Desert Sands Unified School District

Technology Review

January 21. 2010

Joel D. Montero
Chief Executive Officer

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

January 21, 2010

Sharon McGehee, Ph.D., Superintendent
Desert Sands Unified School District
47950 Dune Palms Road
La Quinta, CA 92253

Dear Superintendent McGehee:

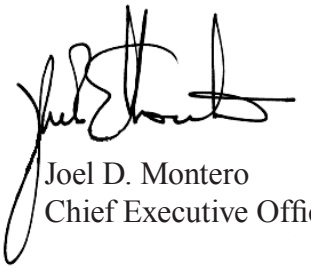
In May 2009, the Desert Sands Unified School District and the Fiscal Crisis and Management Assistance Team (FCMAT) entered into an agreement to provide a review of the district's technology programs and services. Specifically, the agreement states that FCMAT will perform the following:

1. Conduct a review of the district's administrative technology.
2. Conduct a review of the district's instructional technology.
3. Conduct a review of the district's technology services delivery.
4. Review the district's staffing and organizational structure for technology services delivery.

This report contains FCMAT's findings and recommendations. We trust this information will be beneficial to all concerned.

On behalf of FCMAT we appreciate the opportunity to serve the district and extend our thanks to all the staff of the Desert Sands Unified School District for their cooperation and assistance during fieldwork.

Sincerely,



Joel D. Montero
Chief Executive Officer

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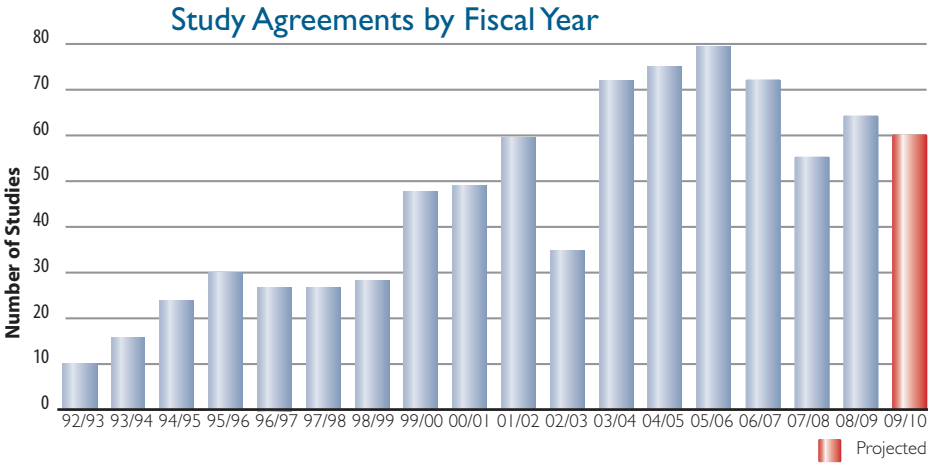
Foreword - FCMAT Background

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 982

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

Note: Some districts had multiple studies.

- Districts (7) that have received emergency loans from the state. (Rev. 1/22/09)

Introduction

Background

The Desert Sands Unified School District is located in La Quinta and is comprised of 33 school sites that serve more than 29,000 students. The district is the largest employer in Coachella Valley and covers more than 752 square miles of Riverside County.

In February 2009 the district requested that the Fiscal Crisis and Management Assistance Team (FCMAT) review its technology programs and services. The study agreement specifies that FCMAT will perform the following:

1. Conduct a review of the district's staffing and organizational structure for technology services delivery.
2. Conduct a review of the district's instructional technology.
3. Conduct a review of the district's administrative technology.
4. Conduct a review of the district's technology services delivery.

Study Team

The study team was composed of the following members:

Andrew Prestage
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La Mesa, CA

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Interim Chief Technology Officer
Monterey County Office of Education
Monterey, CA

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FCMAT Public Information Specialist
Bakersfield, CA

*As members of this study team, these consultants were not representing their respective employers but were working solely as independent contractors for FCMAT.

Study Guidelines

District administrators requested this review of technology services to analyze the approaches currently used and to assess their consistency with good educational practice and appropriate administrative management of the department. Specifically, administrators wanted to ascertain whether school sites have been involved in the formulation of policy and whether the technology administration communicates effectively with the sites.

FCMAT visited the district on May 14-15, 2009 to conduct interviews, collect data and review documents. This report is the result of those activities and is divided into the following sections:

I. Executive Summary
II. Staffing and Organizational Structure
III. Instructional Technology
IV. Systems and Infrastructure
V. Appendices

Executive Summary

The Desert Sands Unified School District has a long history of using technology to promote efficiency and student performance. Without exception, district staff members credit the director of instructional technology services as being a driving force in this effort for at least 10 years.

At the core of the district's culture is a Technology Department that has consistently promoted four concepts: centralization, standardization, specialization and consolidation. Previous district administrations have validated this approach, and significant developments have resulted. The district has a model topology with fiber optic cable running to all sites. Hardware and software standards have streamlined equipment ordering. Some equipment purchases have been avoided because of the virtualization of computers and servers. Staffing levels have remained consistent despite the growing use of educational and administrative technology. Most of the leadership for this work can be attributed to the director of instructional technology.

Users typically commented that the district is far ahead of other districts, and they believe that the director of instructional technology made Deserts Sands Unified a model for other districts. This could not have been accomplished without the constant support of Technology Department staff members who have pulled network cable, installed servers and supported users over many years. The staff has been instrumental in the success of the district's technology initiatives.

