Standard III.C: Technology Resources

Technology resources are used to support student learning programs and services to improve institutional effectiveness. Technology planning is integrated with institutional planning.

III.C.1. The institution assures that any technology support it provides is designed to meet the needs of learning, teaching, college-wide communications, research, and operational systems.

III.C.1.a. Technology services, professional support, facilities, hardware, and software are designed to enhance the operation and effectiveness of the institution.

Descriptive Summary

City College of San Francisco provides technology resources, services, and support in order to improve the effectiveness of the institution and meet the needs of the learning and teaching community. Technology is crucial to the support of CCSF’s Mission and Vision, and discussions and decisions concerning technology are made through multiple shared-governance and institutional-planning processes.

Technology resources and services are provided by Information Technology Services, which includes four units: Technical Services, Technical Operations, Project Management and Consulting, and Administration, that provide service and support such as the Service Desk, desktop services, networking and infrastructure, computer lab management, enterprise computing resources, programming, administrative support, and telephony services.

The Educational Technology Department (ETD) includes the Technology Learning Center (TLC) and the Technology Mediated Instruction (TMI) unit. ETD oversees the development, delivery, and support of all online classes using Insight (CCSF’s learning management system); trains and supports faculty to use technology to enhance face-to-face classes with Insight; manages the TLC laboratory, which serves as an open computer lab for faculty and staff as well as an area for training faculty; and oversees and implements the Educational Technology component of the College’s Technology Plan. Other units providing technology services and covered by the Technology Plan are Broadcast Media Services (BMS), which provides instructional video production, editing, and duplication services for the College; Educational Access Television (EATV); Student Development departments; and Library and Learning Resources (LLR), whose services are described in II.B and II.C.

Technical Services staff are responsible for the infrastructure and equipment for 78 computer labs housing around 2,000 computers available for student use. There are also about 3,000 computers in use by faculty and classified staff. Budget constraints limit hours of access for students, as no lab is open later than 9:00 p.m. on weekdays or 3:00 p.m. on Saturdays. There is currently no access to computer labs on Sundays.

The College uses an integrated planning process to develop the Technology Plan, which
ensures that its various types of technology needs are identified. The CCSF Vision, Mission, Strategic Plan, and Annual Plan drive the Technology Plan’s conceptual framework and implementation [III C-1, III C-2, III C-3, III C-4, III C-5]. The 2009-11 Technology Plan is evidence based and addresses the technology needs as articulated by faculty, staff, and students. These constituents provide input by means of the Shared Governance process (e.g., the Teaching, Learning, and Technology Roundtable), departmental committees (e.g. the Library Technology Committee), from requests/problems logged by Service Desk and other technology staff, and from comments and suggestions provided in surveys and suggestions coming from employees and students who use technology for a variety of purposes.

Using the Technology Plan as a road map, the College selects projects that provide students and the District with the maximum benefits in the most cost-effective manner. The key goals outlined in the current plan strive to “promote institutional effectiveness, efficiencies, and learning, to provide guidelines and standards for technology-enhanced curriculum, and to bridge the digital divide, empowering students for mastery of information competency and attainment of their educational goals” [III C-1].

The following is a list of the most important technology-driven developments designed to meet the needs of learning, teaching, College wide communications, research, and operational effectiveness since the last Self Study.

**Teaching and Learning**

- The College has expanded its online course offerings from 85 sections in Fall 2005 to 174 sections in Spring 2011.
- Distance-learning courses are offered in 27 academic departments, all six schools within Academic Affairs, and in Library and Learning Resources.
- In some departments, a student can complete all of the requirements for a certificate by taking online classes or telecourses.
- Students can complete approximately 90 percent of the courses required to fulfill the CSU GE or IGETC pattern by taking online classes or telecourses.
- By the end of 2010-11, 253 face-to-face sections were tech-enhanced, an increase of over 100 percent from the Fall 2009 semester.
- Nine percent of students taking an academic class at CCSF have taken a distance-learning course.
- As of Fall 2010, CCSF converted all online academic courses from the learning management system WebCT to Insight (Moodle™). When the College contracted with a vendor to host the learning management system, provisions for reliability, disaster recovery, privacy, and security were all negotiated within the contract between the vendor and CCSF.
- CCSF’s Educational Technology Department partnered with EduStream to offer faculty access to a centralized library of on-demand videos that can be streamed for a face-to-face class, referenced in a tech-enhanced course, or required as part of an online class.
- Multimedia equipment was installed in 50 classrooms, the highest concentration being at the Mission Campus and the Ocean Campus Multi-Use Building (MUB).
• EATV upgraded its equipment to automate the workflow supporting the City and County of San Francisco’s two educational access television channels, which are operated by the College to provide educational programming and courses for college credit 24/7.
• Two distance-learning rooms with a control room are designated in the new MUB. Faculty and staff met to plan deployment of these rooms in Spring 2011. Equipment has been ordered, and further meetings are planned for Fall 2011.

