineffective support of educational technology as documented by school site administrators and teaching staff. An effort to end isolation and improve communication between the business department and the curriculum and instruction department by splitting staff between the two departments has not resolved the problem; these staff members indicated that they simply move from one desk to another and continue the same work.

The organization of the technology staff has resulted in ineffective support of educational technology.

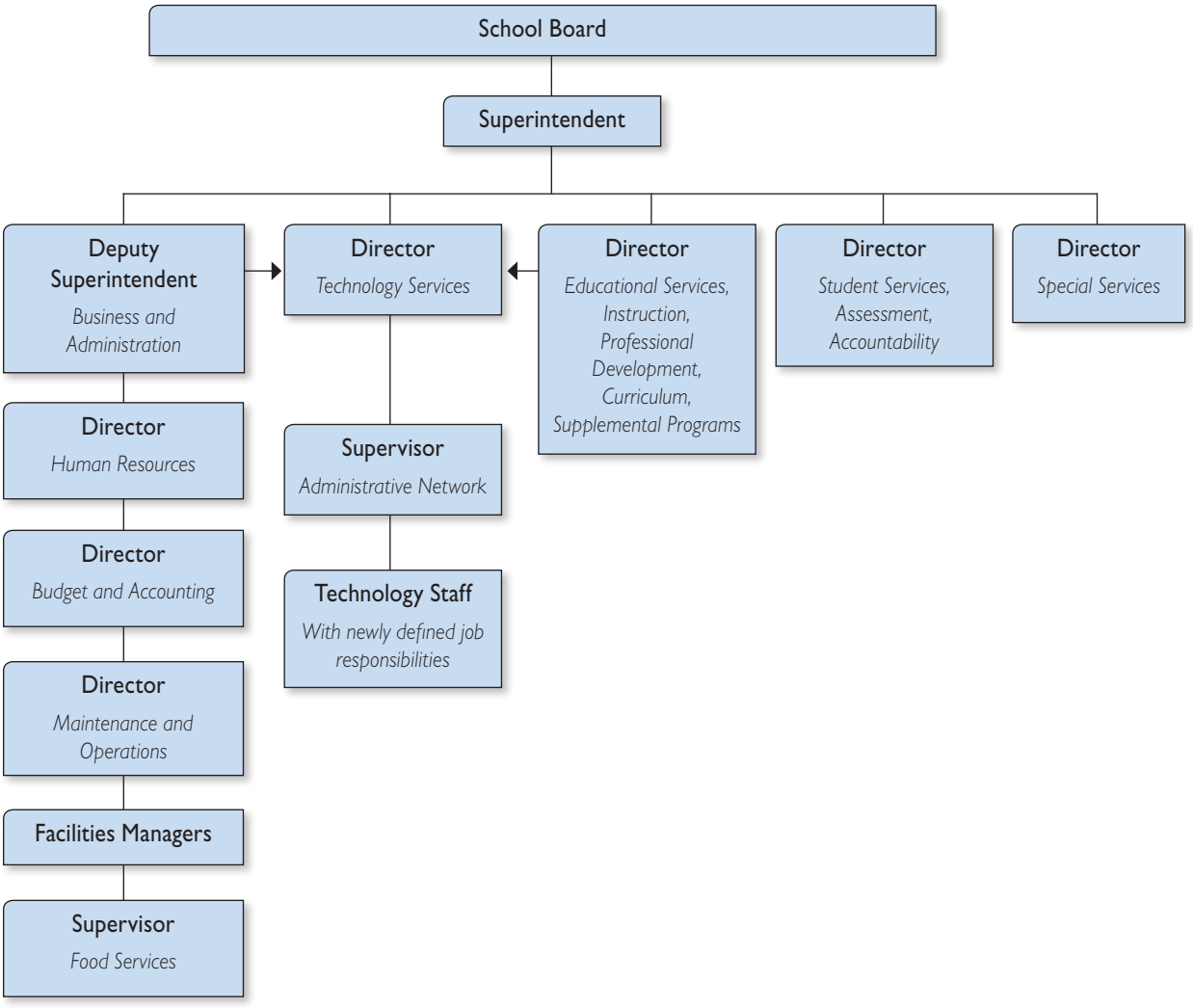
In addition, there is no organizational structure for implementing and providing professional development or ongoing support for educational technology in the district.

Following are three organizational charts: the district's current organizational chart followed by two organizational charts that present two options for reorganization focused on changing the culture to support both educational and business technology.

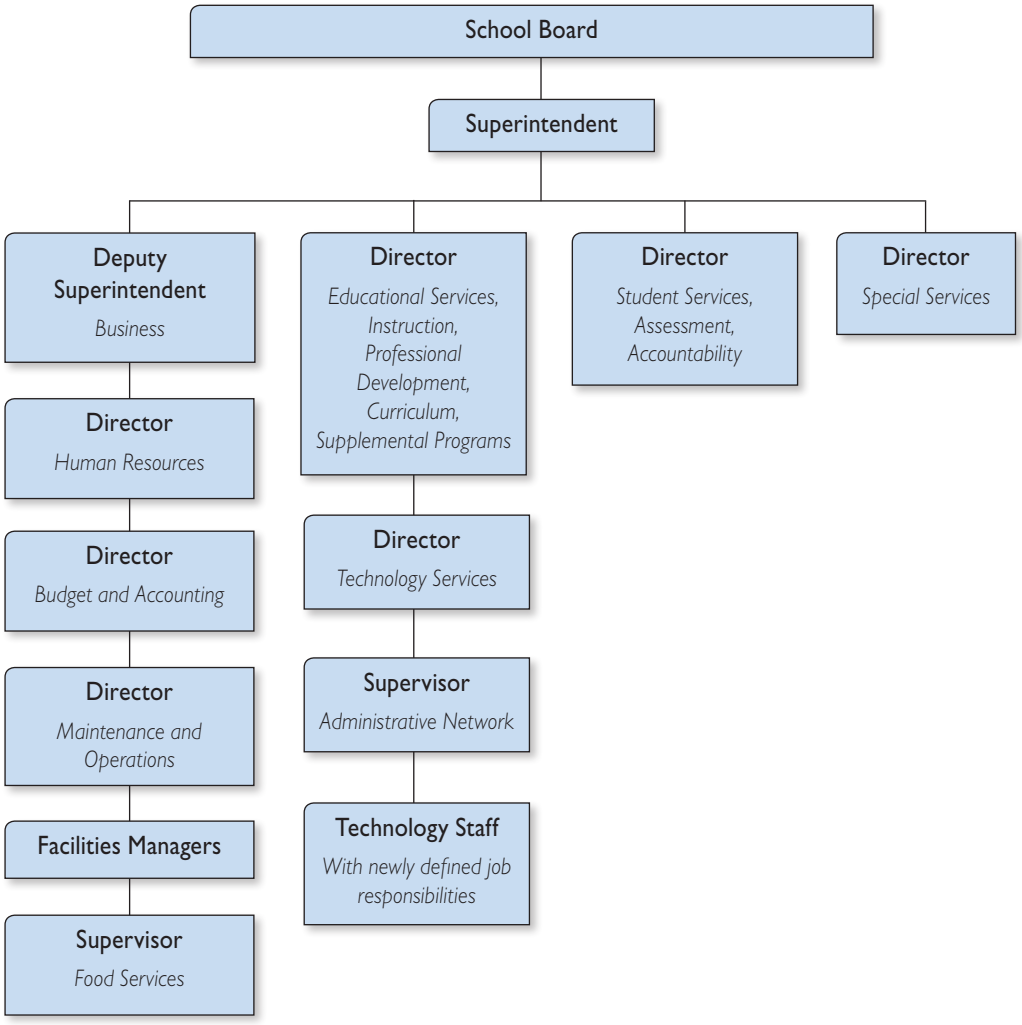
Current District Organizational Structure



Revised Organizational Structure, Option One



Revised Organizational Structure, Option Two



Recommendations

The district should:

1. ● Consider replacing the position of director, business technology with a director of technology services position. This position should incorporate the support of both business and educational technology responsibilities.

2. ● Reorganize the district's organizational structure so that a single administrator oversees technology services staff and educational services staff so that they work collaboratively to meet the training and technical support needs of both the business and classroom technology users.

Job Descriptions

Technology department job descriptions are not consistent with an organization that is positioned to support both business and educational technology.

None of the job descriptions provided to FCMAT include duties such as training or supporting teachers to implement educational software. Evidence suggests that the job descriptions have not been updated and do not reflect current needs. One job description listed as a requirement familiarity with the Windows 95 operating system. The job descriptions provide general information about required skills, but interviews with every member of the technology staff indicate that the job descriptions do not define current duties.

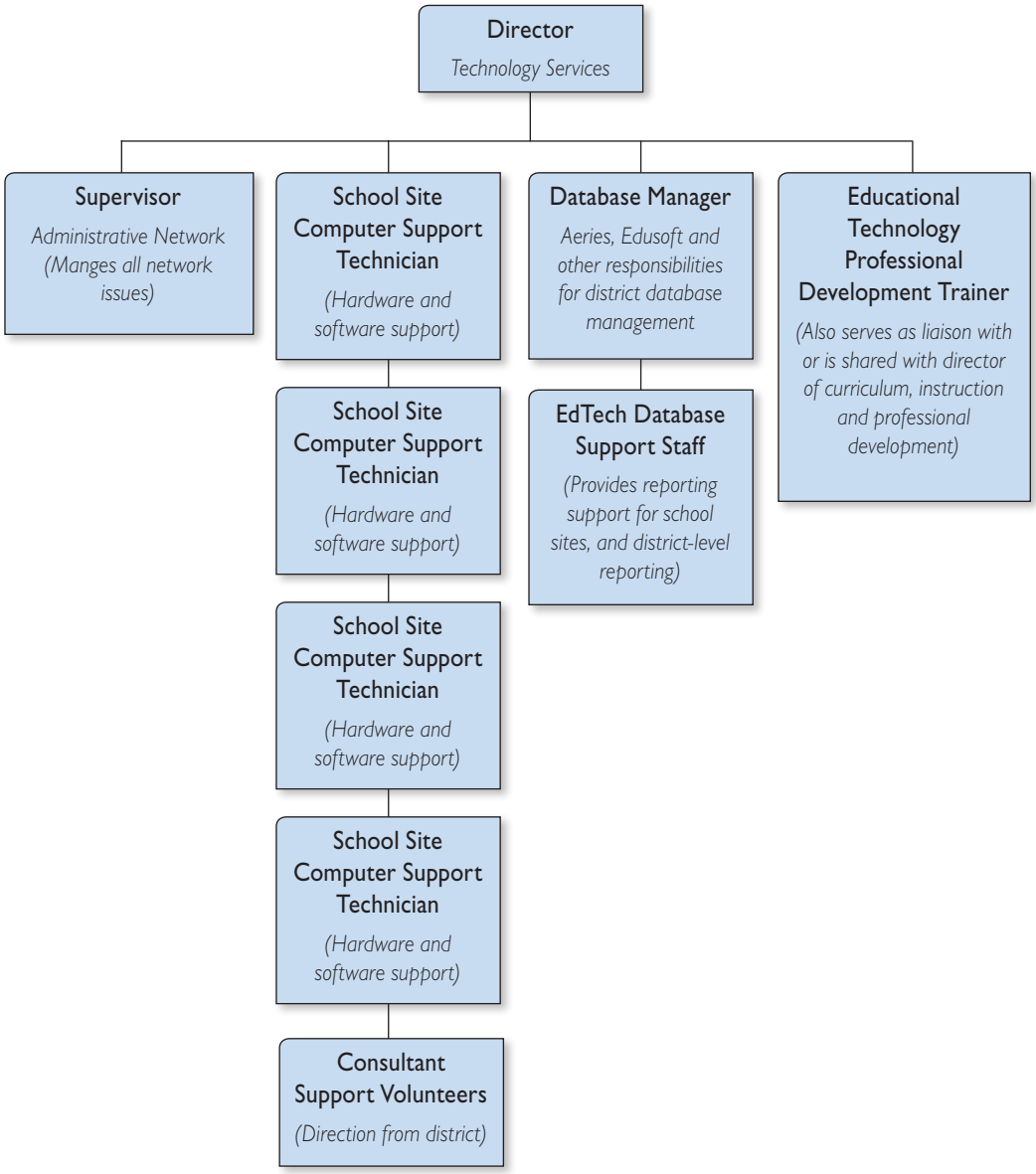
Recommendations

The district should:

1. ● Revise job descriptions to include educational technology support.
2. ● Develop job responsibilities for the technology support staff based on needs. Responsibilities for applications such as Aeries, Edusoft and Read 180 should be clearly defined and should not be divided among employees because this creates a lack of ownership and responsibility.
3. ◒ Implement an organizational structure that provides for feedback from teachers when new technology is implemented. The success of system implementation can be measured by tracking help desk tickets and attendance at staff development, as well as through classroom observations.

   Below is one option for a functional organizational structure to achieve these results.

Recommended Functional Organizational Chart, Technology Department



Board Policies for Instructional Technology

The district has board policies regarding the use of technology; however, no evidence was provided to indicate that the polices have been updated in the past five years. The technology staff provided FCMAT with acceptable use policies dated February 2002 and forms for parents and guardians of students. Many districts include specific references to technology resources in their board policies regarding instruction, but this is not the case in the Petaluma City Schools. The California School Boards Association (CSBA) provides sample policies to help school districts manage emerging technology and acceptable use issues. The district needs to review and revise its policies because of the potential liability in this area.

Schools are working to meet the board-approved educational services smart goals, but technical support and professional development issues are significant obstacles to successfully meeting those goals.

The lack of up-to-date policies regarding the decentralized management and use of Web pages, teacher blogs and other technology-based communication is particularly problematic and will create significant challenges as the district increases the use of technology to support instruction. Updated policies will be needed to clearly define acceptable use and reduce district liability as teaching staff use these online tools. In addition, plans to provide Aeries access to staff and parents will require updated privacy policies.

Many districts include specific references to technology resources in their board policies regarding instruction, but this is not the case in the Petaluma City Schools.

The technology department's priorities are not aligned with board policies regarding instruction, and there is no evidence that the department consistently supports these policies. FCMAT found consistent examples of how the technology department is either not supporting instructional goals or inadvertently hindering progress toward achieving those goals.

The current technology plan aligns technology goals with instructional goals, but there is no connection to the technology department's functional goals to drive staff members' daily activities. Linking technology department functional goals with board policies and board-approved educational services smart goals could help create such a connection.

Recommendations

The district should:

1. ○ Review and revise all board policies related to technology, including privacy policies. Policy templates are available from the California School Boards Association's (CSBA's) GAMUT online services at http://www.csba.org/Services/Services/GovernanceTechnology/GAMUTOnline.aspx.

2. ○ Provide staff with training regarding updated board policies once those policies are in place. Review key changes in policy at cabinet meetings, principal meetings and faculty meetings.

3. ○ Update board policies related to instruction (6100s) to include references to the alignment of technology to support core instructional goals. Consider linking the adoption of instructional technology resources to board policies regarding the adoption of other instructional materials.

4. ○ Align the technology department's goals with the board-approved instructional goals for the district.

5. ○ Develop board policies regarding the type of report cards to be issued, and administrative regulations regarding the standards-based report card. Assign a districtwide committee to develop a standards-based report card template.