However, many users are frustrated by a perception that one staff member summed up by asking "if we are so far ahead in technology, why doesn't it feel that way?" Although the district is replete with technology, many site staff members feel that the installed technologies do not reflect the needs of administrators, teachers and students.

Site staff members increasingly believe that the primary focus of the technology services department is not on supporting instruction. During interviews, district staff indicated that supporters and facilitators of technology lack a fundamental understanding of the needs of teachers and students.

The district's technology organization has been reluctant to involve many affected parties in technology planning, selection of appropriate resources to deliver instruction, or ensure the participation of district or site administrators, teachers, staff, parents or students in setting strategic technology goals. Based on staff comments, the department appears to have an authoritarian and top-down approach to technology implementation. Site staff members complain that information and financial resources have been used to make decisions that are deemed best for education with little staff involvement. It appears that major projects are initiated without the planning, input, implementation schedules and the collaboration necessary to ensure successful distribution of hardware or software projects.

Schools and site administrators perceive that the technology administration uses the "centralize, standardize, specialize, and consolidate" approach to place technology in schools while allowing little or no comment on the relevancy of the new technology. Most staff members believe that the assessment, acquisition and deployment of new technologies is organized to maintain decision-making authority in the Technology Department. For example, vacancies on the district's technology steering committee are filled by appointees of the director of instructional technology, creating an impression that new members are only those who support department initiatives. Any innovative project or request to improve instruction is denied by the committee and deemed inappropriate because it does not align with "technology standards."

The Technology Services Department is seen by district staff members as the gatekeeper of all things associated with technology. One administrator commented that the "all-or-nothing, go with the flow" environment creates a perception that individuals and sites that question current projects are ill equipped to assess complicated educational technology or administrative initiatives.

A summary of FCMAT's recommendations is presented below.

Staffing and Organizational Structure

The current technology support model is ineffective. Many staff members believe that the needs of sites, teachers, and students are not being addressed. The recent promotion of five technology support staff members has fractured the department. There has been much controversy surrounding the posting, application, interview, and selection processes for the new positions. In addition, some district staff members perceive that the district's technology committee had not met for 14 months.

- Consider reclassifying the supervisor of computer network services as manager of technical services.
- Create a second network specialist position to improve support for data and voice communications equipment, integrated surveillance systems, and the increasing number of servers, computers and software applications. Establishing a second network specialist position will also improve support during vacation, illness, and job transitions.
- Eliminate the four technology support specialist (TSS) positions and one geographic information specialist (GIS) position.
- Establish five new TSS positions and encourage all employees to apply. The new TSS positions should report to the manager of technical services.
- Create a new technology committee and establish a regular meeting schedule.

Instructional Technology

Instructional technology is implemented with little collaboration with school sites and educators. Therefore, the district should take the following measures.

- Create an educational technology coordinator position.
- Establish regular meetings between the educational technology coordinator and the assistant superintendent of educational services. The focus of the meetings should be on teaching and learning.

Systems and Infrastructure

Systems and infrastructure are selected with little input from school sites or consideration of sustainability. The district should accomplish the following:

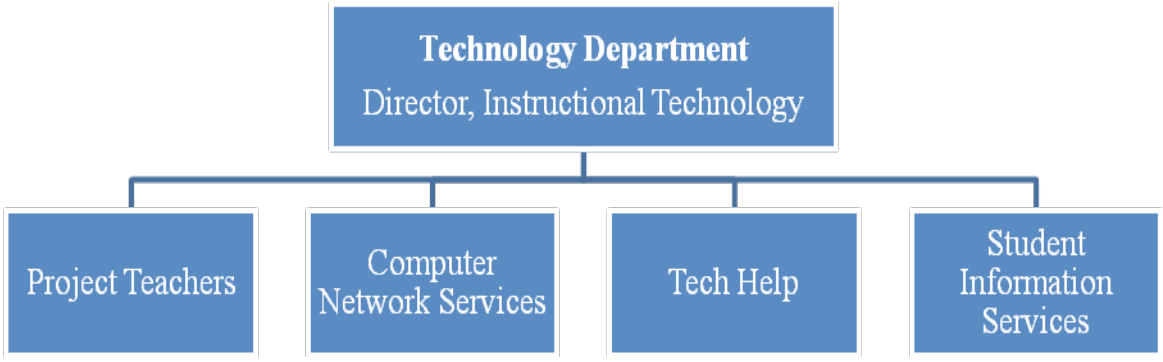
- Consider halting the blade personal computer (PC) and thin client project until an evaluation of its effectiveness and fiscal sustainability is conducted.
- Suspend future technology initiatives for schools and review them for compatibility with effective instruction, school operations and effective delivery of resources to the classroom. The review should include blade PCs, thin clients, electronic slates, denial of Macintosh computers on the network, computer repair and use, computer lab replacements and denial of Web 2.0 technologies.
- Develop a more collaborative approach to system selection and implementation.

FCMAT believes that the approach of centralization, standardization, specialization and consolidation has become deeply infused into the district's culture. Individually, the four ideals are relevant, logical, and defensible. Taken together, the ideals have blocked teacher creativity and have hampered teaching and learning. An inclusive process that more accurately reflects the needs of teachers and students must be developed. Developing that process will entail a shift from the current technology support model to one that more accurately reflects the needs of teachers and students.

Findings and Recommendations

Staffing and Organizational Structure

The Desert Sands Unified School District Technology Department is led by the director of instructional technology. The organizational chart depicted below depicts the four distinct groups that report to the director of instructional technology.