**College Wide Communications**

• In 2009 the College launched a redesigned website with a more user-friendly interface and standardized appearance as provided by a new Content Management System (CMS) that also allows CCSF content developers to work from any computer with Internet access. The redesigned site includes Google search, an enhanced online Library catalog, and improved back-end web technology.
• ITS implemented CCSF email accounts, via Google Gmail, for all credit and noncredit students, thus improving communication with faculty and student services staff.
• ITS implemented the wireless LAN network with 78 access points available across the College, covering approximately 20 percent of the District.
• ITS implemented text messaging as an option for students to receive communications.
• ITS implemented Google applications such as document creation to improve communications.
• ITS posted an online Access Guide with Americans with Disabilities Act (ADA) mobility information about renovation and construction updates, accessible paths, disabled-only parking, ramps, elevators, and other disability-related features.
• The Office of Outreach and Recruitment began use of social media such as Facebook to communicate with students. Other departments and divisions are also using social media to network with students and alumni.
• Student Health Services implemented Medicat®, an electronic healthcare information system.

**Facilitating Student Access and Success**

• Admissions and Records staff implemented CCCApply, the online application to California Community Colleges.
• The Scheduling Office, in conjunction with ITS, has greatly enhanced the online version of the Class Schedule, such as providing links to textbook information from each course section listing. Admissions and Records staff provided dedicated online credit and noncredit application workstations at all principal campuses.
• Admissions and Records staff formalized electronic transcript data exchange agreements with local universities.
• The College implemented photo-identification cards, including a unique, scannable barcode number for all credit and noncredit students and employees.
• Counselors use the automated Academic and Progress Review to monitor student progress.
• Matriculation staff use computerized enforcement of prerequisites to facilitate the registration process.
• The Matriculation staff with the help of ITS installed computerized testing centers in the Downtown and Mission campuses.
• The Disabled Students Programs and Services (DSPS) computer labs on the Ocean and John Adams campuses were updated and remodeled to allow for better wheelchair access.

**Improving Operational Effectiveness**

• Several online and database systems have been developed by a partnership between ITS staff and staff in the Office of Instruction to streamline faculty evaluations, tenure review, Program Review, Curriculum Committee agendas and minutes, non-class-related room reservations, and sabbatical leaves.
• EATV, Broadcast Media Services, and Technical Services have collaborated to implement live streaming, closed-captioned webcasts of Board of Trustee meetings, which will be archived and indexed for easy public access. The system’s potential for distance learning is being explored.
• Developments in IT infrastructure and support include:
  o implementing a Storage Area Network (SAN) solution to provide a more reliable data-storage environment and an enterprise-wide data backup solution to assist in data recovery;
  o completing the connection of all sites to the fiber ring, with the exception of the Chinatown/North Beach Campus;
  o implementing the Banner Document Management System, which provides imaging of student records formerly held in hard copy;
  o implementing AccuTrack access management software in select computer labs for more efficient, accurate accounting of student lab use;
  o completing an upgrade to Banner 8;
  o establishing a documentation advisory workgroup to collect and standardize IT documentation;
  o implementing a self-service ticketing system in Spring 2011 to allow end users to monitor progress of their service request and to allow for better utilization and evaluation of IT staff resources; and
  o increasing the hours of the Help Desk to cover lunch hours.

**Student and employee surveys** from 2010 and 2011 provide data that support the effectiveness and satisfaction with certain technology applications and facilities. For example:

• The 2010 Credit Student Survey Report included several technology-related items for which students rated their satisfaction. For computer labs, 81 percent of 2,711 students rated the labs as “good” or “excellent” compared to 78 percent who gave the same ratings in the 2004 survey. Most notable in 2010 is the 37 percent who rated the labs “excellent” compared to 29 percent in 2004 [III C-6].
• In addition, for the CCSF website, CCSF email, and the student portal Web4, 73 percent to a high of 80 percent rated these online services as “good” or “excellent”
(These items were not on the 2004 student survey.) [III C-6].