Appendices

Appendix A

Recommendation Matrix

Section and Recommendation	Priority
Technology Plan	
Develop a new technology master plan.	●
Require that each school site update its site technology plan to align with the district's technology master plan.	●
Ensure that the technology plan includes standard educational hardware and software that can be provided to every school and classroom districtwide.	○
Stakeholder Involvement	
Create a technology implementation committee.	●
Develop a communication plan to engage all affected parties.	◒
Technology in the Curriculum	
Create an organizational structure that allows the curriculum and instruction department and educational technology department to work collaboratively on all educational technology initiatives.	●
Develop a process to vet and approve technology.	●
Create a process and organizational structure that links educational technology and curriculum adoptions.	◒
Monitoring and Evaluation	
Develop a clear plan and structure for monitoring and evaluation that is closely tied to project planning, and report on progress toward goals annually.	●
Identify specific staff responsible for monitoring and evaluation.	◒
Technology in the Classroom	
Develop technology standards for all classrooms, with a focus on equity for all students and teachers.	●
Ensure that technology staff implement procedures for improving communication with schools regarding installing and supporting technology in the classroom.	●
Consider developing and implementing districtwide software standards.	●
Develop an infrastructure, hardware and software plan that begins with the teacher and student experience in the classroom.	◒
Ensure that the district technology team always provides support to district and school site staff, including expertise and research, to analyze and select the appropriate software.	◒
System and User Support	
Ensure that the technology department develops clear and sustainable communication with departments.	●

Section and Recommendation	Priority
Reorganize and retrain the technology department to provide comprehensive support at school sites that focuses on teachers' and students' needs rather than on hardware and network support alone.	●
Review and update procedures for trouble calls to the help desk for both school site and district office personnel.	●
Assess customer satisfaction regularly to identify successes and areas that need additional attention.	●
Improve communications with the human resources department and establish procedures to provide new employees and employees whose status has changed with access to the network and technology resources.	●
Research, acquire and implement a help desk system.	●
Establish a structured way to obtain feedback from users regarding technology department staff and services.	◒
Consider reallocating technology resources from labs to classrooms to provide students with more frequent access.	◒
Technology Acquisition; Installation and Implementation; Inventory; and Replacement	
Acquisition	
Establish a districtwide technology purchasing policy and process that includes technology department review and approval for all purchases.	●
Use districtwide technology standards to identify priority technology needs.	◒
Develop districtwide technology standards for student computers, teacher computers, educational software and equipment, and data systems.	◒
Ensure that the donation form is used when accepting technology donations, and revise the form to include a location for the director of technology's signature.	◒
Ensure that the technology department assesses every proposed donation of technology equipment and software to ensure that it meets or exceed the district's standards, and that it can be sustained and supported even when the donated funds or equipment have been exhausted.	◒
Provide ongoing training and support for new hardware and software to ensure effective implementation.	◒
Installation and Implementation	
Establish and use standard images for all computers.	●
Develop a long-term technology plan that includes hardware and software standards for schools, classrooms, labs, and libraries to ensure equity and supportability.	●
Ensure that prior to installing equipment the technology department clearly communicates expectations to those who are receiving the equipment.	●
Ensure that whenever a major technology project is implemented the technology department develops a project management plan that includes processes and standards.	●
Ensure that the technology department, in cooperation with the superintendent and other senior district administrators, creates a process to identify software deployment priorities for the upcoming year.	●

Section and Recommendation	Priority
Include technology managers in interdepartmental meetings and communications to ensure coordination of services, adequate needs assessment and evaluation of services against identified needs.	◒
Inventory	
Perform a physical inventory of all technology equipment at schools and district offices.	●
Replacement	
Create a districtwide replacement plan for hardware and software that identifies the budgets for both business services and educational technology.	●
Ensure that the technology plan includes minimum standards for all hardware, software and peripheral technology equipment for classrooms.	◒
Consider hiring a qualified network contractor to analyze and document the network infrastructure to identify equipment, software, and new standards that should be included in a revised technology replacement plan.	○
Professional Development	
Make professional development in the area of technology a high priority.	●
Survey staff regarding professional development needs.	●
Assess staff training needs for Edusoft, CALPADS and other applications.	●
Ensure that regular and focused training is provided for technology department staff.	●
Develop districtwide professional development opportunities based on survey results and in collaboration with the curriculum and instruction department.	◒
Explore and adopt online training opportunities so that teachers and staff can access training from any location with an internet connection.	○
Provide an Intranet site on the Web for teachers to collaborate and post best practices in technology integration.	○
Fiscal Issues	
Develop a new funding plan and allocation strategy for hardware and software.	●
Develop a comprehensive plan to fund technology staffing to support essential systems and district goals.	●
Seek funding from alternative sources such as grants and community fundraising.	◒
Network Administration	
Inventory aging technology by developing criteria for collecting information on desktop computers that are more than four years old.	●
Ensure that the technology department provides all district and school site staff with a list of support staff, contact information and responsibilities.	●
Ensure that the technology department researches standardizing wireless network access for schools with wireless contractors to determine costs and methods for implementation.	◒

Section and Recommendation	Priority
Develop a network infrastructure that focuses on delivery of educational content to classrooms.	◒
Consider using a qualified network contractor to analyze, document and propose solutions to improve network performance and security.	◒
Network and Data Security	
Review and revise the disaster recovery plan to ensure that procedures in the plan are being followed and that the plan includes new requirements, including school technology functions such as server backup.	●
Maintain spare equipment for mission-critical systems, redundant routers, servers and other equipment to enable immediate replacement of failed network equipment.	◒
Systems	
Student Attendance System	
Adopt a single standard for grade book software to minimize training and ongoing support needs.	●
Develop an Aeries project management plan that addresses the implementation of these new components.	●
Re-evaluate Aeries training and determine which position should provide training for basic Aeries functions and Aeries browser interface (ABI) attendance.	●
Develop data entry standards for the Aeries software system.	◒
Evaluate all staff resources at schools and district offices and determine how they might be used to ensure ongoing support of Aeries.	◒
Financial Reporting System	
Review training documentation and revise it as needed.	●
Evaluate and assess staff members training needs and gaps in knowledge, and develop a basic and ongoing training plan.	●
Ensure that the business department reviews all MUNIS documentation, and provide all eligible users at both the district and school sites with a list of support staff contact information and responsibilities.	●
Website Development	
Develop and use standard website templates for elementary, middle, high school and district department sites.	◒
Consider forming a team of principals, teachers, and administrators to develop requirements for a web-based communication and an Intranet for staff.	◒
Evaluate each school and department's website development training and development support needs.	◒
Purchase and implement a comprehensive web management tool that replaces the various tools currently in use.	○
E-mail	
Review the e-mail access policy and change it if necessary to include all staff.	●
Consider migrating the current Novell Groupwise e-mail system to a Microsoft Exchange e-mail environment for improved management, support and user experience.	◒

Section and Recommendation	Priority
Staffing, Organization and Job Descriptions	
Staffing	
Consider reassigning technology staff to more effectively support all schools based on needs and the district's priority of supporting educational technology.	●
Consider developing system specialty areas for support staff, and provide training as needed.	◒
Organizational and Reporting Structure	
Consider replacing the position of director business technology position with a director of technology services position.	●
Reorganize the district's organizational structure so that a single administrator oversees technology services staff and educational services staff.	●
Job Descriptions	
Revise job descriptions to include educational technology support.	●
Develop job responsibilities for the technology support staff based on needs.	●
Implement an organizational structure that provides for feedback from teachers when new technology is implemented.	◒
Board Policies for Instructional Technology	
Review and revise all board policies related to technology, including privacy policies.	○
Provide staff with training regarding updated board policies once those policies are in place.	○
Update board policies related to instruction (6100s) to include references to the alignment of technology to support core instructional goals.	○
Align the technology department's goals with the board-approved instructional goals for the district.	○
Develop board policies regarding the type of report cards to be issued, and administrative regulations regarding the standards-based report card.	○

Priority Key

Priority 1: ●

Priority 2: ◒

Priority 3: ○

Appendix B

Project Implementation Example

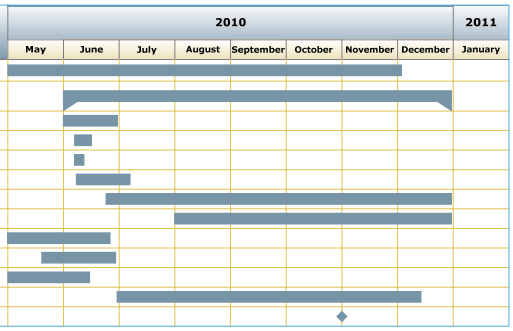
Monitoring Example

Project Implementation Example

The following chart was created by SmartDraw. Preparing a project management chart similar to the one below can help document the recommendations in this report and assist in managing the various projects. It's also a good way to communicate with all project participants and stakeholders.

2010 Technology Projects Example - Petaluma City Schools

Number	Task	Resource	% Complete	Start	End	Duration
1	Technology Plan Assessment			5/1/2010	12/2/2010	154
2	Develop a Functional Technology Master Plan	Technology Committee		6/1/2010	12/30/2010	153
2.1	Select Committee Members	Mike and Eileen		6/1/2010	6/29/2010	21
2.2	Hold First meeting	Group		6/7/2010	6/15/2010	7
2.3	Assign Responsibilities	Group		6/7/2010	6/11/2010	5
2.4	Develop Time line	Group		6/8/2010	7/6/2010	21
2.5	Publish Timeline	Mike		6/24/2010	12/30/2010	136
2.6	Schedule Monthly Meetings	Eileen		8/1/2010	12/30/2010	109
3	Standardize Desktop images	Mike		5/1/2010	6/25/2010	40
4	E-Mail Access Policy	Mike		5/20/2010	6/28/2010	28
5	Technology Purchasing Policy	Marina		5/1/2010	6/14/2010	31
6	Implement Help Desk System	Tech Department		6/30/2010	12/13/2010	119
7				11/1/2010	11/1/2010	



April 19, 2010

Monitoring Example.

Activities	Timeline [1]	Person(s) Responsible	Monitoring & Evaluation
Complete the implementation plans for the Technology Bond Funded Projects	Completed	JE	Plans published
Establish and maintain a status report on the Technology Bond Funded Projects and implementation of recommendations from the 2006 Assessment Report/	Completed Review bian-nually	JE	Reports prepared for Superintendent
Deploy the SAN – Wide Area network storage solutions (including VM Ware, SharePoint)	June 2010	JE	Migration to new systems complete
Deploy the SAN – Wide Area network storage solutions (including SASI hardware and backup equipment upgrade)	Completed	JE	Equipment deployed (Work orders)
Deploy Subfinder, the District online application for substitute teachers	June 2010	JE	System activated System reports
Migrate to Microsoft 2003 to replace GroupWise	June 2009	JE	System activated
Deploy the VOIP servers to support the new phone system	June 2011	JE	Servers deployed (work orders)
Complete the BiTech upgrade of the financial, HR and payroll ap-plications	June 2009	JE and SG	Systems activated
Implement the remaining recommendations from the 2006 Assessment Report			
Implement and evaluate the data entry and manage-ment processes and calendar recommended by the 2006 Assessment Report	June 2009 Annually	JE and SG	Reports to the Superintendent
Automate Time and Attendance system	June 2009	JE	System activated
Develop POS for Food Services	June 2009	JE	System activated
Review Federal Reporting requirements compliance for EL and Special Ed	June 2009	JE and KB	Report to Superintendent
Address environmental issues for the Main Computing Center	June 2010	JE	Report to Superintendent

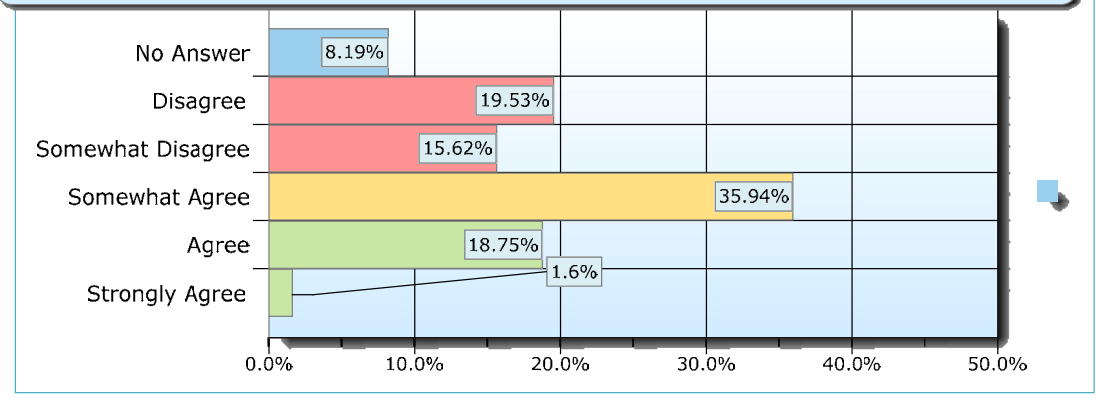
1 Because the technology bond funded projects are inter-related, the implementation plan includes some components that have already been completed.

Appendix C

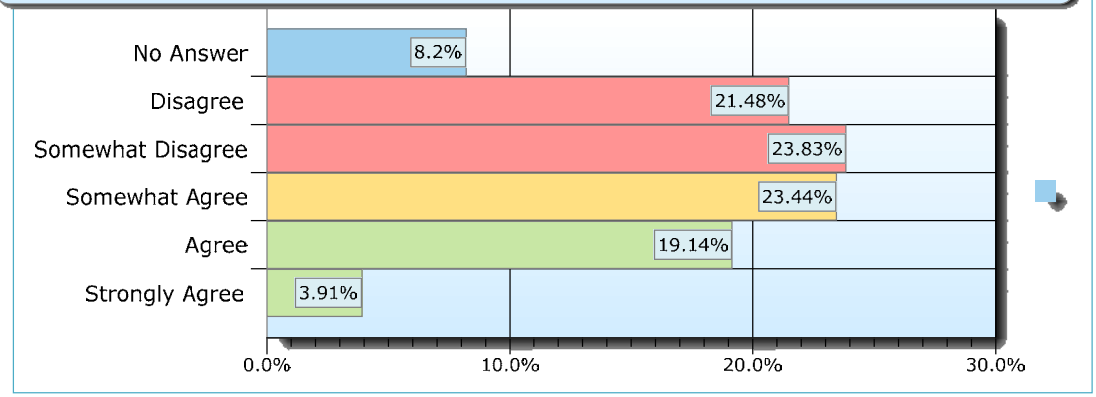
Survey Results

Technology Organization and Support – 5 Questions

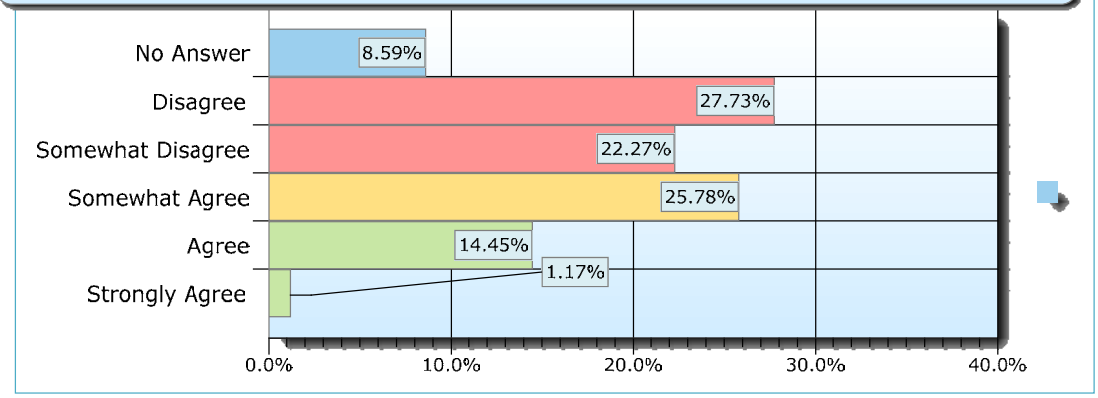
1. The technology goals of the PCS are clearly articulated and closely aligned with the instructional and administrative goals of the district.