Computer Network Services Group

The computer network services area is comprised of two distinct groups, network services and computer services. Both groups report to the supervisor of computer network services, who reports to the director of instructional technology. The supervisor is responsible for all aspects of design, implementation, and support of network systems including the wide- and local-area networks, enterprise-grade applications, desktop functionality, computer repair, and support.

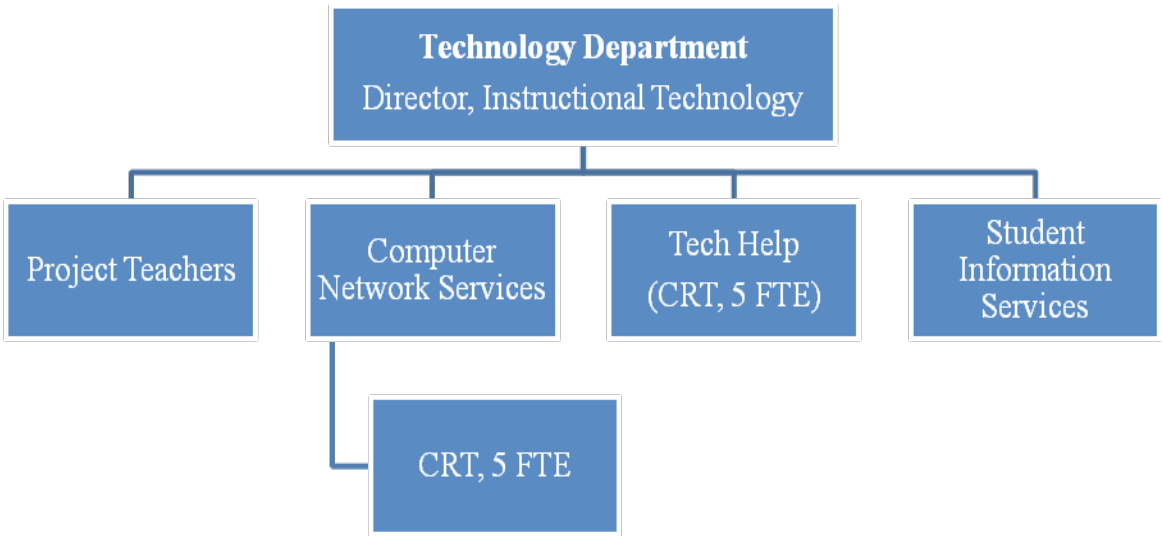
The complexity and responsibilities of the supervisor position have increased significantly since the position was established in 1998. Systems such as data and voice communications equipment, integrated surveillance systems, and the increasing number of servers, computers and software applications combined to create a complex and technical environment that must be reliable.

The network services group maintains wide- and local-area networks and enterprise-type applications such as e-mail, authentication, and other major software applications. The group is comprised of several network specialists that are divided according to function as follows: enterprise (one full-time equivalent or FTE); network (two FTEs); applications (one FTE); and infrastructure (one FTE). Supporting the district's local- and wide- area network is an excessively large responsibility for one FTE. No other staff members are trained to support the growing number and complexity of networked systems. The supervisor of computer network services has attempted to

provide assistance; however, this significantly detracts from his primary responsibilities of designing, engineering, and supporting the district's long-term needs. One other department staff member spends a significant amount of time assisting the network specialist, putting his own responsibilities at risk.

Technology Support Groups

Until early 2008, the Technology Department had 10 computer repair technicians (CRT) and originally had as many as 12 before half were redirected to work on other projects. Although all CRT staff members performed essentially similar technology support services, they were divided into two separate groups. As the following chart shows, five CRT staff members report to the supervisor of the computer network services group while the other five report to the director of instructional technology.



In early 2008, the district created two new position classifications titled technology support specialist (TSS) and geographic information support specialist (GIS). Four TSS positions were established together with one GIS position. All five of the new positions were to report to the director of instructional technology and would be compensated at salary range 93. The positions were determined to be promotional and therefore any or all of the existing 10 CRT staff members were eligible to apply for one of the new positions. Since all CRT staff members were on range 83 of the district's classified employee salary schedule the potential promotion represented a salary increase of approximately $10,000 annually.

The goal of establishing the new TSS classification was to create a position to assume greater responsibility for increasingly complex technology support. Specifically, the TSS position was to assume responsibility for "designing installing testing and, programming, repairing, documenting, and providing training for a district-wide computer system and database network consisting of network equipment and services." The primary functions of these positions were to support the blade computing project, including design and

support of the end-user environment with appropriate hardware and software. A blade PC is one where the processor, memory, input/output, nonvolatile program storage, operating system and applications are packaged onto a single board or blade.

Also placed at range 93, the GIS position was to be responsible for all aspects of the district's geographical information system (GIS), its interface to the student information system (SIS), day-to-day support, and programming, maintenance, training, and assisting district staff in the use of the GIS software.

In May 2008, the district's Human Resources Department conducted a promotional hiring process and five CRT staff members were selected for promotion to the TSS and GIS positions. The five CRT staff members that previously reported to the director received promotions. As a result, no changes were made to the reporting structure once selection concluded. In effect, the five CRT staff members that previously reported to the director continued reporting to the director in their new TSS and GIS positions. The five newly vacant CRT positions were abolished, and the five remaining CRT staff members continued reporting to the supervisor of computer network services.