- Relevant survey items from the 2011 Employee Survey Report reflect overall mean ratings of “good” for service provided at the Help (Service) Desk (3.2 rating with 462 respondents) and the Instructional Computing Lab (3.2 rating with 171 respondents) [III C-7].

- Distance learning student surveys were used to assess online learning through Fall 2008. The findings were shared with online course instructors who used the information to improve their courses. In Spring 2009 the College began migrating courses from the WebCT learning management system to Moodle. In addition to the issues related to determining that the host for College online courses would be stable and reliable, the state Chancellor’s Office began conducting surveys of distance education students. During 2009-10 ETD suspended conducting surveys of students enrolled in telecourses because of budget issues. ETD staff do collect, analyze, and use the feedback from the online student help tickets to update and modify the online FAQ information and other documentation for online students [III C-8].

### Self Evaluation

The College meets this standard.

Even with the poor economic environment and some staff shortages, technology resources have been effectively harnessed to support the needs of learning and teaching, College wide communications, research, student access, and operational systems.

The implementation of the new website, student email, and Google applications has upgraded and expanded the use of technology systems and improved levels of communication, organizational effectiveness, and efficiency at CCSF. However, improvements are still needed. CCSF needs to encourage and provide more support and training to departments to migrate content from the former website to the new website. In addition, to maximize the productivity of the College website, the vacant website content manager position in the Office of Marketing and Public Information should be filled when funds become available.

While many units have developed efficient online systems and enhancements to assist faculty and students with teaching and learning activities, improving communications, student access, information gathering, and delivery, and other operational systems, there are still paper-based systems which could be automated to increase productivity.

Concern continues about insufficient electrical power in the data and computer center in Batmale Hall, which hampers the College’s use of technology on the Ocean Campus. Thankfully, a resolution was approved at the October 2010 Board of Trustees meeting authorizing an engineering study to determine the exact needs and scope of the project [III C-9].

Wireless connectivity is not reliably available in some facility areas where it is needed. An RFP seeking replacement of the current wireless LAN equipment has been developed and
proposals are currently being reviewed.

CCSF students continue to experience a “digital divide.” While economically advantaged students can access a wide range of instructional and academic support materials online on their own equipment at any time, other students must come in person to labs where, during peak hours, they must compete for insufficient resources. Economically disadvantaged students who lack computers and/or Internet access at home have no access to online resources and equipment when campus computer labs close relatively early in the evenings, or on Sundays when all labs are closed.

Planning Agenda

1. Plan for the implementation of the results of the engineering study related to insufficient electrical power in the data and computer center in Batmale Hall.
2. Assess the causes related to unreliable wireless connectivity in affected facilities to determine if solutions are possible to implement.
3. Encourage migration of content to current website, increase training and support to departments and offices that have not yet migrated content from the former website.
4. When funding becomes available, fill the vacant website content manager position in the Office of Marketing and Public Information.

III.C.1.b. The institution provides quality training in the effective application of its information technology to students and personnel.

Descriptive Summary

Faculty and staff training and technical assistance needs are provided by the Technology Learning Center (TLC), the Technology Mediated Instruction Office (TMI), and individually by the staff as well as by online documentation and tutorials provided on the website. The TLC staff works with faculty and ITS staff to decide on the most appropriate training to conduct each semester given the budget allowance. Discussions and suggestions concerning the needs for educational technology and training also emerge from the Teaching, Learning, and Technology Roundtable (TLTR), whose purpose is to recommend policies for the use of technology for instructional support and student services. Training in all these areas has decreased with the recent and ongoing budget cutbacks.

The TLC organizes the Technology Professional Development Training Program, which provides training for faculty and staff on a variety of educational and applications software through a schedule of ongoing workshops and Flex Day activities each semester. Training is delivered in a variety of modes to meet the needs of CCSF faculty and staff. From hands-on workshops, to online training and sessions created specifically for departments’ needs, TLC staff provide tools that educators in the 21st Century need to be effective teachers.

When the College implemented the new website technology, the TLC worked to develop Content Management System training and assisted ITS staff with training, outreach, and
The TLC, in conjunction with ITS trainers, is also developing and delivering training on CCSF email and Google applications for employees. During the 2010-11 academic year, TLC staff provided 111 workshops in the TLC Lab for 677 faculty, classified staff, and administrators. Individual consultations numbered 287, equating to 98 hours of training time during the same year. In order to gauge the success of the training workshops by TLC staff, evaluation forms are provided to all participants. The 2010-11 workshop evaluations show that 83 percent of attendees who filled out the forms (N=126) rated the workshops as excellent and 17 percent who filled out the forms (N=25) rated them as good.