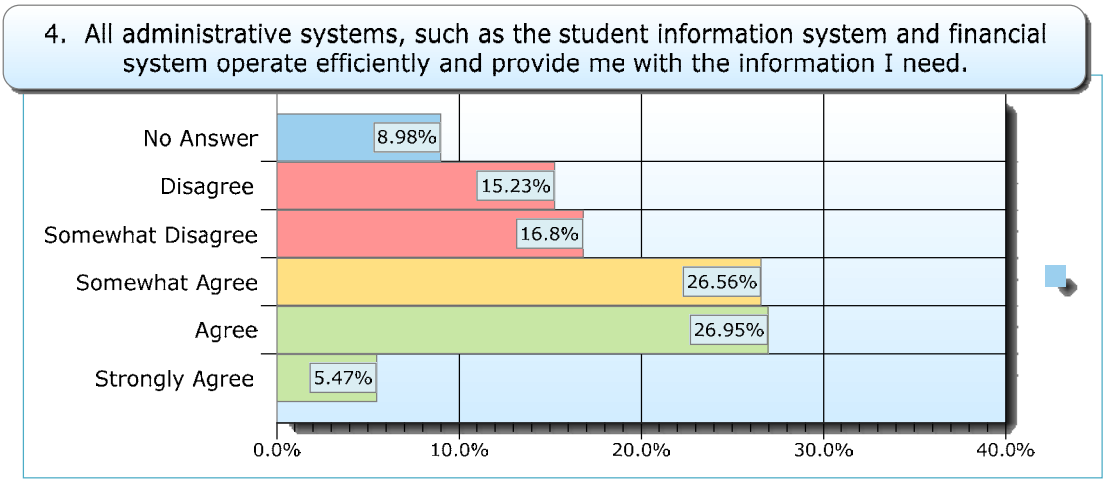


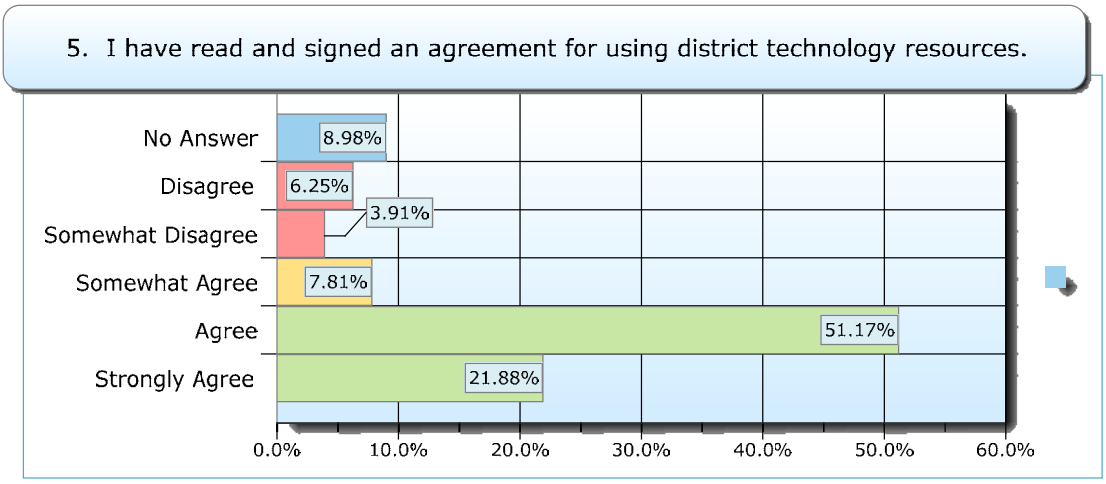
2. The organization of the technology staff enables them to meet district and school site needs.



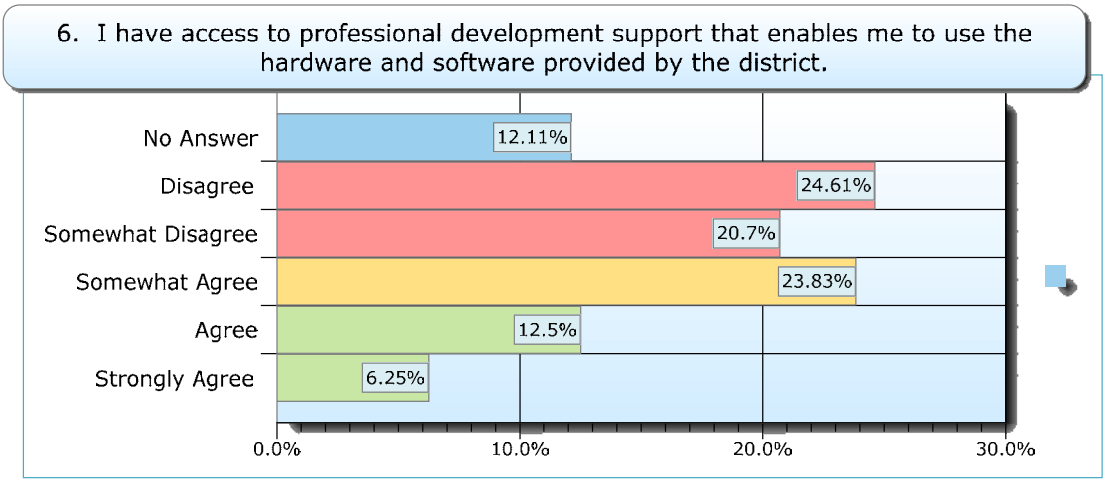
3. Technology in the PCS is used seamlessly for both administrative tasks and instruction.



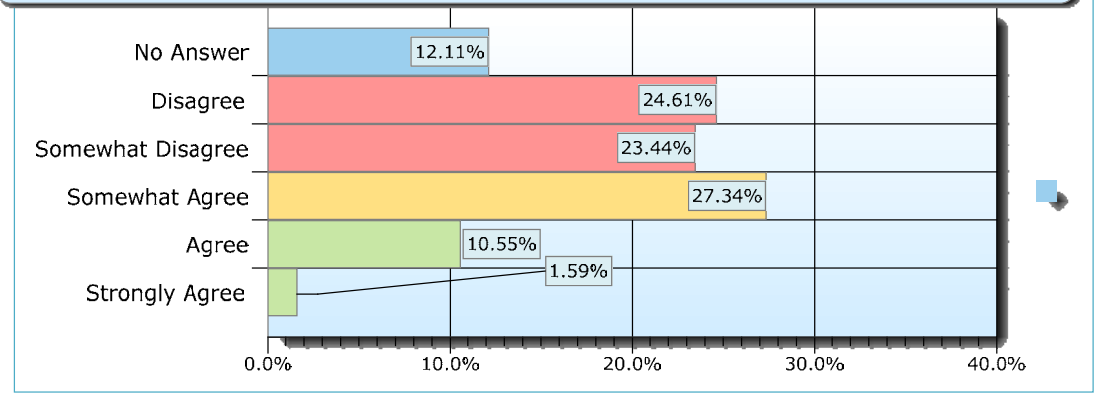




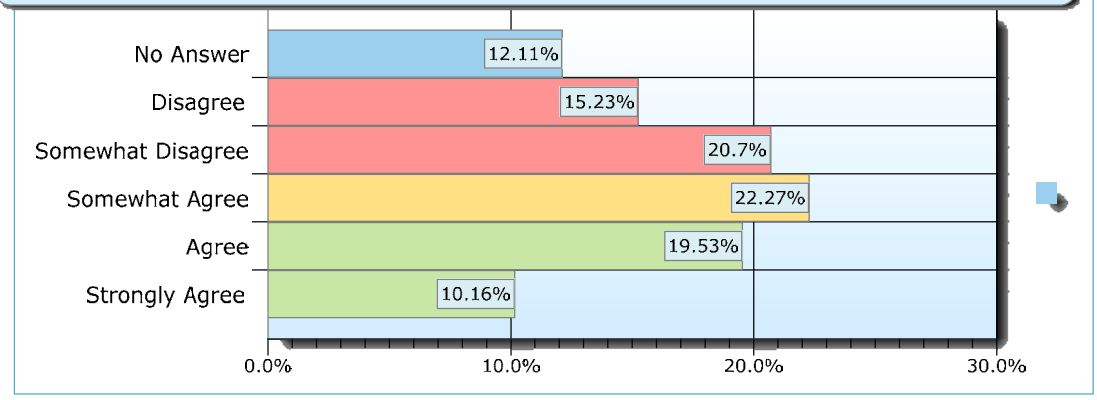
Professional Development Support – 5 questions



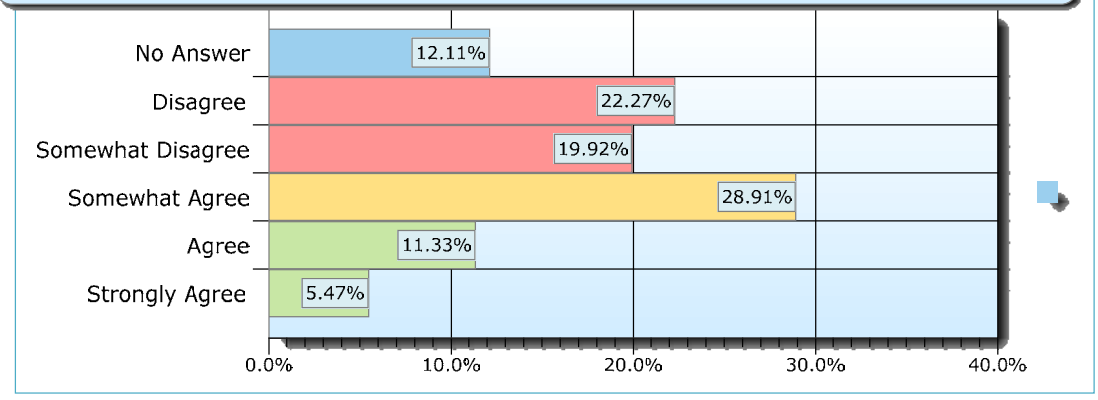
7. Professional development opportunities provided by the district, county office of education and outside agencies are communicated clearly.

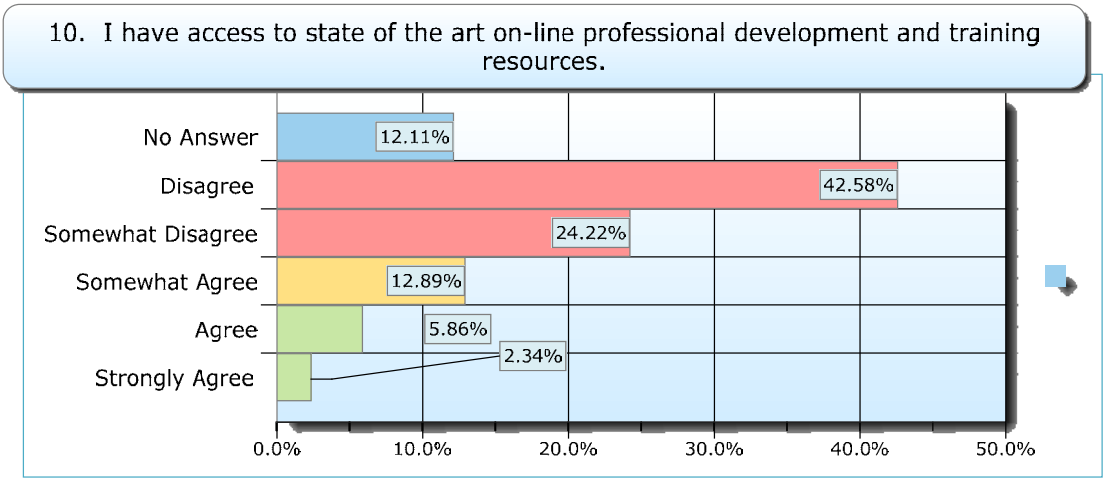


8. My school or department encourages me to participate in technology training to improve my skills and efficiency.

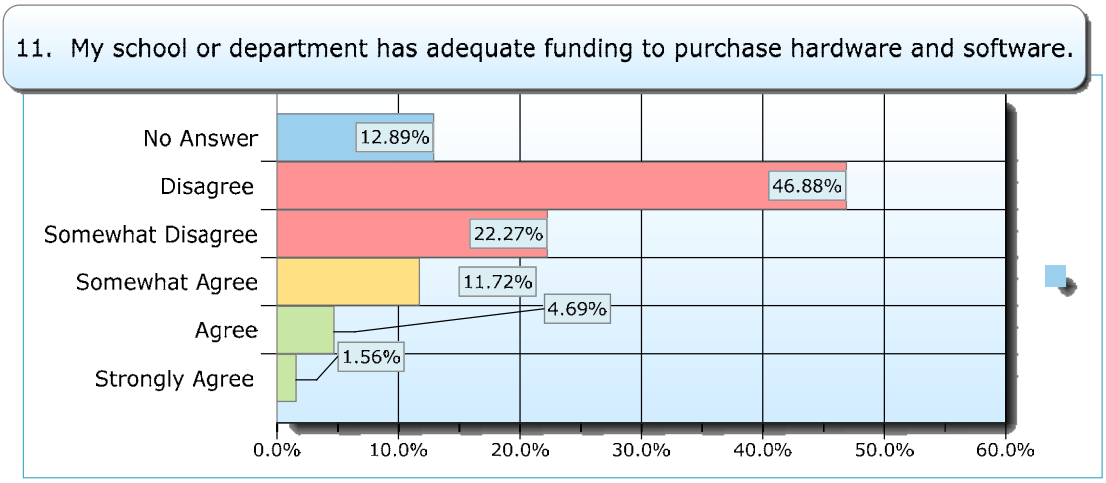


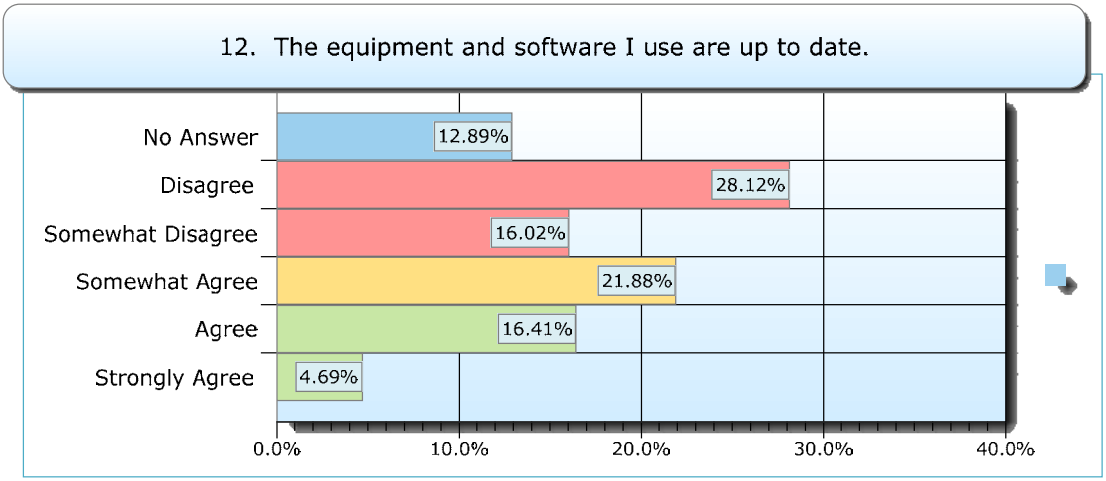
9. There are school site based training activities that support the use of technology to improve student academic performance.