Based on input from the superintendent, the cabinet, the Human Resources Department, and staff in the Technology Services Department, there has been much controversy surrounding the posting, application process, interviewing, and selection process for the new positions. Several staff members perceive that promotion opportunities and desirable work assignments are the result of unmitigated support for the department director rather than longevity, qualifications, experience, or knowledge. Some staff members believe that the selection process was punitive based on perceived loyalties in the department. Others questioned the labor practices used. Regardless of whether these perceptions are true, several staff members feel they were forced to remain in jobs with little promotion potential and believe they were ostracized by other department members.

Union representatives maintain that the four TSS staff members perform duties identical to those of the CRT staff members. To address these concerns, the district contracted with an outside vendor to analyze the positions and perform a classification study. The classification study concluded that the jobs are different.

The selections fractured the department, resulting in a contentious environment between the five staff members who continue to be supported by the union and the four staff members who were promoted. The Technology Department is evenly divided into two groups, one that supports the current technology director and one that does not.

Based on interviews with the district staff, FCMAT concludes that information regarding the position postings may not have been disseminated equally among all staff and that some employees may have been intentionally discouraged from applying or not informed of the job openings. In addition, continuing the existing reporting relationship - where five CRT staff members report to the supervisor of computer network services while five TSS staff members report to the director - has resulted in poor communication, duplication of effort, and confusion over responsibilities.

Many users complained about lack of communication with the technology support staff. E-mail requests reportedly do not receive any reply. Although the technology support staff starts work at 7 a.m., many school site staff members expressed frustration that they are unable to obtain assistance when problems arise in the first half-hour of work. Technology support staff members may not clearly understand that they are to answer incoming telephone calls.

End users indicated they are unsure who to call regarding their problems. As a result, several call someone they know in the department instead of the appropriate technology support staff member. This prompts an imbalance in workloads and impedes communication in the Technology Department as staff members try determine who should deal with the issue.

Many site staff members indicated that CRT staff members now spend less time at school sites. The reduction of five CRT positions has diminished the ability of this group to provide adequate services to end users. With half the number of CRT staff members to cover the same number of sites, the CRTs have been forced to reduce the amount of time spent at each site. For example, the staff at one elementary school has a technician on site for only four hours a week, but received three times that amount of service in the past. The staff at one high school indicated that a CRT is on site only one day per week to service nearly 1,000 computers. Two years ago, a technician was on site at least two days a week.

Many site staff members complained that the reduction has affected classroom equipment. High school staff members commented that many computers that are in disrepair and sit unused for long periods of time because technicians are on site infrequently. To address this problem, many sites utilize one or more certificated employees to manage and repair computers, supplementing the classified technology support staff. This is more expensive for the district because instructional staff members receive higher pay, can detract from certificated focus on classroom activities, and may violate union contracts. In addition, best practices indicate all computers should have similar configurations.

Technology support staff members prioritize their own work and are largely unsupervised in the field. There are no daily or weekly meetings to review policy, practices or to share information among technicians.

There is no clear delineation of duties between TSS and CRT staff members. This has been particularly troublesome for CRT staff members, several of whom commented that they no longer have access to software tools they used to make disk images and remotely manage and repair desktops. CRT staff members also have not received appropriate training for technologies being used in the classroom such as the slate interface tool. Some CRT staff believe they are intentionally not informed about technology implementations and their purpose in supporting these technologies.

Technology Planning

At the time of FCMAT's fieldwork, some district staff members perceived that the district's technology committee had not met for 14 months. However, other district staff confirmed that the technology committee met several times during the 2007-08 school year. The perception that technology committee meetings are not regularly conducted indicates that there is insufficient districtwide awareness of these meetings. In addition, not all school sites have a site technology committee.

Recommendations

The district should:

1. Consider reclassifying the supervisor of computer network services as manager of technical services. The new position should be established in the manager salary range to reflect the increasing complexity and responsibility of this position.

2. Create a second network specialist (enterprise) position to better meet the increasing support needs of this area. Establishing a second network specialist position will also improve support during periods of vacation, illness, and job transitions.

3. Eliminate the four technology support specialist (TSS) positions and the one geographic information specialist (GIS) position.

4. Establish five new TSS positions at range 88. A new job description should be created for the position based on the district's needs. The new positions should be posted, and all employees should receive notification of the open positions and be encouraged to apply. The five new TSS positions should report to the manager of technical services. Having all TSS and CRT positions report to the same manager will improve communication and ensure that all staff members work toward the same goals and objectives.

5. Ensure that the manager of technical services oversees the interview and selection process for the new TSS positions.

6. Ensure that the technology support staff members who are assigned to report to work at 7 a.m. understand that they are to answer telephone calls requesting technology support.

7. Create and widely distribute a brochure that includes an organization chart and responsibilities of each group along with the contact information and work hours of those employees. This should help alleviate some of the confusion regarding which staff member to contact for type of problem.

8. Clearly differentiate the responsibilities of the technology support specialists and computer repair technicians to improve the interaction and overall support that these two groups provide to the end users. Some of the workload performed by the new TSS positions should be rebalanced with the CRT workload since there is similarity and overlap in functions and duties. The overall number of staff members providing desktop support should remain unchanged; however, rebalancing the workload between these two groups would improve support.

9. Ensure that appropriate software tools are made available to all technical support staff. CRT staff members should be provided with access to remote management and disk imaging tools to be more effective.

10. Promote professional development among technology support staff by setting aside resources when available to fund technical training opportunities such as conferences, workshops, and in-services.

11. Assign the manager of technical services to develop a plan for the reorganization of support services. The plan should incorporate increased oversight of the technology support process and should also revise the manner in which technology support requests are prioritized. School site personnel should be included in the discussion about the best delivery model for site support.