TMI staff supports the online, technology-enhanced, and telecourse curriculum. TMI provides training for faculty converting a class from a face-to-face mode to online delivery. With budget cuts in Fall 2009, TMI sustained a 50 percent cut to its training budget, resulting in funding only 24 units of online credit course development per academic year. In Spring 2010, TMI began providing training for faculty wanting to use Insight, the College’s learning management system, to technologically enhance a face-to-face course. That semester TMI staff trained credit and noncredit faculty at the Evans Campus on how to tech-enhance their courses. That was the first such training at another campus and the first to include noncredit faculty.

Evidence for the effectiveness of ETD training activities comes from the 2011 Employee Survey Report, where the mean rating of the 361 respondents was a 3.12 (“good”) for training on educational and applications software and, for the item related to distance learning training and support, the 220 respondents assigned a rating of 3.1. The 2011 Credit Student Survey Report had no specific question asking students to rate technology training but the Spring 2011 Library survey had three related items: Of the 968 student respondents who had completed one or more of the online or in-class research information competency skills workshops, 97.2 percent (N=935) were satisfied or very satisfied with the training they received in the workshops. In response to the statement “Due to the library facilities, services, and programs, I am better able to effectively use computers and information technology” 40 percent of the 1,862 respondents marked “usually” and 31 percent marked “often”.

In Fall 2010, when TMI began providing faculty and students with more advanced topic-specific workshops focused on Insight, the following three projects were implemented:

- The front page of Insight was redesigned in order to provide more focused training to students and faculty.
- An online searchable knowledge base was activated for faculty and students to continue training on Insight using a self-paced format.
- TMI began working directly with departments to provide tech-enhanced trainings to meet more specific student needs. For example, TMI provides support for the English Department, which has a new accelerated pathway for students and is planning to use a tech-enhanced model to deliver the English 96/1A coursework.

Faculty and staff also receive technical assistance from the Service Desk in the following areas: desktop (hardware and software), printer, and equipment support; phone support; and...
support for College wide applications such as Banner, GroupWise, and Web4. Due to the increasing use of technology by faculty and staff, the Service Desk is faced with an escalating demand to deliver technology support to users across all of the campuses. ETD and IT staff have developed online tutorials and other documentation to help address some of the demand for individual assistance [III C-11].

Technology training for students occurs within certain courses as well as outside the classroom. In addition to classroom activities, students use and improve their technology skills in a number of ways at CCSF, including the use of the wireless LAN network, Web4 online registration, accessing student account information, using Insight, CCSF student email, financial aid software, and Google applications. Staff in the Student Services Division, the Library, and in public computer labs train and provide individual assistance for students using many of these applications. For example, counselors in the Career Development Counseling Department train students to use the Eureka career-assessment software. Another example is the staff in the various public computer labs, such as the Academic Computing Resource Center, the DSPS High-Tech Center, and retention program computer labs, who assist and train students in the use of applications software.

Curriculum-related training occurs in many courses that have computer labs, such as accounting, biology, English, and graphic design. Staff in these departmental computer labs help students learn to master the required courseware and software applications. Two examples are 1) the TMI, in partnership with the Learning Assistance Center, where staff created a one-unit online course, “Successful Online Learning,” to train students how to effectively navigate a distance education course; and 2) the Library staff who provide students training in research and information competency skills via on-site and online workshops required by many courses, such as English 1A.

Self Evaluation

The College meets this standard.

The institution provides quality training in the effective application of its information technology to students and personnel. Faculty and staff training and technical assistance needs are provided by several units: the Technology Learning Center (TLC), the Technology Mediated Instruction Office (TMI), and individually by the Service Desk and online documentation and tutorials. In addition, library faculty train students in online research/information competency skills as well as provide individual training to faculty and students about using online resources and technology applications. Staff in many departments of the Student Services Division also provide group and individual training for students, such as in Career Development and the Learning Assistance Center. Overall, students and faculty rate technology training as good.

Although CCSF provides training for employees, the budget constraints have made the Technology Learning Center cut back on much of the non-essential training. In order to better provide the necessary knowledge to improve teaching and learning at CCSF, a number of actions are recommended to increase professional development. First, the ETD office
should identify and establish teams of trainers from different departments to help expand training in education technology and operational software across the College. In addition, it should increase the use of training through grants, or an incentive program for further professional development and drive collaboration to learn about state-of-the-art training tools with other community colleges and universities. It should also explore and establish best technology practices for noncredit classes, identify and use noncredit faculty to test and establish these best practices, and develop department-specific trainings across the campuses as the budget allows.