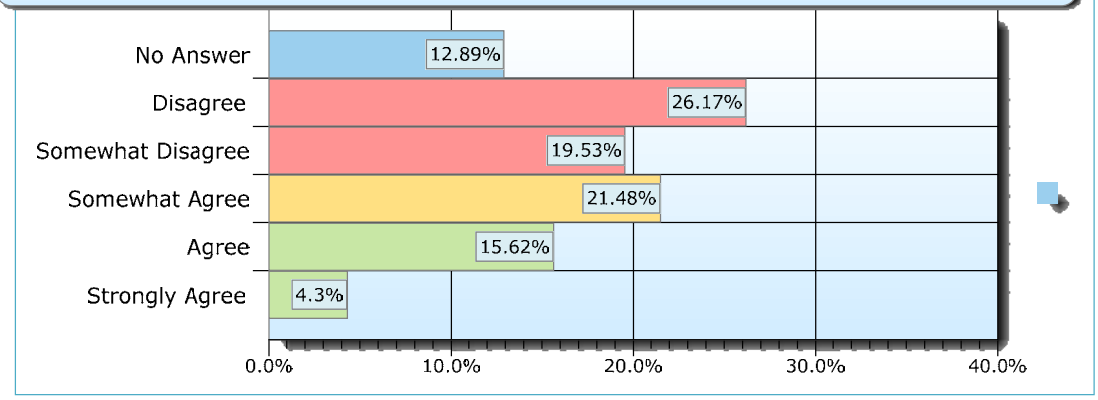
Funding Support – 2 questions



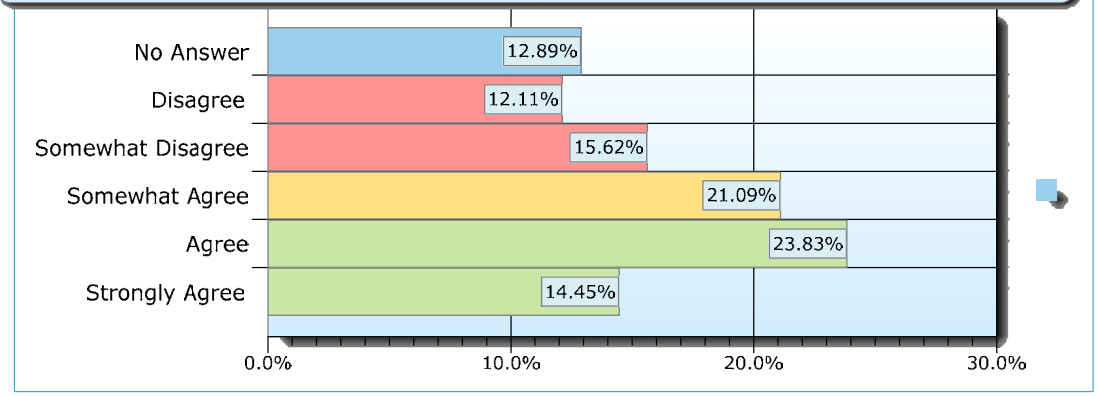


Hardware and Software Support – 4 questions

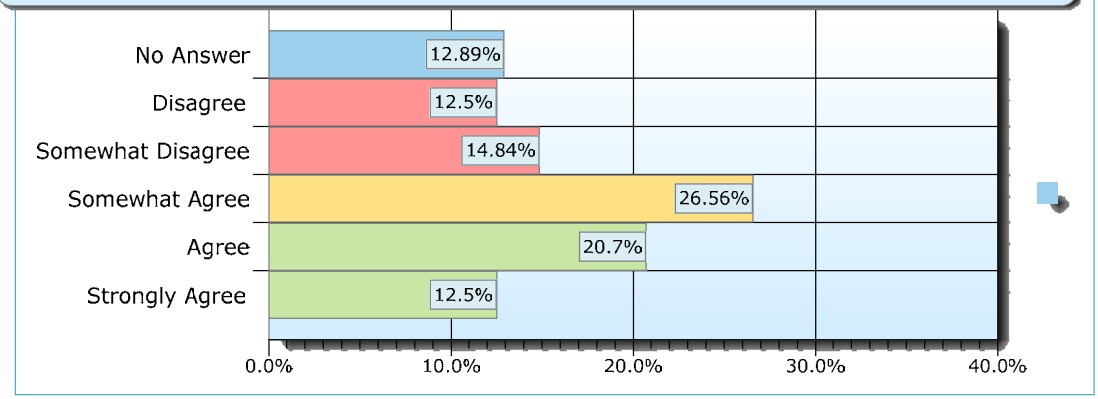
13. The process and procedures to get hardware or software are clearly articulated.



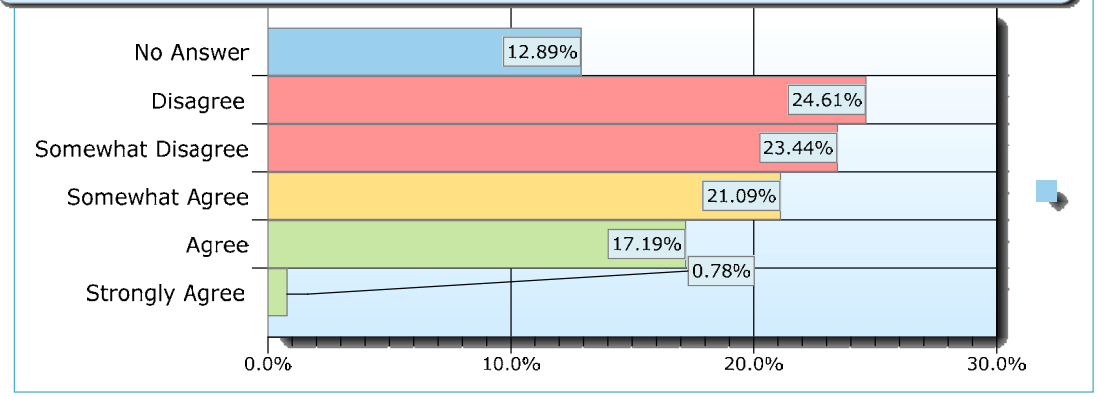
14. When I request technology support the response is timely.



15. When I have a Technology support issue the resolution is timely.

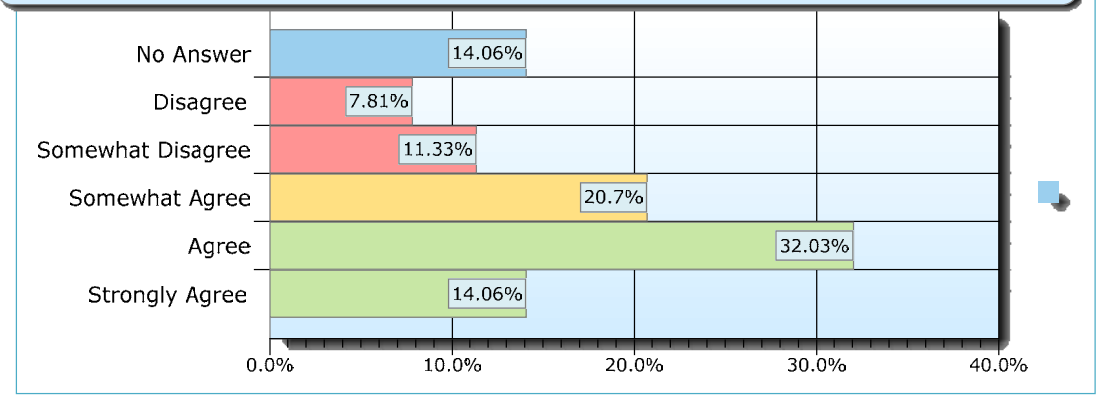


16. There are clear standards and processes for purchasing new hardware.

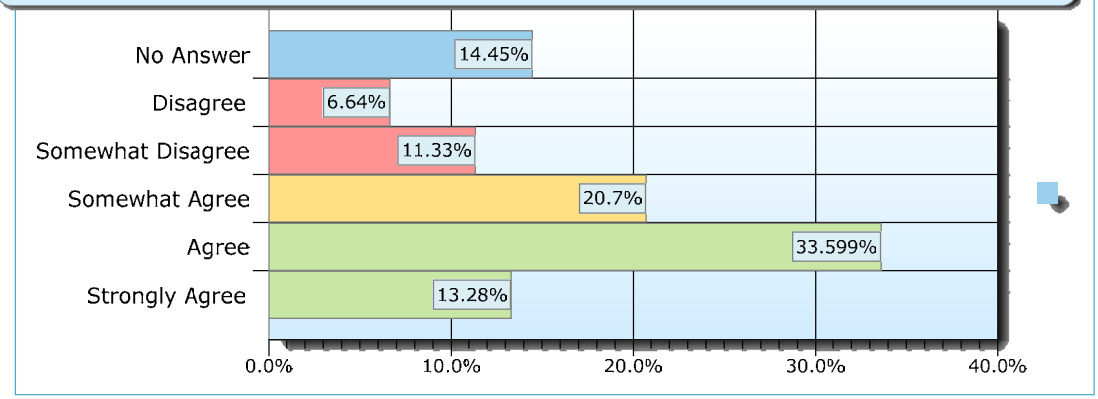


Network Speed and Security – 4 questions

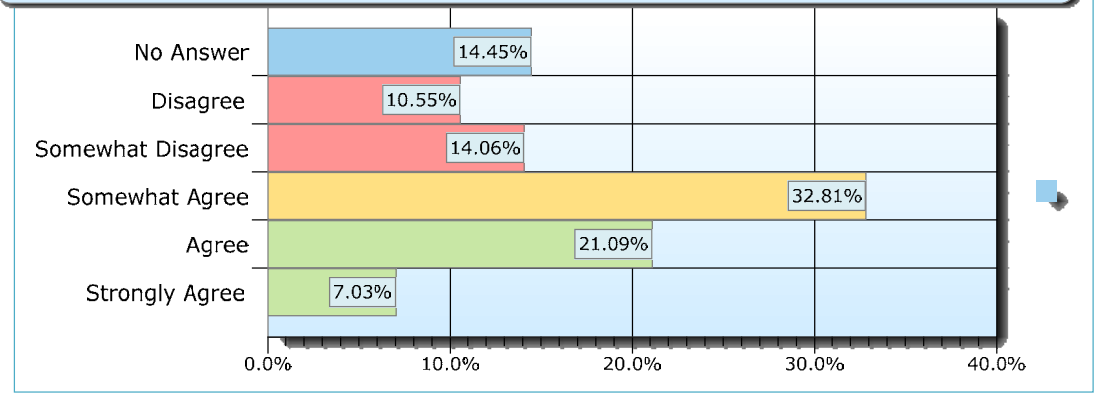
17. The speed of the PCS network allows me to access district applications and web based resources quickly and efficiently.



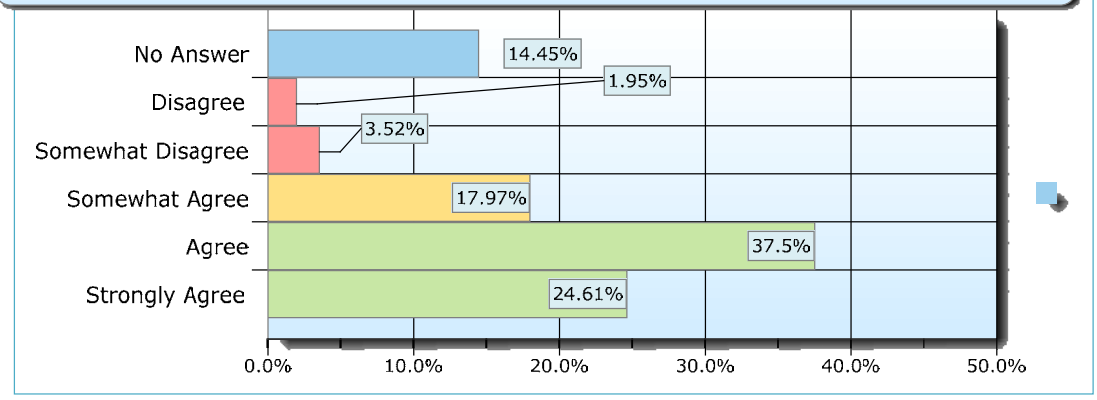
18. There is rarely any network down time or slow down that reduces productivity.



19. Educational resources such as technology based assessment programs or web based instructional resources can be access on both classroom computers and computer labs.

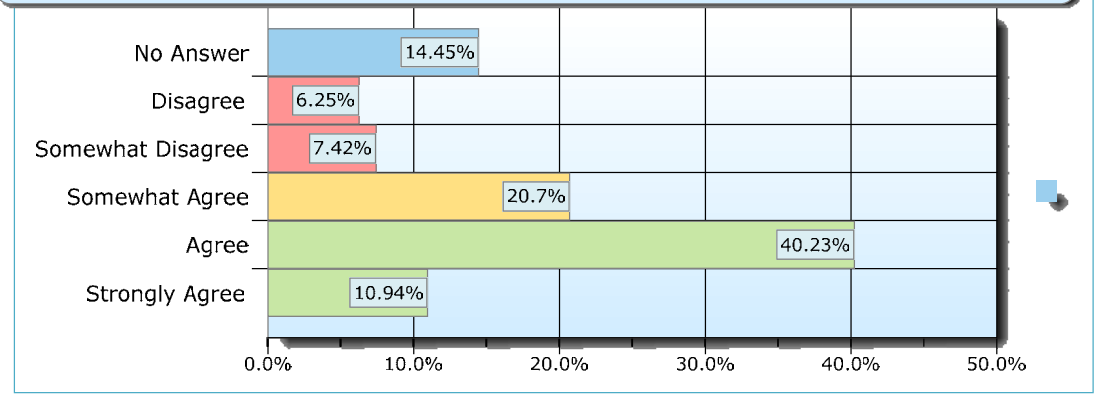


20. When students are using computers security measures are in place to reduce the chances of access inappropriate materials.

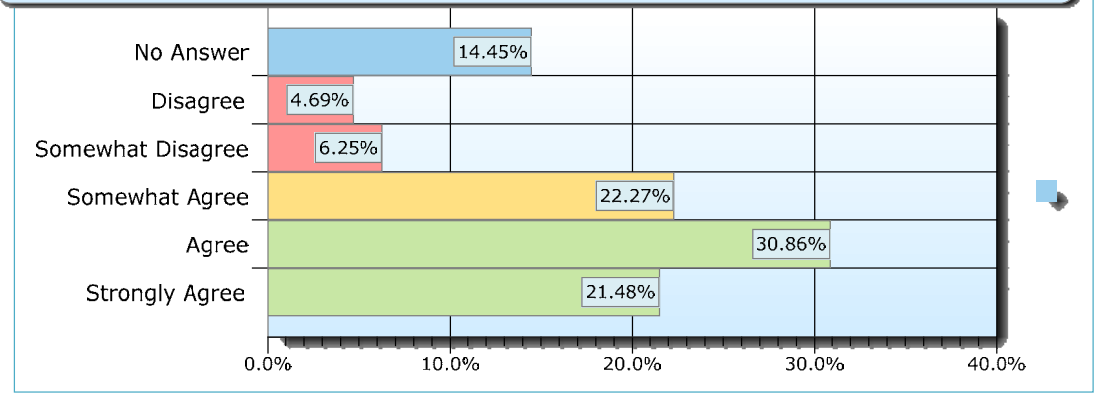


Communications Tools – 5 questions

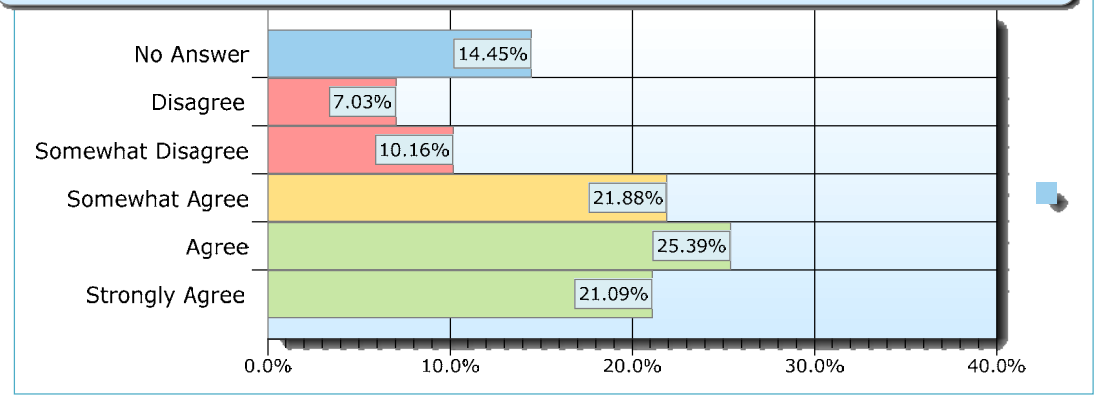
21. I have effective tools to manage communication with: PCS staff, parents, district administrative support.