12. Assign the manager of technical services to conduct weekly meetings for all technology support staff. The manager should provide opportunities for staff members to share information and strategies for maintenance of district equipment. Meetings should be inclusive and not restricted to one classification of technician. Personnel who need to know information about items that are included on the meeting agenda should be required to attend.

13. Create a new technology committee and establish a technology committee meeting schedule. The committee should be comprised of instructional, classified, and administrative staff members. All technology management personnel should be invited to attend technology committee meetings. These meetings should be conducted monthly and should be cochaired by the assistant superintendents of educational services and business services.

14. Ensure that each principal designates up to two staff members to serve as liaisons and representatives of the school site on the technology committee. Ideally, the liaisons should include a representative from the certificated and classified employee groups. Liaisons should be appointed rather than volunteer to ensure that the correct individuals comprise the technology committee. The final composition of the committee should be approved by the superintendent and cabinet.

15. Assign the Technology Committee to review and update the existing technology master plan. The updated plan should span only three (rather than five) years to foster a more frequent review. Development of the new technology plan should include input from classified, certificated, and management personnel; parents, community members and student representatives. A list of committee responsibilities should be developed, including the following:

    - Creating instructional technology standards, goals and objectives.
    - Reviewing the goals and objectives of the Information Services Department.
    - Exploring available funding resources.
    - Exploring available educational systems.
    - Reviewing site technology plans.
    - Submitting a proposed technology plan and budget to the governing board for consideration.

16. Instruct the committee to approve all technology related initiatives before they can proceed to the board or superintendent for approval. The committee should devise a process that details how items are presented to the committee for consideration. It should also detail the requirements of a proposal including the impact on instruction or administration, fiscal impact, support and training requirements and interaction with existing systems.

17. Require the Technology Committee to approve all district technology standards.

18. Assign the Technology Committee to redesign the technology acquisition approval process for purchases.

19. Enlist the help of the Technology Department administration in using best practices for acquiring and implementing major hardware and software projects. The assistance should come in the form of an in-service for the administrative staff and project management consultation.

20. Assign the director of instructional technology services to attend all Technology Committee meetings and serve as a liaison between the committee and the Technology Services Department.

21. Establish a site-based technology committee at each school site. Site-based technology committees should be comprised of representatives from site administration, instructional, classified, and community member groups. The committees should be responsible for revising site-based technology plans to align with the overall goals and objectives contained in the districtwide technology plan. One member of each site committee should attend the district technology committee meetings.

22. Assign the Technology Committee to evaluate the practice among some school sites of relying on certificated staff to perform technology support functions that can be more affordably provided by classified staff. Instead of discontinuing the practice, the committee should consider how to rebalance the efforts of instructional staff to ensure that their skills, training and background are used in the most effective manner possible.

Instructional Technology

Site users are unaware of the causes of poor service and lack of communication for technology projects, and many were surprised at how decisions are made on the role of technology in instruction. Users also question the lack of documents and training for projects like E-School Plus and thin client technologies. Most users assume that the lack of site technology support is based on a shortage of personnel.

Many users perceive that instruction and learning do not drive technology acquisitions. Based on interviews, many staff members believe that the assessment, design, selection of components, implementation and support of systems for instruction are the sole responsibility of the district Technology Department. The district's strategic plan summarizes the process. An item in the plan calls for the district to "implement blades PCs and thin clients technologies at all levels in DSUSD."

The action steps include:

1. Analyze data from blade pilot program;
2. Share cost benefits…with cabinet;
3. Present cost benefits…to board;
4. Submit a Board Agenda Item for board approval.

The document presents a view of the process that centers on the Technology Department. As a result, it does not include the opportunity for schools, teachers or students to evaluate the program and its costs. It does not permit a thorough evaluation of the costly technology on the teaching process. There is no discussion of the impact on administrative or support staff of the program. The recommendations to proceed with the blade PC project resulted from inadequate testing performed on a technician's workbench. During interviews, even the technicians who participated in this testing conceded that it was not thorough or practical enough it its application. Despite these shortcomings and lack of collaboration with schools, the blade PCs and thin client technologies have been distributed throughout the district to the detriment of instruction, learning and effective administrative practices, with no analysis of the costs to schools.

This example is descriptive of how the Technology Department has hindered school operations. Principals are unaware of what blade technology is or how it fits into the school environment. Some principals believed there were no blade PCs at their schools only to find out there were. They now are aware that money that could have been used for instruction must pay for the blade PCs. Computers that are serviceable and desired by teachers sit idle in storage, and computer labs are unused during the transition to blade PCs.

While the establishment of standards and efficient technologies is laudable, the Technology Department established these without the participation of educators. Teachers on special assignment are subject to department control and oversight. Their work is

not limited to instructional issues. They run student information system and attendance reports, work on district office computer issues and serve as support staff for other than classroom teachers. There is no independent educational technology coordination of programs to support teaching and learning. No schools representative is involved in making decisions about district technology. Principals do not collaborate on the standard classroom configuration. During interviews, users often indicated that the Technology Department has no understanding of site needs or operations.

The Technology Department acquired two technologies for every teacher in the district: responders and electronic slates. The responders were generally successful and teachers report using them daily for instruction. The slates have been problematic. They are unused or broken at some schools and receive limited use at most schools.