The ETD training budget for faculty to develop online courses has been significantly cut. ETD will not be able to expand the number of online classes without a budget to train new instructors. In addition, the lab spaces used to train instructors and for faculty to use for on-campus meetings were reassigned. Currently, facilities for these activities are not available. Expansion of online programs cannot occur without adequate support from the College, including funding for equipment and maintenance of hardware and software, and the replacement of staff who retire from or leave CCSF. Recruitment is currently underway to fill the full-time instructional designer position.

Planning Agenda

1. Align budget priorities to support the training needs of instructors who want to learn to teach online or use technology to enhance their teaching.
2. Restore the lab space formerly assigned to ETD so that adequate facilities are available for technology training to faculty and staff.

III.C.1.c. The institution systematically plans, acquires, maintains, and upgrades or replaces technology infrastructure and equipment to meet institutional needs.

Descriptive Summary

The 2009-11 Technology Plan details goals for institutional needs at CCSF. Each Annual Plan guides near-term implementation of the Technology Plan and reflects any necessary adjustments revealed through Program Review. Departments write an annual Program Review report, which describes their budget and technical needs, among other things. The College’s Budget and Planning Council (College’s PBC) is responsible for developing and reviewing all College wide plans and also, via its Program Review Committee, reviewing findings from the Program Review process. Through the College’s PBC, the College decides in a centralized manner how to upgrade and replace technology infrastructure and equipment to meet institutional needs. The institutional planning process is also discussed in more detail in III.C.2 below [III C-1, III C-5, III C-12, III C-13].

In crafting the most recent Technology Plan, the College considered that technology decisions tend to be high-stakes decisions involving large amounts of resources and having consequences lasting many years. Cost and performance were main considerations. Dealing with challenging state cutbacks, the College planned to be efficient and effective in its use of
resources, setting priorities despite severely constrained departmental budgets. Fortunately, effective implementation of technology may also provide demonstrable cost efficiencies throughout the College. In addition, grant funding or bond funding may be successfully pursued for many projects. A great deal of the current technology implementation at the College has been financed by bond proceeds from the 2001 and 2005 CCSF bond initiatives. However, expenditures of bond funds for technology have been suspended until the College can be sure that the technology needs of new buildings will be funded. Although the possibility of a Phase 3 bond has been discussed, the Board of Trustees has not voted to pursue such a bond, and the economic climate may make passage difficult.

Although grant and bond funding may be good sources for starting new projects, funding for ongoing operational support and maintenance requires a continuous source that grant and bond funding do not supply. Funding for ongoing operational support needs to be identified for existing as well as new technology projects.

The Service Desk has been one of the primary avenues to report technology problems, whether related to training, maintenance, or replacement issues. In order to streamline the IT support process at CCSF, a new ticketing system was implemented in Spring 2011 that tracks IT issues and evaluates response time and service.

Technical support staff make recommendations to management about the type and frequency of preventative maintenance. An estimate of the remaining useful life of equipment is made throughout the year in order to help plan for replacement of servers [III C-6].

System reliability has been achieved through a combination of proactive preventive maintenance, replacement of aging infrastructure, and software upgrades. Currently only a limited number of systems have an emergency backup; however, a project has recently been started that will provide emergency backup of mission-critical systems through the use of virtualization technologies.

Even though a limited amount of hardware has backup, it should be noted that all critical data, such as email, website content, and Banner information, is routinely backed up and stored at an off-site, geographically separated data-storage facility. A plan for full redundancy of all mission-critical systems is expected to be in place by the end of 2012 [III C-6].

Self Evaluation

The College meets this standard.

The institution systematically and effectively plans for the technology infrastructure and equipment to meet institutional needs. Planning for ongoing maintenance, upgrades, and replacements is also systematic. Acquisition of needed technology resources is heavily dependent on funding and although grant and bond funding may be good sources for starting new projects, funding for ongoing operational support and maintenance requires a continuous source that grant and bond funding do not supply.
Planning Agenda

1. Identify funding for ongoing operational support needs for existing as well as new technology projects.
2. Complete plan for full redundancy of back-up systems for all mission-critical systems.

III.C.1.d. The distribution and utilization of technology resources support the development, maintenance, and enhancement of its programs and services.