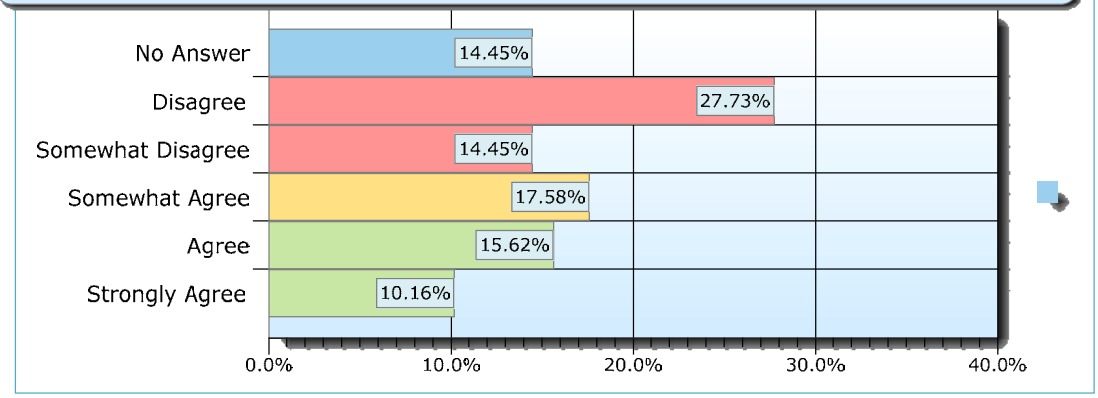
22. My PCS e-mail works well and I use it for all business.

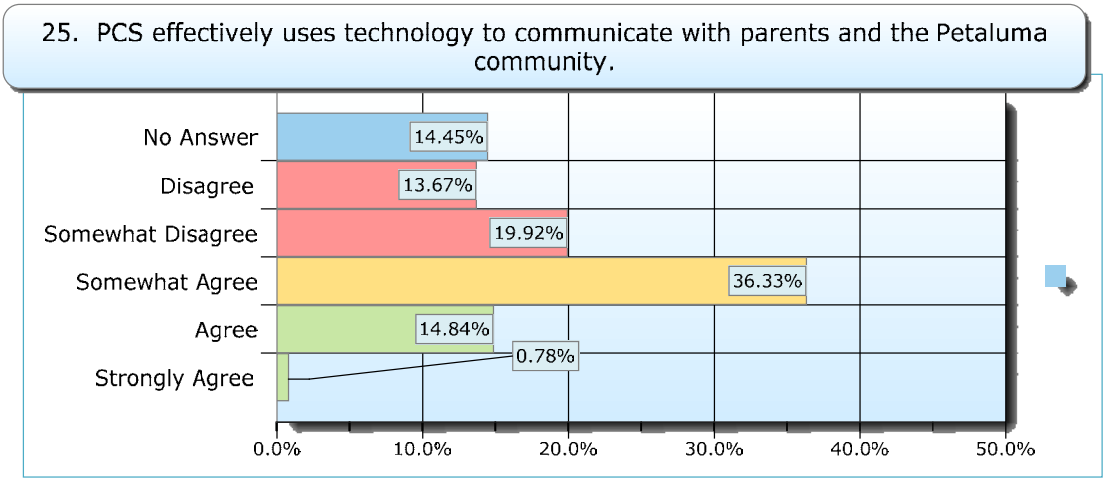


23. I am proficient in using Word, Excel, Power Point in performing my daily work.

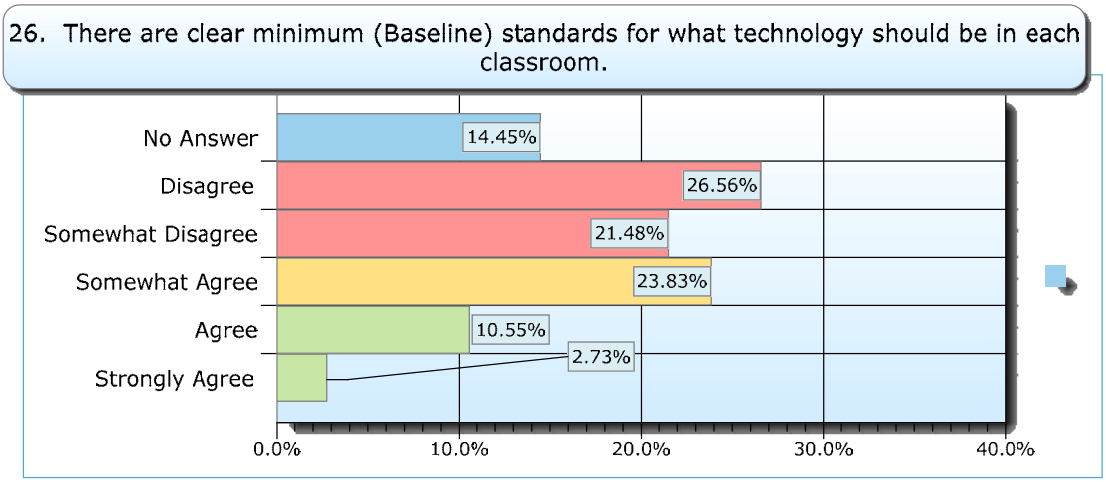


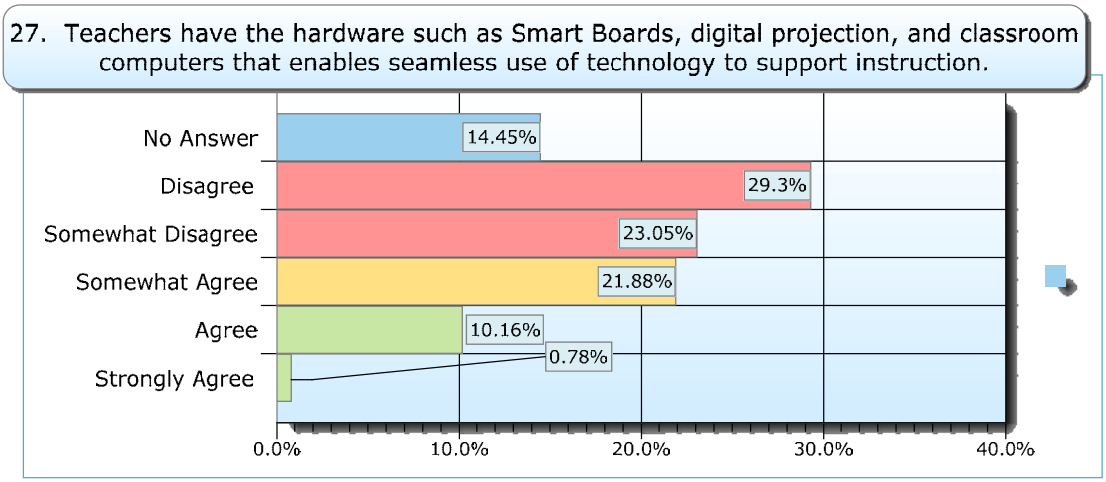
24. I use web base communication tools like web pages, on-line grading tools to communicate with staff or parents.



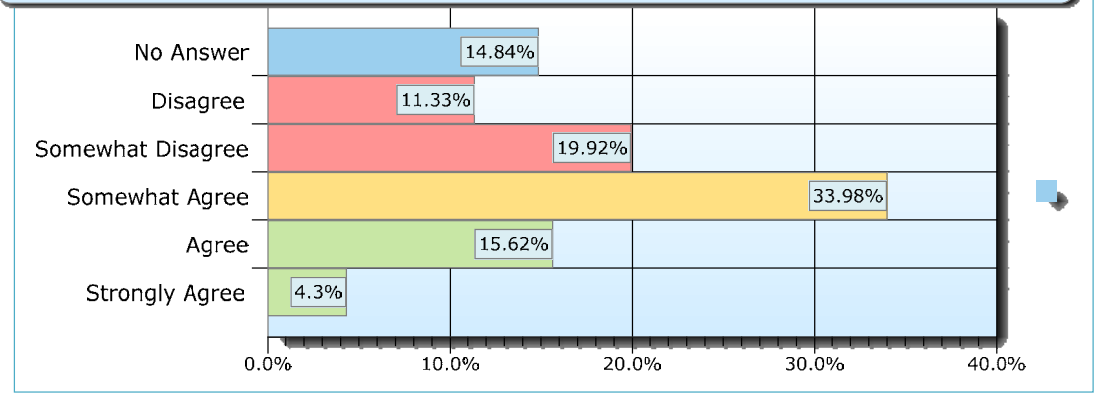


Technology for Instruction – 5 questions

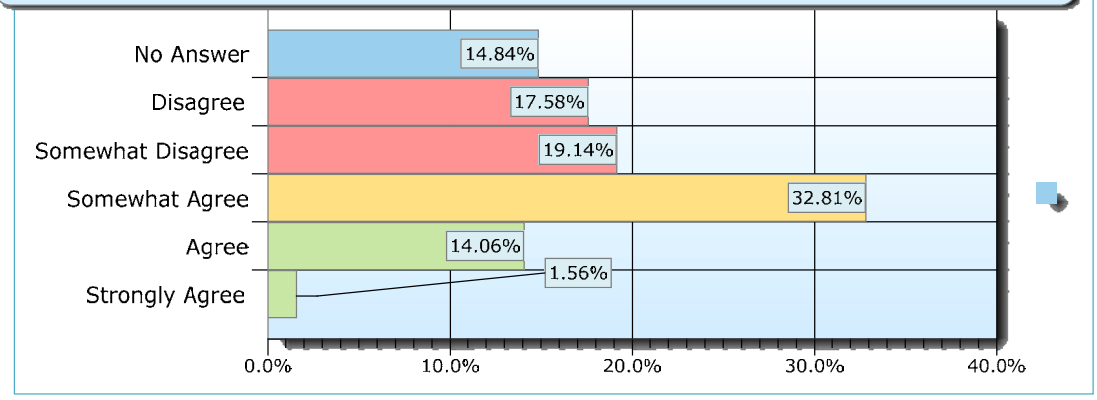




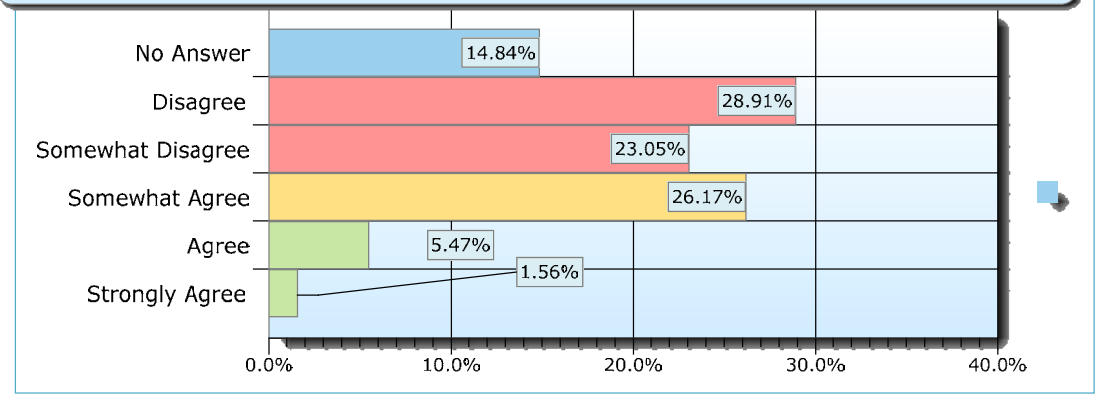
28. Teachers can easily access assessment software that enables effective tracking of student progress in core academic subjects.



29. Teachers have easy access to instructional software to support core academic subjects and enrichment activities.



30. Adequate training and support is provided for all assessment and instructional software.



General Comments – 2 questions

The survey included two questions where survey takers could add comments for the following two questions about technology strengths and weaknesses at PCS. The comments are excerpts from the survey and are unedited.

31. Please describe what you feel to be the technology strengths of PCS.	**32. Please describe what you feel to be areas of concern with PCS technology.**
The support for use of technolgy in the daily operations of the school and site management is effective.	The support for use of technology in the classroom, that is to say , for instructional activities is less effective. This is a site and district based problem.
The administrative systems are good. Edusoft, email, AERIES are all used easily by administrators and teachers. Most administrators still require more training on Munis and some training on AERIES.	Systematic training of teachers regarding technology components of instructional materials and other support curriculum. Coordinated planning regarding purchases and best practices for computers, printers, etc. Support for teachers and administrators regarding purchasing new equipment, vendors, etc.
The systems generally work well and I believe that is due to the efforts of the department.	Often times there are slow, or no responses, to needs that are not deems important or interesting to the department.
	I think that we are missing out on a great resource by not utilizing Aeries 's capability to supply an online grading program. Many districts have programs in which parents can check their student's grades, attendance, and even what they bought for lunch in real time. Teachers should be trained and required to use online grading and teacher websites. This could greatly improve our home-school communication. Thanks!
Support and assistance from Technology Department	Training on available software for classroom instruction.