Requests for classroom instructional tools have consistently been denied if those tools don't conform to the district standard established by the Technology Department. Some teachers established rigorous Web sites and blogs for students, but the Technology Department turned them off because they supposedly represent a security threat, and students could access objectionable materials. Teachers are not allowed to use Web 2.0 tools, a technology considered standard in most districts. Teachers are also denied access to the Computer-Using Educators (CUE) Web site, and the use of DVDs to enhance instruction is prohibited. Teachers who requested Macintosh computers for instructional programs that require this platform were turned down. Students do not have electronic lockers, and video files and images are prohibited. Most of these denials originate from a classified technician who has been delegated as an educational reviewer of classroom materials.

Access for principals is equally controlled. Despite repeated requests for more effective systems to develop assessment information, this was denied. Principals indicated that the extremely detailed levels of security make everyday operations difficult or impossible. Principal's secretaries are not permitted access to English-language learner records to obtain reports for their supervisor. Although student information should not be accessible by everyone, there must be an appropriate balance between the need to access needed information and the desire to enforce security over information assets.

Project Teachers

The project teachers group consists of five teachers on special assignment (TOSA). A partial list of areas of responsibility for the TOSAs includes the following:

- Support of online grade books
- Support of online report cards
- Support of portal technologies
- EETT support for fourth-grade grants
- Web design and maintenance.

Many of these activities could be performed by noncertificated employees as is common in most other school districts. The teachers perform a limited amount of professional development; however, most site staff members were unaware of the types or frequency of training offerings that are available. Other staff member believed the TOSAs' role was to help the district office staff, including the Technology Department, not the school sites.

Site staff members did not know who to contact regarding education technology grant opportunities or other questions related to educational technology. There is no indication that information is regularly disseminated to sites on federal, state, or local grant opportunities.

Continuation High School Transcripts

Staff members at the continuation high school indicated that transcripts always appear to be erroneous and inconsistent regardless of the date or time they were produced. Users have repeatedly requested assistance to correct this problem, but the problem persists.

E-Lockers and E-mail

Site staff members expressed an interest in providing "virtual lockers" for students to store school related documents and other files online. In addition, the staff is interested in providing a coordinated and supported student e-mail system. Some staff members commented that e-mail would allow students to communicate with instructors and other students in a collaborative, secure, and monitored environment. These services currently are prohibited, and these types of Web sites are blocked.

Recommendations

The district should:

1. Create an educational technology coordinator position. The educational technology coordinator should report to the director of instructional technology and serve on the district technology committee.

2. Transfer two of the TOSA positions to the classroom and use the salary savings to fund the new educational technology coordinator position. The three remaining TOSA positions should report to the educational technology coordinator.

3. Ensure that an emphasis on teaching and learning is maintained by establishing regular meetings between the educational technology coordinator and the assistant superintendent of educational services. Meetings should focus on the technology needs of teachers and students.

4. Ensure the Technology Department gets help in developing a service orientation for all aspects of its operations. Schools, instruction and learning should drive the delivery of services. The Technology Department should adopt industry standards for customer service practices.

5. Determine why there are inconsistencies in the transcript system at the continuation high school.

6. Ensure the technology committee solicits school site input to determine whether student e-lockers and e-mail accounts are needed. Input from all grade levels should be collected to obtain a thorough understanding of site needs.

Systems and Infrastructure

Blade System

Many staff members indicated that the director of instructional technology has made great efforts to implement a new blade computing system. In addition to consuming less space, there are other benefits to this system involving cooling, management, and networking because it allows pooling or sharing of common infrastructure instead of requiring each of these to be provided by individual computer or server.

The current build-out of the blade system is being funded by departments and sites that originally intended to purchase traditional personal computers. However, instead of receiving the computers they purchased, they receive thin-client workstations attached to the blade PCs. Site administrators complained that requests for personal computers in the form of signed requisitions were denied, and blade PCs were substituted without their prior approval. In some cases, blade PCs for the sites were cheaper than personal computers, but the sites were charged for the more expensive personal computers and got the cheaper blade PCs. Principals indicated they were never told why they were charged more than the cost of the blade PCs.

The blade PC introduction was initially called a pilot program and was planned as a 50-unit trial. However, after an action plan was recommended and approved by the district's strategic plan committee, it quickly became a full-blown, districtwide implementation without the normal cycle of piloting a small implementation, testing, receiving feedback, modifying the implementation, testing, and evaluation. After the normal process is complete, a decision can be made to either expand the pilot or terminate the project. All these steps should be taken with continuous communication and feedback from all parties involved in the project, which does not appear to occur at present.

The introduction of the blade PCs lacked a project management approach. Project management is comprehensive and includes awareness of politics, organization and process. It maintains involvement by managers at the district and school level and incorporates exhaustive documentation of the process and developing results. The Technology Department has managed to develop sophisticated systems, primarily in the network and data collection areas and has leveraged these systems by building on even newer technologies. Unfortunately, standard business practices for the evolution and selection of these newer ideas have not been followed. While a dedicated staff and management can implement major projects that benefit the organization, it is rare for an organization to sustain several implementations without a method based on sound project management techniques.

The management of the Technology Department has opted for a top-down implementation process for developing projects. However, the schools are unwilling to become test grounds for unproved technologies.

Some Technology Department staff members do not believe that blade technology and thin clients are well suited for schools and the delivery of instruction. There has been no formal training for technical staff on their operation and a complete lack of documentation related to the blade PCs, their purpose and use, and how they can improve teaching and learning. Staff members indicated that the blade PC pilot program has been, conducted without oversight and untested in a school setting. There are network connectivity issues, and applications are not configured properly in many instances. Despite this, the Technology Department has opted to use the blade PCs districtwide. During interviews, department technicians reported problems at all levels. Principals complained of a loss of access for teachers who lose valuable instruction time as they try to accommodate the new devices, which in many instances do not fit current practices.