Descriptive Summary

The institutional processes that determine the use and distribution of technology resources at CCSF are also discussed in sections III.C.1 and III.C.2. The allocation of funds for technology projects follows the Strategic Plan, Technology Plan, Annual Plan, and Program Review reports and is reviewed by the College’s Planning and Budgeting Council. Capital equipment requests are made as part of the annual budgeting process [III C-1, III C-3, III C-5, III C-14].

In addition to these processes, several Shared Governance committees are responsible for recommending policy and driving details of the discussion about utilization of technology resources. The Information Technology Policy Committee (ITPC) recommends policy regarding technology usage. The Teaching, Learning, and Technology Roundtable (TLTR) provides a monthly forum for faculty to discuss their technology needs, and the Communications Committee manages policies concerning website design and content. The Distance Learning Advisory Committee (DLAC) oversees the policies concerning distance education at CCSF, including online and telecourses [III C-15, III C-16, III C-17, III C-18].

Rapidly evolving technological innovations have a significant impact on how CCSF delivers services to students and the educational community. While many organizations move to deliver more and more information on the Web and other devices rather than in print, CCSF has also enhanced the way it delivers information. The mobility of content, accessible via ever-smaller and more powerful mobile devices, is also a trend that drives technology priorities. The College has responded to changing lifestyles and demands by implementing more efficient ways to provide information and services to students and faculty. These efforts, such as mass emailings to students that save the cost of paper, ink, stamps, envelopes, and staff hours preparing the mailing, also help create more sustainable practices.

The College provides for a robust and secure technical infrastructure via a firewall, the physical separation of the network infrastructure into an administrative side and an instructional side, account passwords, use of switch ports, use of standardized anti-virus and anti-spam software, and secure logon and passwords into the enterprise information system. In addition, all enterprise servers are backed up on a regular basis. Enterprise-level software is kept up to date to ensure vendor support.
The College keeps its infrastructure up to date by establishing standards for its cabling infrastructure to be applied to all new construction, by purchasing technology products early in the product life cycle to ensure that equipment will have a maximum lifespan of use before becoming obsolete, and by making cost-effective design decisions. Infrastructure is periodically reviewed in order to determine its level of usability and an estimate is made on its remaining useful life. Equipment is replaced as it becomes out of date or fails, resources permitting.

Although these operational reviews are ongoing, CCSF relies on manufacturer’s maintenance and service advice codes to extend equipment’s serviceable life. A priority during this next technology review cycle is to put a plan in place so that the IT department can be proactive instead of reactive concerning replacement of key operational systems.

The 2011 Strategic Plan and 2009-11 Technology Plan both outline the priorities for distance learning. The Technology Mediated Instruction Office, which is part of the Educational Technology Department, continues to successfully support online courses, tech-enhanced classes, and telecourses. Staff in this office develop College wide guidelines and standards regarding educational technology, overseeing and implementing the Education Technology Plan section of the Technology Plan [III C-1, III C-3].

Two other Shared Governance committees also provide input to the ETD to further strengthen distance-learning programs and courses. As discussed earlier, the Teaching, Learning, and Technology Roundtable is a Shared Governance committee whose purpose is to recommend policies for the use of technology in instructional support and student services. Much of the discussion at monthly meetings concerns development and improvement of distance-learning courses or support services for students and instructors involved in them. The Distance Learning Advisory Committee reviews applications to develop online courses and telecourses. These two committees meet monthly and provide feedback about whether technology is effectively distributed and used within the distance-learning program [III C-16, III C-18].

In 2009, when the College decided to switch to a new learning management system for distance education classes because the WebCT-Blackboard system was not delivering the quality of service that faculty and students required, a lengthy College wide discussion and review of new learning management tools took place in multiple committees and groups over several months. Following the review, the College chose Moodle as its new learning-management system. While WebCT-Blackboard had been hosted locally, the institution decided to host Moodle and all of the College’s online classes through a private web-hosting and support company. This decision was made to ensure that the workload of the ETD didn’t increase. The move also decreased the cost per student while improving reliability and scalability of our programs. When faculty and students were disappointed with the reliability of the first hosting vendor, the decision was made to move to another company [III C-19].

Self Evaluation

The College meets this standard.
The distribution and utilization of technology resources support the development, maintenance, and enhancement of the programs and services at the College. Rapidly evolving technological innovations have a significant impact on how CCSF delivers services to students and the educational community. CCSF has responded to the changing lifestyles and demands by implementing more efficient ways to provide information and services to students and faculty. This effort has also created more sustainable practices that reduce waste.