Lots of people work on problem solving.	Not enough direction from the top down regarding standarization of approaches to software programs. The classified employees who are required to make the new software work are frequently unable to move forward because management is slowwww to make decisions about the nuts-and-bolts questions (things as simple as standardizing a letter format in Aeries). Why should it take well over a year to agree to a standarized letter? I don't know if it's been done yet...
As we learn more about technology and its use for instruction, assessment and monitoring of achievement, there is a greater interest to integrate it into our work--production and instruction.	Lack of knowledge and funding to create a sustainable infrastructure. Lack of skills and funding to support network development and management. Lack of skills and funding to support instructional technology. Lack of standards for administration, staff and students. Lack of vision, plan and funding to support professional development for staff.
Every teacher has a computer.	I feel that the email system is terrible. I don't have computers, computer tables and only 2 outlets for internet connection for my students. In this day I feel that we are extremely behind the times. Tech support is inadequate at best. Training and upgrading coomputer skills are not easily available.
Our site support personnel are awesome. Krista O'Connor and Kerstin Stauffer are easy to reach and get back to me in a timely manner.	The district office is difficult to reach out to for support. I have had them freak out before when I tried to ask them a question. (Don't contact us directly! Have you gone through proper channels? What are you doing in my office?) Communications could definitely be better. Quit making us feel like we are imposing on them. Don't they exist for the purpose of supporting us and our technology needs? Our equipment is also a problem. The computers are slow and could be updated.
Aeries seems to be operating effectively.	I do not have access to up-to-date technology in my classroom. I do not have money to update my software or hardware.
They have support available if we need it.	I don't think we have the best student data program available.
Response time Directing questions to person of most expertise	Understaffing

no comment	behind the times in hardware, software, wireless
Other than the speed and relative robustness of the network and the dedicated (but over-utilized) the technology of our schools is for the most part EMBARRASSING in our classrooms!	See above. There is an absolute dearth of quality, updated technology in most classrooms nor teachers truly qualified to use them. Advanced technologies are truly lacking unless the teacher applies for a grant our purchases it himself with his own money. Seriously? Technology is a joke--I am truly embarrassed to describe to other teachers how bad the technology is in my classroom. Pentium III's! Really... Also, I find the lack of clearheaded thinking by some of our district level tech people and their dislike/distrust/abolishment of Macs particularly appalling. Wake up.
Joe Manella	We should have access to more on-site assistance
The response time for Tech. Suport to come to a site and work on things they are great.	
The strengths include the willingness to embrace technology.	I am concerned about the following: 1- technology is decided "top down" and often is based on administration's own sense of what he/she is comfortable with or knows. 2- I use the email system for all business but it is NOT effective,nor efficient. 3- hardware 'lust' is stronger than educational goals [that is, we tend to buy first and think of things to do with them later. Much of our hardware is under utilized and not directed towards student learning. 4- we have lots of teachers who know and use technology but are not looked to for assistance or to provide leadership. 5- Not enough teacher buy-in provided in terms of technology. 6- the administration seems to think that technology will save us. [that is, they'll try to use technology as a way to not use a person for something only to discover that one really needs the person there].
Providing support for hardware issues.	No shared decision-making and communicating with other departments before decisions are made.
Knowledgeable tech staff. Funding from measure C that gives sites funds and technical support. Quick answers to questions via email. Great support of secondary library program since database staff added.	Focus on keeping data safe rather than supporting instructional staff.
All questions and problems are dealt with in a timely fashion, staff very informed and helpful.	I do not feel I have a concern right now.
PCS has a decent amount of technology.	Funding does not always allow for most efficient use of technological resources since it does not allow for complete teacher training on resources.I would like to project power point presentations in my room, but do not have the ability to do so with my

	desktop.
	Admin cell phones are antiquated and don't work well. Smart phone technology would greatly improve productivity and communication. At a minimum, texting should be available on current district cell phones.
Always ready to help.	Need more staff to address tech needs.
The greatest strength we have is our district technology staff. While they are limited in number, they are knowledgable, efficient, and helpful and provide as much support as is possible given their numbers and hours.	Lack of a clear plan for the use and purchase of technology to support classroom instruction. Lack of training for the use of technology both at the administrative and instructional level. Lack of funding to implement a plan if we had one.
Trying to please everyone at all times.	Repair of equipment is slow. Can use more support in the schools.
	District email is less fluid than at large sites like gmail and hotmail.
Responsive to administration. Responsive when you understand that their support ends at the wall network plug and no further into the room.	No overall set of skills required by teachers to support and deliver curriculum for 21st century learners. No consistent and supportable view of hardware/software and training for such across the district. No consistent set of skills from school to school, grade to grade for students. District is not up-to-date on tools and methods for both supporting hardware and software for today's learners, nor are they proactive on getting all sites on consistent skills requirements for all users (students, teachers, administrators, classified staff, etc.)
The email system works well.	Overall, we are behind in all aspects of technology...from using it to assess students to creating accessible transparency within our district on important district issues.
	More access to technology, more training on using it

Appendix D

Sample Job Descriptions

ADMINISTRATION

INFORMATION SYSTEMS ENGINEER

BRIEF DESCRIPTION OF THE POSITION

Information Systems Engineers (ISEs) provide technical leadership in all areas of Information Technology. ISEs assume lead roles in major information projects, analyze data and data systems, perform systems integration, perform system monitoring and performance analysis, and provide guidance for new system development and acquisition and enhancement of existing systems.

MAJOR DUTIES AND RESPONSIBILITIES

ISEs work within one, or more, of the following major responsibility areas:

Data

- Conduct data structure analysis
- Develop data structures and relationships
- Implement database structures
- Document existing data structures and data relationships
- Administer MS SQL servers

Web Design and Programming

- Develop, design, and maintain static and dynamic web content
- Analyze, develop, and write software applications using internet and database technologies

Systems Integration and Administration

- Integrate existing systems with new technologies.
- Analyze system requirements and input/output schemas.
- Develop system integration strategies.
- Develop system administrative utilities

Network Design and Management

- Design Local, Metropolitan, and Wide Area Networks
- Develop advanced configurations for routers and Layer-3 switches
- Conduct advanced network traffic analysis
- Review network security posture and conduct security reviews. Document discrepancies and weaknesses

ADMINISTRATION

INFORMATION SYSTEMS ENGINEER

General duties:

- Serve as team leader for one or more information systems projects.
- Respond to problems on a 24 hour basis.
- Confer with representatives of administrative or instructional departments to gather data, facts, or information.
- Develop appropriate End User Instructions.
- Provide various reports and recommendations as required.
- Provide or assist in the preparation of various reports, including district, county, state, and federal and make appropriate recommendations
- Assist in the coordination of various district-wide administrative functions such as documenting procedures.
- Develop new computer programs and procedures as required.
- Perform other duties and functions as assigned.

QUALIFICATIONS

Knowledge of:

- Data structures, relationships and analysis
- Business Process Engineering
- Web Programming and Design
- Software including but not limited to .NET Framework 2.0, Visual Studio 2005, Visual Basic and Visual C#
- ASP.NET Programming
- Microsoft SQL Administration
- Active Directory
- DNS
- LAN/MAN/WAN design and configuration
- Microsoft Windows security mechanisms
- Microsoft Group Policy and Profiles

Ability to:

- Develop Microsoft Windows applications using Visual Studio, Visual Basic and Visual C#.
- Develop Microsoft Web applications using Visual Studio and ASP.NET
- Perform Business Process Engineering
- Design and Deploy Databases
- Generate complex SQL queries
- Administer Microsoft SQL servers

ADMINISTRATION

INFORMATION SYSTEMS ENGINEER

- Design and document MS SQL Security implementations.
- Quickly understand new systems and schemas
- Communicate effectively both orally and in writing
- Establish and maintain effective working relationships with others

EDUCATION AND EXPERIENCE

BA or BS with course work in Computer Science or Management Information Systems and four (4) years of progressive, directly related experience in computer hardware, software evaluation and selection, systems design, programming, implementation; and end user support and instruction. Experience beyond four years may be substituted for education on a year for year basis.

Must hold one or more of the following certifications:
Microsoft Certified Solution Developer (MCSD)
Microsoft Certified Application Developer (MCAD)
Microsoft Certified Professional Developer (MCPD)
Microsoft Certified Technology Specialist (MCTS)
Microsoft Certified IT Professional (MCITP)
Microsoft Certified Database Administrator (MCDBA)
Microsoft Certified Systems Administrator (MCSA)
Microsoft Certified Systems Engineer (MCSE)

DESIRABLE QUALIFICATIONS

At least two years of experience as a team leader on a major computer project

Experience with AERIES, VoIP, Telephone systems, Multimedia, and/or Unified Messaging

SPECIAL REQUIREMENTS

Essential duties require, but are not limited to, the following physical abilities (consideration will be given to reasonable accommodation, with or without the use of aids):

- Possess a valid California Driver's license
- Sufficient vision to read printed materials and video display screens
- Sufficient mobility to stoop, reach, and move about
- Ability to lift computer and related equipment
- Capability to work with numerous interruptions
- Available to respond to problems on a 24 hour basis to ensure successful operation of critical systems.

ADMINISTRATION

INFORMATION SYSTEMS ENGINEER

RESPONSIBLE TO

Information Systems Engineers are directly responsible to the District Technology Coordinator.

MEASUREMENT OF EFFECTIVE PERFORMANCE

Successful accomplishment of major duties and responsibilities listed above.

SALARY AND WORK YEAR

Information Systems Engineers are placed on the appropriate step of the Classified Management salary schedule and assigned a work year of 260 days.

Policy Adopted: September 12, 2006

COTATI-ROHNERT PARK
UNIFIED SCHOOL DISTRICT

JOB DESCRIPTION

POSITION — INFORMATION SYSTEMS TECHNICIAN III

BRIEF DESCRIPTION OF THE POSITION

The Information Systems Technician III (IST-III) is the most senior of the district technicians. They provide third tier technical support and perform advanced troubleshooting and repair on all information systems. Additionally, IST-IIIs provide training and guidance to junior ISTs and work closely with engineers and other senior staff members in determining future technology designs and directions.

This is an advanced technical position requiring significant knowledge and at least 5 years of experience.

MAJOR DUTIES AND RESPONSIBILITIES

- Build and Deploy Software Images and Installation Packages
- Conduct performance monitoring and analysis of computer systems, peripherals, and servers
- Detect and correct system-wide problems and conduct failure analysis
- Install and configure print servers and advanced printing accessories.
- Monitor and analyze performance of printing systems and components
- Test and correct printing systems and components
- Monitor network traffic and trends
- Perform advanced troubleshooting, testing, and repair of Local and Wide Area Networks
- Use a time-domain-reflectometer to determine the location of cable faults.
- Implement Multimedia control systems
- Remotely assist users with multimedia system operations and use
- Configure computer based HVAC control systems
- Setup remote environmental monitoring systems.
- Perform advanced troubleshooting and repair of IP-based electical control systems
- Perform QA inspections on communication system installations
- Monitor voice and telephony system performance
- Work with vendors, as needed, for support and repair of assigned systems and components
- Provide technical assistance to users
- Maintain records and logs related to the installation, configuration, and inventory of equipment and software

- Participate in the district's Information Technology Planning and Design Processes
- Perform other duties and functions as assigned.
- Provide training (both formal and informal) to other departmental staff.

QUALIFICATIONS

Over and above the knowledge and abilities required of the IST I and IST II, the IST III will additionally possess the:

Knowledge of:

- Desktop computer imaging techniques
- Server operating systems - Advanced theory and use
- Windows Policies and Profiles
- Active Directory
- DNS
- Wide Area Network (WAN) protocols and routing

Ability to:

- Quickly comprehend new systems and schemas
- Perform advanced configuration on desktops and servers
- Build and deploy MSI packages
- Configure, troubleshoot and restore advanced disk arrays without loss of data
- Monitor computer, server, printing, network, multimedia, voice communication and IP-based control systems performance
- Perform quality verification and acceptance testing of computer, printing, multimedia, voice communication, and IP Control systems.
- Use and understand advanced cable certification and insertion loss testers.
- Use and understand advanced network and protocol analyzers.
- Perform advanced command-line configuration of Routers and Switches
- Communicate effectively both orally and in writing.
- Read, interpret and apply technical information from publications, manuals, and other documentation.
- Establish and maintain effective working relationships with others
- Provide training and technical assistance to users with widely varying levels of expertise.

EDUCATION AND EXPERIENCE

Education

- Associates Degree *

  * Or equivalent Experience

Experience - Minimum of five (5) years:

- Supporting Desktop Systems including peripherals
- Supporting LAN/WAN Networks
- User support experience

LICENSE or CERTIFICATE

Appropriate valid California driver's license.

Must hold TWO or more of the following certifications:

- A+
- Network+
- CCNA
- CCNP
- CCNE *
- Microsoft Certified Solution Developer (MCSD)
- Microsoft Certified Application Developer (MCAD)
- Microsoft Certified Professional Developer (MCPD) *
- Microsoft Certified Technology Specialist (MCTS)
- Microsoft Certified IT Professional (MCITP)
- Microsoft Certified Database Administrator (MCDBA)
- Microsoft Certified Systems Administrator (MCSA)
- Microsoft Certified Systems Engineer (MCSE) *

  * - Counts as TWO

SPECIAL REQUIREMENTS

- Possess a valid California Driver's license
- Fingerprint clearance prior to employment
- Drive a vehicle from location to location
- Available to respond to problems on a 24 hour basis to ensure successful operation of critical systems.

PHYSICAL REQUIREMENTS

Essential duties require, but are not limited to, the following physical abilities (consideration will be given to reasonable accommodation, with or without the use of aids):

- Sufficient vision to read printed materials and video display screens
- Ability to bend, crouch, crawl or kneel in confined spaces while installing computer

equipment, pushing/pulling equipment and cables, reaching in all directions.
- Ability to lift computers and related equipment weighing 60 lbs or less.

RESPONSIBLE TO

Information Systems Technicians are directly responsible to the District Technology Coordinator.

MEASUREMENT OF EFFECTIVE PERFORMANCE

Successful accomplishment of major duties and responsibilities listed above.

SALARY AND WORK YEAR

Information Systems Technicians are placed on the appropriate step of the Classified Salary schedule and assigned a work year of 260 days.

ADMINISTRATION

TECHNOLOGY COORDINATOR

BRIEF DESCRIPTION OF THE POSITION

To be responsible for implementation of a district-wide administrative and educational technology master plan; to serve as systems manager; to provide staff development in administrative and educational technology, and to provide technical assistance in the use of technology district-wide.

MAJOR DUTIES AND RESPONSIBILITIES

1. Implementation of the district-wide administrative and educational technology master plan.

2. Plan, organize, direct, coordinate, and control activities of technology service, including the selection and purchase of hardware and software, development and maintenance of a hardware and software inventory, maintenance of hardware and software, maintenance of back-up systems, and installation and use of technology for both administrative and educational applications.

3. Monitor development and implementation of district information systems in all areas including business/finance and student information systems.

4. Assign, coordinate, and supervise district/school site technical support for computer systems and networks.

5. Monitor installation of district/school site LAN/WAN administrative and instructional delivery systems.

6. Maintain security for all computer systems.

7. Research system failures, operations, and software problems to determine causes and means to correct errors.

8. Maintain software licenses and supervise compliance with various licensing and copyright requirements.

9. Evaluate emerging technologies and provide timely recommendations for system improvement.

10. Serves as district technology liaison with the Sonoma County Office of Education.

ADMINISTRATION

TECHNOLOGY COORDINATOR

11. Provide support to principals in assessing needs and developing a plan to utilize technology to its maximum potential in the classroom/school.

12. Assist the curriculum and instruction department with the integration of instructional technology into the classroom.

13. Provide assistance to the District in the acquisition of technology grants, and adaptation of facilities for technology.

14. Develop, submit, and monitor budgets for the operations of assigned programs.

15. Maintain necessary records related to technology services.

16. Coordinate and serve as District liaison for communication systems and related E-rate filings.

17. Performs additional duties and responsibilities as assigned by the Chief Financial Officer.

QUALIFICATIONS

Knowledge of:

- Application of network systems to district functions and the instructional programs
- CISCO and router configuration management knowledge desirable
- Electronic delivery options including LANs and WANs
- Current industry knowledge of Windows XP, Windows Server and Windows 2003, 2002.
- Knowledge of Macintosh, MS-DOS, Windows platforms and related hardware and software
- Knowledge of Web Server and Email Systems
- Student information management systems
- Cable topology including twisted pair, thin and thick Ethernet, and single and multi-mode fiber
- Spread sheet, database, and word processing programs

ADMINISTRATION

TECHNOLOGY COORDINATOR

EDUCATION AND EXPERIENCE

- BA or BS with course work in computer science or Information Management Systems or equivalent related field work desirable
- Five years of progressively responsible computer operations experience with course work in data processing/personal computer and network systems
- Experience presenting training sessions

SPECIAL REQUIREMENTS

Essential duties require, but are not limited to the following physical abilities (consideration will be given to reasonable accommodation, with or without the use of aids):

- Possess a valid California Driver's license
- Sufficient vision to read printed materials and video display screens
- Sufficient mobility to stoop, reach, and move about
- Ability to lift computer and related equipment
- Capability to work with numerous interruptions

RESPONSIBLE TO/FOR

The Technology Coordinator is directly responsible to the Chief Financial Officer

The Technology Coordinator will supervise and direct:

1. LAN/WAN Technicians
2. Technology Consultants

MEASUREMENT OF EFFECTIVE PERFORMANCE

1. Successful accomplishment of major duties and responsibilities listed above
2. Successful accomplishment of the objectives agreed to between the Technology Coordinator and the Chief Financial Officer.

ADMINISTRATION

TECHNOLOGY COORDINATOR

SALARY AND WORK YEAR

The Technology Coordinator will be placed on the appropriate step of the Classified Management salary schedule and be assigned a work year of 260 days.