School sites and district departments were not included in the blade PC decision or acquisition processes. Many principals first learned about the new computer replacement strategy when blade PCs appeared on their campuses instead of the computers that were ordered. No advance notification or justification was provided. Technology Department staff members informed principals that blade PC maintenance is their responsibility even though most did not request them in the first place. Although there may be a logical justification to the blade PC concept, the faulty implementation process has jeopardized the entire project.

Project funding is based on one-time sources, but there is no plan for sustainability or funding for upgrades or component replacement. At present, the district can recover from a cessation or retraction of the thin client and blade PC project, but it will not have that opportunity in the future. Although there are economies of scale that accrue to blade technologies, it will be difficult to return to computer-based technology instruction if the project fails.

Funding and Sustainability

The district contracted with a private vendor to provide E-Rate application support. From fiscal year 2006-07 through 2008-09 the district received more than $1.5 million towards the purchase of telecommunications and network related equipment. Because the E-Rate program may be discontinued in the future, agencies should be cautious regarding the extent to which they use E-Rate discounts to fund critical infrastructure components. If the program is discontinued, the district would have to identify other funding for these major expenditures.

Simply having access to funds should not compel a district to install infrastructure that outpaces the natural growth in demand for network resources. For example, the high-speed data circuits that are used for communications between the district office and school sites receive less than 10% usage. Although the cost for the high-speed data circuits is fixed, the fact that there is only 10% usage means the district can anticipate several years of expanding utilization and relatively low data circuit costs. The cost for this system is approximately $378,000 annually with an E-Rate discount of 70%, bringing the district's cost to $118,000 per year. In addition, the district spends an increasing amount each year on services with Nextel of California (see table below).

Year	Total Expenditures (Prediscount)
2005	$27,301
2006	$85,509
2007	$135,254
2008	$192,012
2009	$192,012

System Selection

During interviews, many users indicated they receive no opportunity for input on the selection of systems they use daily. Some staff members said that the district office makes the selection and simply informs them afterward. Users believe that E-School Plus and the Follett library system were selected in this manner.

Geo Codes

FCMAT fieldwork occurred a few weeks before graduation when site staff members were busy finishing the current year and preparing for the next. Staff members indicated that at this time, the director of instructional technology implemented the use of geo codes. These codes are a numerical system corresponding to the student's home attendance area. Shortly after implementation, the system began denying information to schools and parents about correct schools for enrollment. The system was also unable to identify special education students.

Site staff members were confused about why they had to enter new codes to properly register new students using an unfamiliar coding system. Some end-users entered invalid information because of a lack of training, lack of accurate information, or sometimes out of frustration at having to enter this data. The site staff indicated that they received no training on the purpose of the data or its uses and no opportunity for discussion on how the process should be introduced.

Cognos

Several site administrators indicated they were frustrated regarding Cognos user access levels to various systems and types of information. They complained of inconsistent user access even among the same type of employees. To counter this problem some administrators shared their high-level access user account information, including passwords, with the staff.

Printers

The site staffs complained that printers that were ordered often were out of warranty by the time they were installed. FCMAT consultants observed in the warehouse a stock of printers that apparently were ordered some time ago for the sites to use as new or replacement units were ordered. Users also stated that when technicians tried repairing printers at the sites, they often failed and suggested ordering a new one.

Web Filtering

Site users indicated that the Web filtering system is maintained by technology support staff without any input from end-users. Users are frustrated with what they believe to be arbitrary blocking of Web sites without any explanations of why the sites are blocked. Users also said that requests for sites to be unblocked are often not answered.

Some users indicated they want the district to support access to Web 2.0 applications to determine how they might be used for instructional purposes. Almost all these sites were blocked with no explanation provided.

Help Desk Software

The district's technology work order and help desk system, Altiris, is not used effectively. Because support staff members do not rely on the system, their work is not catalogued for analysis. No training has been provided on the Altiris software to determine its capacity or explain the detailed configuration and setup. There are no manuals or no written policies on its use. As a result of all these factors, employees have struggled to learn the system.

Backup Policy

The district has no written disaster preparedness plan for district information. Student information is at risk of loss as are countless other database repositories. There is no scheduled rotation of backup tapes to a secure off-site facility. No plans have been developed for restarting computer systems in a disaster, and no backup drills have been conducted. One staff member indicated that district servers that are beginning to fail can be redesignated as backup systems for data. This is not an acceptable policy since the data is still in danger of loss.

Textbook Management

Several site staff members mentioned the need for a textbook management system. Many school districts spend more money on textbooks than anything else except facilities. The district has software for managing textbook inventories however, some site staff members are unaware that the system is available.

E-School Plus

The potential of the E-School Plus student information system has not been realized. End users were provided with three hours of instruction and informed they must learn the system on their own now. Most users believe the system is adequate although it is not user friendly. The GEO coding implementation did not function as promised, and site staff members felt ill equipped to deal with the errors that occurred during implementation. Some users commented that the system is also evolving into one that is too complex for school utility.

Many site staff complained of inadequate training and support from the technology staff one using the E-School software application. A former district employee who works for E-School supporting other educational institutions volunteered to visit the school sites to help with concerns. However, site staff members indicated that they were instructed by the director of instructional technology not to contact the former employee.

After student suspension information is entered into E-School, users must log into the Cognos system to access the print menus for suspensions. Users complained that it takes an excessive amount of time to enter and print the data and process a discipline referral. Reports are also difficult to produce and replicate. The E-School system is another example of a district directed process that had little or no school site input. It was not adequately researched or compared to other available systems, and the implementation plan was deficient and lacked documentation.