At CCSF, technology infrastructure is reviewed periodically to determine the level of usability, and systems are replaced as they become out of date or fail, resources permitting.

Planning Agenda

1. Implement a system to estimate the useful life of equipment so that the College can be proactive instead of reactive concerning replacement of key operational systems.

III.C.2. Technology planning is integrated with institutional planning. The institution systematically assesses the effective use of technology resources and uses the results of evaluation as the basis for improvement.

Descriptive Summary

Since 1997 CCSF has integrated technology planning into institutional planning through its Technology Plan, which develops from a shared governance process and includes input from relevant committees and the Board of Trustees. The CCSF Vision, Mission, and Strategic Plan drive the Technology Plan’s conceptual framework and implementation [III C-1, III C-2, III C-3, III C-4]. The 2009-11 Technology Plan is evidence based and addresses the technology needs as articulated by administrators, faculty, staff, and students. These constituents provide input by means of the Shared Governance process (e.g. Teaching, Learning, and Technology Roundtable), departmental committees (e.g. the Library Technology Committee), from requests and problems logged by Service Desk staff and other technology staff, and from comments and suggestions provided in surveys and coming from employees and students who use technology for a variety of purposes.

Technical Services continually assesses its work regarding customer service and service support. Inputs from District committees such as the ITPC, TLTR, and Technology Advisory Groups, as well as inputs from Associated Students, Academic Senate, Department Chairpersons Council, and the Classified Senate all contribute to efforts to improve service and service support. Additionally, the newly established work order system used by the Technology Service Desk provides insight into maintenance issues, mean-time-to-repair (MTTR), and serviceability of equipment. These insights help to improve customer service and support as well as indicate the direction classroom and infrastructure technology will go. Further, a continuous process of evaluating project outcomes and technology advancements all provide important feedback for technology decision making.
The allocation of funds for technology projects follows the Strategic Plan, the Technology Plan, and the Annual Plan and is approved by the College’s Planning and Budgeting Council (College’s PBC), as discussed in sections III.C.1 and III.C.1.a of this report.

The Annual Plan is based primarily upon the College’s Strategic Plan. The Annual Plan serves as an operational version of the College’s plans for a one-year period; it consists of a set of institutional objectives that are to be achieved by the College through the efforts of the College’s departments, schools, and administrative operations. Clear objectives are provided each year to encourage each department to align its plans with overall College plans and the implementation of technology initiatives [III C-5].

With respect to evaluation, departments and student service divisions undertake a Program Review process, where they examine and report on their specific needs and goals, reflecting on the success at meeting previous objectives. ITS also submits an annual self assessment, documenting progress in accomplishing objectives [III C-20]. The College’s PBC, through its Program Review Committee, reviews all these unit plans so that requests for funds are viewed from an institutional perspective [III C-13].

Resources for academic support are allocated through the instructional departments and their respective school deans. In the annual Program Review process, departments analyze their program budgets, student learning outcomes, and department needs and describe future plans for extending or upgrading technology. This process also includes the College’s PBC. Fewer resources have been available due to budget cuts, and technology resources for individual departments have suffered for this reason [III C-12, III C-13].

The Technology Plan is a living document that is subject to continuous review in order to adapt to technological changes and shifts in College resources and priorities. The plan provides detailed information for each unit, including Information Technology Services (ITS), Educational Technology Department (ETD), Broadcast Media Services (BMS), Educational Access Television (EATV), Student Development, and Library and Learning Resources (LLR).

The process of creating the 2009-11 Technology Plan was an inclusive one: A workgroup was formed of faculty, staff, and administrators representing ITS, ETD, the Technology Learning Center (TLC), the Office of Technology Mediated Instruction (TMI), the Office of Student Development, LLR, the Office of Planning/Institutional Advancement, the Office of Academic Affairs, the Information Technology Policy Committee (ITPC), and the College Advisory Council (CAC) [III C-1].

Using the Technology Plan as a roadmap, the District selects projects that provide students and the College with the maximum benefits in the most cost-effective manner. The key goals outlined in the current plan strive to “promote institutional effectiveness, efficiencies, and learning, to provide guidelines and standards for technology-enhanced curriculum, and to bridge the digital divide, empowering students for mastery of information competency and attainment of their educational goals” [III C-1]. In implementing the Technology Plan,
guidelines set forth in the CCSF Sustainability Plan were also followed. With respect to energy conservation and recycling, the College is currently implementing sustainability measures to recycle and reduce energy consumption and other waste [III C-21].