Policy Adopted: 6/28/05

COTATI-ROHNERT PARK
UNIFIED SCHOOL DISTRICT

JOB DESCRIPTION

POSITION - INFORMATION SYSTEMS TECHNICIAN II

BRIEF DESCRIPTION OF THE POSITION

Information Systems Technicians II (IST-II) provide second tier technical support, performing advanced troubleshooting and repair on desktop computers, printers, and communications, infrastructure, multimedia, and network systems.

This is an mid-level position requiring substantial technical knowledge and at least two years of relevant technical experience.

MAJOR DUTIES AND RESPONSIBILITIES

- Configure and install computer software and drivers
- Perform advanced testing and corrective maintenance of computer systems and peripherals
- Use advanced graphical and command line tools to configure printers and copiers, locally and remotely.
- Align and accomplish advanced preventative maintenance of print components
- Perform advanced troubleshooting, testing, and repair of printing components
- Remotely upgrade and configure network switches and devices
- Install network cabling
- Measure cable characteristics and loss using advanced test equipment.
- Install and configure multimedia controllers, switches and servers
- Perform intermediate troubleshooting, testing and repair of multimedia systems
- Configure room controllers and monitoring devices.
- Maintain configurations on Voice-over-IP (VoIP) switches and servers
- Test and perform advanced troubleshooting of voice communications systems
- Work with vendors, as needed, for support and repair of assigned systems and components
- Provide technical assistance to users
- Maintain records and logs related to the installation, configuration, and inventory of equipment and software
- Participate in the district's Information Technology Planning and Design Processes
- Perform other duties and functions as assigned.
- Provide training (both formal and informal) to other departmental staff.

QUALIFICATIONS

Knowledge of:

- Basic theory and use of computer operating systems including, but not limited to, Microsoft Windows 2000, XP and Vista and Apple OS X.
- Advanced theory and use of computer operating systems including, but not limited to, Microsoft Windows 2000, XP and Vista and Apple OS X.
- DHCP
- Basic theory and use of printing systems including, but not limited to, network printers, stand-alone printers, copiers and fax machines
- TCP/IP Networking Model
- TCP/IP - Advanced theory and use
- Local Area Network (LAN) Protocols
- Analog Signal Theory (Audio, Video, Composite)
- Principals of Analog signal mixing and switching
- Standard application programs including, but not limited to, Microsoft Office, the Adobe Creative Suite, and Apple iLife products.
- Telephone systems theory of operation
- Advanced Telephone systems and switching
- Basics of network-based control systems
- Basic hand tools
- Basic measurement and layout techniques

Ability to:

- Analyze problems and formulate logical solutions.
- Properly use basic hand tools including, but not limited to, screwdrivers, Hammers, wrenches, etc.
- Measure and layout physical measurements with an accuracy of greater than 1/32"
- Install and configure computer systems.
- Install and configure network and local printers
- Troubleshoot printer connectivity and quality problems
- Install and configure print servers and printer accessories
- Use and understand cable and continuity testers.
- Troubleshoot LAN connections identifying opens, shorts, mis-wiring and faulty equipment
- Identify common analog signal connectors and their use.
- Install and configure projectors, displays, and various multimedia sources
- Identify and correct basic telephone problems
- Use and understand basic telephone test equipment
- Install and configure basic analog and IP based phones
- Identify and correct basic IP-based control system problems
- Install and configure IP-based door access and alarm system sensors
- Quickly comprehend new systems and schemas
- Communicate effectively both orally and in writing.

- Read, interpret and apply technical information from publications, manuals, and other documentation.
- Establish and maintain effective working relationships with others
- Provide training and technical assistance to users with widely varying levels of expertise.

EDUCATION AND EXPERIENCE

High School Graduate

AS or Technology Certificate from an accredited technical school or collage (or equivalent experience).

Minimum of two (2) years:

- Supporting Desktop Systems including peripherals
- Supporting LAN/WAN Networks

LICENSE or CERTIFICATE

Must hold one or more of the following certifications:

- A+
- Network+
- CCNA
- CCNP
- CCNE
- Microsoft Office Specialist (MOS)
- Microsoft Certified Desktop Support Technician (MCDST)
- Microsoft Certified Professional Developer (MCPD)
- Microsoft Certified Technology Specialist (MCTS)
- Microsoft Certified IT Professional (MCITP)
- Microsoft Certified Database Administrator (MCDBA)
- Microsoft Certified Systems Administrator (MCSA)
- Microsoft Certified Systems Engineer (MCSE)

SPECIAL REQUIREMENTS

- Possess a valid California Driver's license
- Fingerprint clearance prior to employment
- TB Clearance prior to employment
- Drive a vehicle from location to location.
- Available to respond to problems on a 24 hour basis to ensure successful operation of critical systems

PHYSICAL REQUIREMENTS

Essential duties require, but are not limited to, the following physical abilities (consideration will

be given to reasonable accommodation, with or without the use of aids):

- Sufficient vision to read printed materials and video display screens
- Ability to bend, crouch, crawl or kneel in confined spaces while installing computer equipment, pushing/pulling equipment and cables, reaching in all directions.
- Ability to lift computers and related equipment weighing 60 lbs or less.

RESPONSIBLE TO

Information Systems Technicians are directly responsible to the District Technology Coordinator.

MEASUREMENT OF EFFECTIVE PERFORMANCE

Successful accomplishment of major duties and responsibilities listed above.

SALARY AND WORK YEAR

Information Systems Technicians are placed on the appropriate step of the Classified Salary schedule and assigned a work year of 260 days.

WINDSOR UNIFIED SCHOOL DISTRICT

JOB DESCRIPTION

TITLE: Technology Systems Specialist I

DEFINITION:
Under the direction of the District Technology and Information Services Manager or designee, the Technology Systems Specialist I installs, maintains and enhances all District technology systems including hardware, software and remote on-line data communications. This position supports installation and implementation of various technology systems, and serves as a first-level project planner for basic technology upgrades. This position supports the on-going service of District computers, printers, and peripheral devices, and installs various software programs on District equipment. This position supports the District and school site technology programs as a member of an IT team working with teachers, administrators and support staff throughout the District.

EXAMPLES OF DUTIES AND RESPONSIBILITIES:
The following are typical duties and responsibilities for positions in this classification. Any single position may not perform all of these tasks and/or may perform similar related tasks not listed below.

- Analyzes and evaluates new and emerging network and communications hardware and software technologies for District use
- Monitors network traffic and performs analysis on network management functions
- Trains users in the use of network Wide and Local Area Networks equipment and software
- Performs training and setup of network operations for District staff
- Prepares computer labs and equipment for students and staff
- Assists staff in determining lab and equipment configuration, upgrade or modification
- Assists in product evaluation and serves as a resource person in the identification of technology for educational and business uses
- Supports District leadership in the development of policies and procedures related to technology
- Communicates with state officials and submits various data to state agencies
- Performs basic website modifications including changes to pictures, text and files
- Provides remote support to District personnel to solve technology problems
- Supports staff and students in the use of basic educational applications, Local Area Network and productivity software
- Assists in the planning, development and implementation of programs and systems
- Contacts staff to communicate the status of technology repairs or new equipment installation
- Maintains and stocks peripheral supplies, hardware components, and software
- Completes inventory accounting of District equipment
- Assists in coordination of warranty work for District equipment
- Delivers equipment to various school sites and purchases supplies and equipment from technology vendors

- Communicates with technology vendors to create quotes to assist in the purchasing process
- Repairs or replaces hard drives, disk drives or other computer hardware
- Directs the work of student assistants to repair malfunctioning equipment
- Performs other related duties as assigned

REQUIRED QUALIFICATIONS:

KNOWLEDGE OF:

- Various forms of electronic technology suitable for educational applications
- Application of information management techniques in a school environment
- Operational characteristics and requirements of personal computer systems, networks and peripheral equipment (IBM-compatible, Mac and other platforms)
- The use of a wide variety of computer systems and software and their application to District needs
- Basic computer functions including hard drives, keyboards, printers, scanners, and projectors
- Design and implementation of web-based applications

ABILITY TO:

- Assist in the development and implementation of the District's technology plan
- Conduct trainings on computer hardware, software and information technology applied to the educational environment and other District activities
- Analyze problems, identify solutions, project consequences of proposed actions, and implement recommendations
- Establish and maintain cooperative working relationships with those contacted in the course of work
- Read and understand technical manuals and reports
- Operate a variety of computer systems, networks, and application software
- Maintain confidentiality of school related information

EXPERIENCE AND EDUCATION:

EXPERIENCE:

- At least two years experience in telecommunications, computer networks, help desk systems, internet, NT systems, and/or Unix-based LANS

REQUIRED EDUCATION:

- High School graduate or equivalent
- At least two years of specialized training in telecommunications, computer and network information systems

PHYSICAL ACTIVITY REQUIREMENTS:

- Standing, walking, bending, stooping and/or climbing
- Daily lifting and carrying of heavy objects up to 45 lbs

LICENSE:

- Possess and maintain a valid California Driver's License
- Possess and maintain a good driving record

DESIRABLE QUALIFICATIONS:

- A Bachelor's degree with a major in Information Management, Computer Science, Business Education Technology, or a related field
- Ability to communicate in Spanish

First Reading: 1/15/2008
Second Reading: 2/19/2008
Board Approved: 2/19/2008

WINDSOR UNIFIED SCHOOL DISTRICT

JOB DESCRIPTION

TITLE: Technology Systems Specialist II

DEFINITION:
Under the direction of the District Technology and Information Services Manager or designee, the Technology Systems Specialist II assists with the installation, daily operations, maintenance and enhancements of all District technology systems. The Technology Systems Specialist II installs, maintains, tests and repairs remote on-line data communication systems. This position oversees major projects and planning of technology improvements and implementation, and serves as the primary oversight to the District's data management system. This position serves as a direct liaison to outside vendors and provides recommendations to other District staff regarding purchasing and technology implementation. The Technology System Specialist II supports the District and school site technology programs as a member of an IT team working with teachers, administrators and support staff throughout the District.

EXAMPLES OF DUTIES AND RESPONSIBILITIES:
The following are typical duties and responsibilities for positions in this classification. Any single position may not perform all of these tasks and/or may perform similar related tasks not listed below.

- Oversees District network servers, fiber data lines, Local Area Networks and District-wide area network
- Communicates with county office or state-level personnel to facilitate improvements and/or adherence to state and local educational requirements
- Oversees the District website and manages changes to content, format and coding
- Analyzes, develops and evaluates new and emerging network and communications hardware and software technologies for District use
- Provides guidance to teachers and administrators interested in purchasing educational technology
- Serves as a District liaison to state departments and submits data to various state agencies
- Serves on District or county committees related to technology
- Monitors network traffic and performs analysis on network management functions
- Trains users in the use of Wide and Local Area Networks equipment and software
- Performs training and setup of network operations for District staff
- Prepares computer labs and equipment for students and staff
- Assists staff in determining lab and equipment configuration, upgrade or modification
- Supports District leadership in the development of policies and procedures related to technology
- Provides remote support to District personnel to solve technology problems
- Supports staff and students in the use of basic educational applications, Local Area Network and productivity software
- Plans, develops and implements various technology programs and systems

- Contacts staff to communicate the status of technology repairs or new equipment installation
- Coordinates purchases and inventory of peripheral supplies, hardware components, and software
- Coordinates the inventory accounting of District equipment
- Oversees the coordination of warranty work for District equipment
- Delivers equipment to various school sites and purchases supplies and equipment from technology vendors
- Communicates with technology vendors to create quotes to assist in the purchasing process
- Repairs or replaces hard drives, disk drives or other computer hardware
- Coordinates with site principals the implementation of a student worker program
- Performs other related duties as assigned

REQUIRED QUALIFICATIONS:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required. Reasonable accommodations may be made to individuals with disabilities to perform the essential functions.

KNOWLEDGE OF:

- Various forms of electronic technology suitable for educational applications
- Application of information management techniques in a school environment
- Operational characteristics and requirements of personal computer systems, networks and peripheral equipment (IBM-compatible, Mac and other platforms)
- The use of a wide variety of computer systems and software and their application to District needs
- Design and implementation of web-based applications
- Website design and coding procedures

ABILITY TO:

- Effectively plan, direct, administer and integrate a variety of technologies
- Coordinate the development and implementation of the District's technology master plan
- Plan, organize and conduct training and staff development on computer hardware, software and information technology applied to the educational environment and other District activities
- Analyze problems, identify solutions, project consequences of proposed actions and implement recommendations
- Establish and maintain cooperative working relationships with those contacted in the course of work
- Read and understand technical manuals, legal codes and administrative policies, reports and directives

- Operate a variety of computer systems, networks, and applications software
- Provide technical advice and coordination with Business Services for an ongoing program to maintain and repair hardware and software of computer and network systems and connections
- Maintain confidentiality of school related information

EXPERIENCE AND EDUCATION:

EXPERIENCE:

- At least three years experience in telecommunications, computer networks, help desk systems, internet, NT systems, and/or Unix-based LANS

REQUIRED EDUCATION:

- High School graduate or equivalent
- At least two years of specialized training in telecommunications, computer and network information systems

LICENSE:

- Possess and maintain a valid California Driver's License
- Possess and maintain a good driving record

DESIRABLE QUALIFICATIONS:

- A Bachelor's degree with a major in information management, computer science, business education technology, or a related field
- Ability to communicate in Spanish

First Reading: 1/15/2008
Second Reading: 2/19/2008
Board Approved: 2/19/2008

WINDSOR UNIFIED SCHOOL DISTRICT

JOB DESCRIPTION

TITLE: Technology Curriculum Specialist

DEFINITION:
The Technology Curriculum Specialist is a certificated role with compensation identified on the *Extra Duty Stipend Schedule* of the WDEA contract.. Under the direction of the Director of Educational Services, the Technology Curriculum Specialist works closely with administration and teachers to promote technology integration within the core curriculum and to expand the use of technology resources in all classrooms throughout the District. This leadership role promotes District initiatives to improve classroom instructional strategies by improving access and training for District teachers. The Technology Curriculum Specialists will help create the vision for future technology integration initiatives.

EXAMPLES OF DUTIES AND RESPONSIBILITIES:
The following are typical duties and responsibilities for positions in this classification. Any single position may not perform all of these tasks and/or may perform similar related tasks not listed below.

- Provides technology training to District staff
- Helps develop and implement the District technology vision and written technology plan
- Keeps abreast of the latest technology resources and shares that information with staff
- Recommends purchases of instructional hardware and software
- Works with District library staff to update and train employees on use of web-based educational resources
- Trains staff on curriculum-related topics using the District data management system
- Serves as liaison between school staff and District technology staff
- Conducts demonstration lessons for teachers
- Provides support to teachers interested in creating teacher web pages
- Supports technology integration between school sites
- Performs other related tasks

REQUIRED QUALIFICATIONS:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill and/or ability required. Reasonable accommodations may be made to individuals with disabilities to perform the essential functions.

KNOWLEDGE OF:
- Latest educational research in technology/curriculum integration
- Teaching strategies that effectively support acquisition of technology skills

ABILITY TO:

- Effectively plan and/or deliver in-service training programs for staff and parents
- Plan and coordinate activities designed to ensure successful technology program implementation
- Demonstrate exemplary teaching ability, excellent communication skills, and foster credibility among peers and administrators
- Maintain confidentiality and engenders trust

EXPERIENCE AND EDUCATION:

EXPERIENCE:

- Three years successful teaching experience integrating technology

EDUCATION AND LICENSES;

- A valid California teaching credential

DESIRABLE QUALIFICATIONS:

- Ability to communicate in Spanish
- Experience leading and coordinating teams of adults

First Reading: 1/15/08
Second Reading: 2/19/2008
Board Approved: 2/19/2008

Appendix E

Sample Instructional Computer Replacement Plan and Policy

Sample Baseline Standards for Classrooms

Sample Instructional Computer Replacement Plan and Policy

Sample Instructional Computer Replacement Plan

The following is an example of an instructional computer replacement plan. The chart shows student population by school, current number of computers (not all school counts were available for Petaluma City Schools), and current student-to-computer ratio. For this example a proposed ration of 10:1 in elementary and 5:1 in secondary schools is used. The chart shows that 271 computers need to be replaced each year to meet the target ratios. Annual projected ongoing cost is $216,880. A sample policy follows the chart.