Recommendations

The district should:

1. Consider halting the blade PC and thin client project until an evaluation of its effectiveness and fiscal sustainability is conducted. The evaluation should be conducted by an independent outside agency. The report should include recommendations about alternatives, if warranted, or should provide a plan for acceptance of blade technology by teachers and administrators if the blade PC project is deemed acceptable.

2. Consider sending the technology management staff to attend training in technology project management practices. The staff should invest in print and electronic resources that detail how projects should be developed and distributed. The department should rely more heavily on internal staff such as the manager of technical services to manage future projects. School and district office staff members should also be provided with the opportunity to collaborate throughout any project.

3. Assign the technology committee to discuss with affected parties, including business offices and school sites, the need for a technology sustainability plan for the blade computing environment. If the committee recommends that the blade PCs are going to remain in place for the foreseeable future, a plan should be developed to fund the required maintenance of the systems.

4. Suspend all current technology initiatives for schools and review them for compatibility with effective instruction, school operations and effective delivery of resources to the classroom. An evaluation group should manage the process including representatives of Technology Department. The review should include blade PCs, thin clients, electronic slates, denial of Macintosh computers on the network, computer repair and use, computer lab replacements and denial of Web 2.0 technologies.

5. Instruct the TOSAs to focus exclusively on issues that relate to the classroom. One TOSA should be responsible for fielding requests from teachers to activate resources on the Web. Another should be responsible for providing whole group instruction to teachers at a central facility regarding classroom technology. Training schedules should be widely published throughout the district.

6. Consider assigning the Technology Department to research and present alternatives on technology implementation. Principals should work with the district technology committee to make a final recommendation.

7. Encourage the Technology Department to develop a service orientation for service to the schools.

8. Review the costs of the telecommunications system. Determine whether the high-capacity being purchased is a necessity given the overall low utilization.

9. Review the expenditures of Nextel services to ensure they are consistent with the district's policies.

10. Develop a protocol to ensure that any labor-intensive change in technology is implemented at an optimum time for school sites.

11. Develop a more collaborative approach to system selection and implementation. Processes should be developed and implemented to ensure that major software selections are widely supported and that implementations occur with the user's needs in mind.

12. Review procedures related to printer (and possibly other equipment) ordering to ensure that products do not remain in the warehouse for an unreasonably long time before being delivered to school sites. The district should clearly define the procedure and policy on how much repair a printer receives before a replacement unit is recommended. The district should also work with the manufacturer or manufacturer's representative to ensure that staff members have appropriate knowledge regarding basic trouble-shooting and repair skills. The district should consider outsourcing and warranty repairs by a third party for printers that cannot easily be repaired by the staff.

13. Assign the technology committee to develop a process to determine which Web sites and types of Web sites should be blocked and/or available in the district. Access to Web sites that align with curriculum and learning objectives should not be blocked. In addition, the technology committee should consider providing administrators with access to the Web filter along with training on how to unblock Web sites.

14. Assign the manager of technical services to review the Altiris work order and help desk system for suitability with the department's needs. The manager should obtain input from all technology support staff members who use the system, and alternatives should be considered that may represent a better fit for district use. Regardless of which system is ultimately used, employees should be required to use it and should be fully trained in its use.

15. Immediately establish a disaster preparedness plan that includes provisions to restart district computer applications with a current data set if a catastrophe should ensue. The plan should include frequent backup drills for technicians with live backup restoration. An off-site location should be selected to hold backup tapes of district systems and data. District servers that are nearing failure should not be redesignated as backup devices.

16. Increase the use of e-mails, bulletins and other communication resources to heighten awareness of the district's textbook management system among all site staff members.

17. Create a user group consisting of E-School end-users and technology support staff members to define needs for ongoing support.

18. Investigate methods to create a more streamlined process for the entry and printing of student suspension and discipline data.

19. Assign the Technology Department to implement the E-School Plus student information system. Although the selection process for this system was flawed, this should not prevent the district from protecting its substantial investment. If necessary, the district should contract for project management assistance to complete the E-School project. This assistance should ensure that all system end users are fully trained and should include an easy reporting interface that provides school principals access to relevant information in a timely manner. Documentation on the system should also be made available to end-users.

Appendix

A Study Agreement

FISCAL CRISIS & MANAGEMENT ASSISTANCE TEAM
STUDY AGREEMENT
April 16, 2009

The FISCAL CRISIS AND MANAGEMENT ASSISTANCE TEAM (FCMAT), hereinafter referred to as the Team, and the Desert Sands Unified 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 Desert Sands Unified 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. Conduct a review of the district's administrative technology.
2. Conduct a review of the district's instructional technology.
3. Conduct a review of the district's technology services delivery.
4. Review the district's staffing and organizational structure for technology services delivery.

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. Scott Sexsmith, FCMAT Technology Consultant
C. Warren Williams, FCMAT Organization and Staffing 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 $9,500. 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:	5/14/09
Staff Interviews:	5/14-5/15
Exit Interviews:	5-15/09
Preliminary Report Submitted:	6/26/09
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: Cindy McDaniel, Asst. Superintendent, Business

Telephone (760) 771-8508 FAX (760) 771-8510

Internet Address cynthia.mcdaniel@dsusd.us

Dr. Sharon McGehee, Superintendent Date
Desert Sands Unified School District

Barbara Dean

March 3, 2009

Barbara Dean, Deputy Administrative 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.