The College also relies on its shared governance process to review and provide input into technology decisions. Throughout the year, there are meetings of the ITPC, which is the Shared Governance committee that provides policy recommendations to the CAC concerning technology. The Teaching, Learning, and Technology Roundtable (TLTR) reviews the technology needs of learning and teaching. These Shared Governance groups review and provide feedback to draft plans, review and recommend policies for the use of technology, and evaluate progress and results [III C-15, III C-16, III C-22].

In the selection of software, CCSF has established selection criteria to ensure maximum benefit. Institutional applications are chosen with an eye towards scalability, security, reliability, data integrity, ease of use, and robustness. They should also encourage innovation. Instructional applications are chosen with criteria about access, ease of use, suitability for course management, ability to address the needs, learning styles and learning outcomes of CCSF students, and faculty and staff training needs. In all College technology purchases, sustainability, including total cost of ownership, is an important factor.

Recent California state budget cuts have compelled the College to evaluate the staffing levels for its technology functions to establish better user support and more efficient use of IT personnel. Starting in the 2009-10 school year, the College began a review of its staffing levels and utilization in the Information Technology Services area. At that time, Information Technology (IT) and Information Services (IS) personnel were distributed throughout the institution in many departments and offices in a highly decentralized manner. During the course of review, the College determined that it could increase efficiency and productivity by consolidating its technology workforce. Starting in the 2010-11 academic year, all classified employees with civil service classifications in the IT and IS categories were reassigned to the ITS department. Moreover, the position of Chief Technology Officer was established and the person hired began work in Summer 2010.

Findings from employee and student surveys are useful evidence that technology programs and services are effective. In the 2011 Employee Survey Report, respondents gave all areas of the Technology Learning Center slightly more than a “Good” rating, with the Service Desk earning a 3.16 on a 4-point scale with 3 defined as “Good” (N = 462), the Training Programs 3.12 (N = 361), and the Distance Learning and Support 3.10 (N = 220). Other technology areas generally received scores greater than 3, including the Education Technology Department (3.16, N = 171), Instructional Computer Lab Support (3.04, N = 234), Library and Learning Resources (3.34, N = 281), and Broadcast Media Services (3.21, N = 198). The Information Technology Services area did not score quite as high, with Banner Support scoring 2.79 (N = 433) and Computer and Network Support scoring 2.97 (N = 528) [III C-7].

The 2010 Student Survey Report indicated a fairly positive response to questions about technology, with 81 percent (N = 2,196) of the students rating the computer labs good or
better (37 percent, rating them excellent and 44 percent good). Other ratings include: more than 77 percent of the students rated the online class schedule good or excellent \((N = 2,068)\); more than 80 percent of the students rated the online registration and add/drop system good or excellent \((N = 2,783)\); and nearly 75 percent of the students rated the website good or excellent \((N = 2,518)\) [III C-6].

**Self Evaluation**

The College meets this standard.

The College has an effective integrated technology planning process that takes input from multiple areas of the institution. The Strategic, Technology, and Annual plans, as well as the Vision and Mission of CCSF, emphasize that technological support should meet the needs of teaching, learning, College wide communications, research, and operations systems. The Shared Governance committees provide ongoing input into the fast-changing technology landscape at CCSF. The past five years have seen implementation of projects that have provided students, faculty, and staff with many benefits in the most cost-effective manner.

Procedures and workflow in ITS are under a recurring and continual evaluation process for greater efficiency and improvement. The primary challenge facing the Technology Division today is how to reduce the total cost of ownership of desktop systems while providing the required computer resources to allow faculty, staff, administrators, and students to perform their work in a cost-effective manner. The technology department is investigating alternative technologies such as thin-client and zero-client computing to provide continued improvement of desktop services. Key to this is the identification and designation of funding sources specifically allocated for the purposes of establishing a District wide refresh program.

After a period of evaluating staffing levels for technology functions at the College, all classified employees with civil service classifications in the IT and IS categories were reassigned to the ITS department starting in the 2010-11 academic year. The position of Chief Technology Officer was established and the person hired began work in Summer 2010. This reorganization of personnel strives to increase efficiency and productivity by consolidating the technology workforce.

**Planning Agenda**

1. Evaluate the true cost of ownership in all technology acquisitions.
2. Develop an evaluation plan for gathering feedback and other data to assess the benefits of the technology workforce reorganization to technology users and to learning and teaching across the District.

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