Example - Instructional Computers Replacement Plan - Five Year Cycle

To Meet Target Student to Computer Ratios

Draft - April 2010

	Annual Funds Needed for Computer Replacement Plan - Draft							
Site	**Student Population [1]**	**# of Current Computers [2]**	**Current Student to Computer Ratio [3]**	**Target Ratio: Student to Computer [4]**	**# of Computers Needed to Maintain Ratio**	**# of Computers to be Replaced Annually**	**Annual Replacement Costs [5] [6]**	**Annual Cost per Student [7]**
Elementary Schools				**10:1**				
Grant	350	148	2.4		35	7	$5,600	
Live Oak - Charter	224				22	4	$3,584	
McDowell	317	77	4.1		32	6	$5,072	
McKinley	242	69	3.5		24	5	$3,872	
McNear	379	63	6.0		38	8	$6,064	
Pengrove	375	66	5.7		38	8	$6,000	
Valley Oaks	7				1	0	$112	
ValleyVista - Alternative	405	83	4.9		41	8	$6,480	
Subtotal Elementary	**2299**	**506**			**230**	**46**	**$36,784**	**$16**
Secondary Schools				**5:1**				
Carpe Deim High - Continuation	31				6	1	$992	
Casa Grande High	1890	242	7.8		378	76	$60,480	
Crossroads	25				5	1	$800	
Kenilworth Junior High	1009	213	4.7		202	40	$32,288	
Mary Collins School at Cherry	342				68	14	$10,944	
Petaluma High	1486				297	59	$47,552	
Petaluma Junior High	609				122	24	$19,488	
San Antonio High	116	45	2.6		23	5	$3,712	
Sonoma Mountain High - Continuation	30				6	1	$960	
Valley Oaks High - Alternative	90	11	8.2		18	4	$2,880	

[1] Enrollment figures from FCMAT document request - February 2010
[2] Number of Computers from FCMAT document request - February 2010 - Information not available for all schools
[3] Current student to computer ratio - computed = Students / # of Current Computers
[4] Target Ratio Students to Computer - As an example 10:1 for Elementary and 5:1 for Secondary was picked. The ratio should come from the Technology Plan
[5] Annual Replacement Costs = # of Computers to be Replaced Annually * $800
[6] Estimated at 2010 cost of $800 per multi-media, Internet capable instructional computer and desktop software.
[7] Annual cost per student for Elementary and Secondary

Sample Instructional Computer Replacement Policy

Petaluma City Schools
Example Replacement Policy for Instructional Computers

Approved by the Technology Committee May 201x

Recommendation: The Petaluma City Schools has made a significant investment in technology to improve student achievement over the last xxx years. This investment has resulted in a robust infrastructure and the installation of 9999 computers in the district's classrooms.

Technology Committee recommends that the District adopt a policy for the ongoing replacement of these instructional computers to ensure that:

1. Students and teachers have equitable access to updated computers capable of supporting the district's curriculum standards and instructional programs,

2. The district can reduce the total cost of ownership of computers,

3. School sites and the district can better plan for and manage their technology needs.

The Technology Committee recommends the following policy:

1. The district will support the ratio of students to instructional, Internet connected computers adopted in the Petaluma City Schools District Master Plan for Technology: 5 students per computer for secondary schools, and ten students per computer in elementary schools.

2. The district will replace instructional, Internet connected computers needed to maintain the target student to computer ratios on a five-year cycle as part of the annual operational budget.

3. All new computers will continue to be purchased with a three-year warranty that includes on-site repair. During the fourth and fifth year of life, the district will repair a desktop computer as long as the cost of repair does not exceed 25% of the replacement value of the computer. Computers that are older than five years will not be maintained by the district and will be declared surplus at the discretion of the site. If the site opts to retain equipment longer than five years, the maintenance and support of this equipment will be the individual site's responsibility.

Under this policy, schools may acquire additional computers through site funds, grants and/or donations to further decrease the ratio of students to computers. However,

the district will not be obligated to replace computers that exceed the district-adopted target ratios.

Background: The District has made a significant investment over the last XXX years to give students and teachers access to the technology tools that support student achievement of high curriculum standards. As a result, the district has been able to deploy Internet connected, instructional computers in classrooms, library/media centers and computer laboratories over the last five years. All schools now meet or exceed the student to computer ratio goals set out in the Technology Master Plan. This investment has enabled the district to implement a range of instructional applications to facilitate student achievement, to support teachers' efforts to meet individual student academic needs and to make record keeping and student assessment timely and efficient.

However, most of these computers were acquired through XXXX funding and other one-time funding, and technology programs, such as EETT, most of which have been cut or suspended. In the absence of a stable funding stream for computers, schools keep computers well beyond their useful life and are unable to plan for their future needs. The district tries to maintain aging computers, which further strains limited resources and increases the overall cost of ownership of computers. The inconsistent funding for computers also results in inequities between schools. The combination of obsolescent computers and uneven access is a barrier to full implementation of critical district-wide applications, such as the Edusoft assessment, integrated learning systems and Accelerated Reading and Math programs.

The Technology Committee recognizes that most schools currently have student to computer ratios that are lower than the targets set in the Technology Master Plan. The district would need a total of 1,356 computers to maintain the target ratios at each school site. **While there are now 9999 computers in the district according to the last CTAP Technology Survey completed in 2008, more than 70% of the computers at that time were over four years of age - many are not functional or have limited usefulness.** Clearly, this policy would not resolve all school site technology needs or replace all existing computers, nor would it preclude individual schools from using site or non-district funds, grants or donations for additional computers. However, the policy would give the sites a stable, baseline level of support, set clear boundaries for the district's future financial commitments for computers, reduce overall costs of ownership, and give students in each school equitable access to reliable computers that are capable of supporting the district's curriculum.

The district has established technology standards for computers that support the district's curriculum, and that are aligned with state standards. The district's donations policy ensures that donated computers are consistent with the district's standards and the Technology Master Plan. By adopting the computer replacement policy, the Board will ensure continued and equitable access to critical instructional tools, lower total costs of ownership and enable school sites to plan more effectively.

Based on its research, the Technology Committee recommends a five-year replacement cycle of computers. This policy will result in standardized, up-to-date computers that will allow the district to reduce costs of technical support and to implement critical district wide applications.

Ongoing, Annual Costs: The Technology Committee estimates that the cost of the five-year replacement plan will be $216,880 to replace 271 instructional computers per year. The average cost would be $26 per student per year. This policy does not take into consideration replacement of administrative computers or network infrastructure components.

It is recommended that funds be allocated to school sites based on the formulae in the Excel Chart, which also provides a detailed analysis of costs by school.

The Technology Committee projects that the per computer maintenance costs will decline over time as a larger proportion of the computers are covered by warranty and aging, unreliable computers are removed from the classroom.

Funding: The Technology Committee recommends that the costs of the five-year replacement policy be part of the district's annual operational budget.

Sample Baseline Standards for Classrooms

Elementary School Example

The district should modify appropriately to meet district standards as determined by the technology committee process. Costs could be shown for each item so when funds become available through budgets, grants, or donations the equipment packages could be purchased.

An Example of Baseline Technology for Elementary Schools

Classrooms

- Teacher Multimedia Internet Accessible Workstation
- Student Multimedia Internet Accessible Computers (5)
- TV/Video Input/VCR/DVD & Remotes
- Digital Projector / Smart Board
- Networked Laser Printer
- Electronic Resources (WP, DB, Multimedia, Spreadsheet, Grading, Attendance, Web Browser, District E-Mail Account, Virus Protection, Concept Mapping, Drawing, Security, Keyboarding)
- Scanner
- Telephone
- Sufficient electrical supply
- Broadband Data Connectivity
- Appropriate Furniture
- Physical Security Plan

Library/Media Centers

- Library Circulation System Workstation (2)
- Student Internet Accessible Multimedia Workstations
- Computer Presentation Device
- Networked Digital Printer Access
- Scanner
- File Servers (CD, Software Sharing)
- Electronic Resources (Library Automation, WP, DB, Spreadsheet, Multimedia, Browser/E-mail, Virus Protection, Reference & Management, Security, Concept Mapping, Keyboarding, Drawing, On-line Subscription DB)
- Telephone
- Sufficient electrical supply
- Broadband Data Connectivity
- Appropriate Furniture
- Physical Security Plan

School Wide

- Internet Accessible Workstations: Clerical, Counseling & Administrative staff
- Scanner and Networked Digital Copier/Printer
- Rolling Cart w. 30 Laptops or Portable Computing Devices.
- Checkout Mini-Digital Video Camera and Digital Still Cameras
- Checkout Portable Digital Projector
- Servers and Network System (File, Application, and DHCP plus Software, including security and access)
- Electronic Resources (Business & Financial, Productivity, Web Browser/E-mail, Aeries)
- Broadband Data Network, including Outbuildings
- Appropriate Furniture & Physical Security Plan

Secondary School Example

The district should modify this appropriately to meet district standards as determined by the technology committee process. Costs could be shown for each item so when funds become available through budgets, grants, or donations the equipment packages could be purchased.

An Example of Baseline Technology for Elementary Schools

Classrooms

- Teacher Multimedia Internet Accessible Workstation
- Student Multimedia Internet Accessible Computers (5)
- TV/Video Input/VCR/DVD & Remotes
- Digital Projector / Smart Board
- Networked Laser Printer
- Electronic Resources (WP, DB, Multimedia, Spreadsheet, Grading, Attendance, Web Browser, District E-Mail Account, Virus Protection, Concept Mapping, Drawing, Security, Keyboarding)
- Scanner
- Telephone
- Sufficient electrical supply
- Broadband Data Connectivity
- Appropriate Furniture
- Physical Security Plan

Library/Media Centers

- Library Circulation System Workstation (2)
- Student Internet Accessible Multimedia Workstations
- Computer Presentation Device
- Networked Digital Printer Access
- Scanner
- File Servers (CD, Software Sharing)
- Electronic Resources (Library Automation, WP, DB, Spreadsheet, Multimedia, Browser/E-mail, Virus Protection, Reference & Management, Security, Concept Mapping, Keyboarding, Drawing, On-line Subscription DB)
- Telephone
- Sufficient electrical supply
- Broadband Data Connectivity
- Appropriate Furniture
- Physical Security Plan

School Wide

- Internet Accessible Workstations: Clerical, Counseling & Administrative staff
- Scanner and Networked Digital Copier/Printer
- Rolling Cart w. 30 Laptops or Portable Computing Devices.
- Checkout Mini-Digital Video Camera and Digital Still Cameras
- Checkout Portable Digital Projector
- Servers and Network System (File, Application, and DHCP plus Software, including security and access)
- Electronic Resources (Business & Financial, Productivity, Web Browser/E-mail, Aeries)
- Broadband Data Network, including Outbuildings
- Appropriate Furniture & Physical Security Plan

Source: South San Francisco Unified School District

Appendix F

Study Agreement

FCMAT
FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
CSIS California School Information Services

FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
STUDY AGREEMENT
October 26, 2009

The FISCAL CRISIS AND MANAGEMENT ASSISTANCE TEAM (FCMAT), hereinafter referred to as the Team, and the Petaluma City School District, hereinafter referred to as the District, mutually agree as follows:

1. BASIS OF AGREEMENT

The Team provides a variety of services to school districts and county offices of education upon request. The District has requested that the Team provide for the assignment of professionals to study specific aspects of the Petaluma City School District operations. These professionals may include staff of the Team, County Offices of Education, the California State Department of Education, school districts, or private contractors. All work shall be performed in accordance with the terms and conditions of this Agreement.

2. SCOPE OF THE WORK

A. Scope and Objectives of the Study

The scope and objectives of this study are to:

1) Review the district's organizational structure and staffing for technology support services and make recommendations for improvement.

2) Review the district's instructional technology support services and make recommendations for improvement.

B. Services and Products to be Provided

1) Orientation Meeting - The Team will conduct an orientation session at the District to brief District management and supervisory personnel on the procedures of the Team and on the purpose and schedule of the study.

2) On-site Review - The Team will conduct an on-site review at the District office and at school sites if necessary.

3) Progress Reports - The Team will hold an exit meeting at the conclusion of the on-site review to inform the District of significant findings and recommendations to that point.

4) Exit Letter - The Team will issue an exit letter approximately 10 days after the exit meeting detailing significant findings and recommendations to date and memorializing the topics discussed in the exit meeting.

5) Draft Reports - Sufficient copies of a preliminary draft report will be delivered to the District administration for review and comment.

6) Final Report - Sufficient copies of the final study report will be delivered to the District following completion of the review.

7) Follow-Up Support – Six months after the completion of the study, FCMAT will return to the District, if requested, to confirm the District's progress in implementing the recommendations included in the report, at no costs. Status of the recommendations will be documented to the District in a FCMAT Management Letter.

3. PROJECT PERSONNEL

The study team will be supervised by Anthony L. Bridges, Deputy Executive Officer, Fiscal Crisis and Management Assistance Team, Kern County Superintendent of Schools Office. The study team may also include:

A. Andrew Prestage, FCMAT Management Analyst
B. To Be Determined, FCMAT Consultant

Other equally qualified consultants will be substituted in the event one of the above noted individuals is unable to participate in the study.

4. PROJECT COSTS

The cost for studies requested pursuant to E.C. 42127.8(d) (1) shall be:

A. $500.00 per day for each Team Member while on site, conducting fieldwork at other locations, preparing and presenting reports, or participating in meetings.

B. All out-of-pocket expenses, including travel, meals, lodging, etc. The District will be billed for the daily rate and expenses of the independent consultant, only. Based on the elements noted in section 2 A, the total cost of the study is estimated at $5,500.00. The District will be invoiced at actual costs, with 50% of the estimated cost due following the completion of the on-site review and the remaining amount due upon acceptance of the final report by the District.

C. Any change to the scope will affect the estimate of total cost.

Payments for FCMAT services are payable to Kern County Superintendent of Schools-Administrative Agent.

5. RESPONSIBILITIES OF THE DISTRICT

A. The District will provide office and conference room space while on-site reviews are in progress.

B. The District will provide the following (if requested):

1) A map of the local area
2) Existing policies, regulations and prior reports addressing the study request
3) Current organizational charts
4) Current and four (4) prior year's audit reports
5) Any documents requested on a supplemental listing

C. The District Administration will review a preliminary draft copy of the study. Any comments regarding the accuracy of the data presented in the report or the practicability of the recommendations will be reviewed with the Team prior to completion of the final report.

Pursuant to EC 45125.1(c), representatives of FCMAT will have limited contact with District pupils. The District shall take appropriate steps to comply with EC 45125.1(c).

6. PROJECT SCHEDULE

The following schedule outlines the planned completion dates for key study milestones:

Orientation:	February 2010 (Tentative)
Staff Interviews:	to be determined
Exit Interviews:	to be determined
Preliminary Report Submitted:	to be determined
Final Report Submitted:	to be determined
Board Presentation:	to be determined
Follow-Up Support:	If requested

7. CONTACT PERSON

Please print name of contact person: Michael Cole, Director of Business Services

Telephone: 707-778-4626 FAX: 707-778-9042

E-Mail: mikec@pet.k12.ca.us

Greta Viguie Nov. 20, 2009

Greta Viguie, Superintendent Date
Petaluma City Elementary School District

October 26, 2009

Anthony L. Bridges, Deputy Executive Officer Date
Fiscal Crisis and Management Assistance Team

In keeping with the provisions of AB1200, the County Superintendent will be notified of this agreement between the District and FCMAT and will receive a copy of the final report.