Standard III.C: Technology Resources

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

Standard 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.

Descriptive Summary

In 2000, when the last Accreditation Self-Study took place, Cañada College had a versatile classroom model being used in virtually every standard classroom on campus. Each room contained a cart with a TV and VCR, an overhead projector and a projection screen. Having this equipment permanently available in each room was a great advantage for instructors in terms of lesson planning and spontaneity. This would account for two-thirds of the classrooms on campus, the others consisting of computer labs or specialized facilities such as the band room or art studios. The computer labs were the only rooms on campus that would utilize permanently installed LCD projectors for projecting computer images. If this capability was needed in other classrooms, a small number of "media carts" equipped with a computer and projector were available to be delivered to that room.

During the summer of 2003 we began permanently installing more sophisticated media equipment in a number of classrooms. These "smart classrooms" all have ceiling-mounted LCD projectors for computer or video images, a sound system, internet access, and provisions to connect an instructor's laptop computer or use the built-in desktop computer. Over the last few years we have refined this model for ease of use, economy and consistency of design. The ability to display PowerPoint presentations, play DVDs, access websites, among other things, have been universally praised by both instructors and students. Since 2003 over half of the classes on campus have been converted to smart classrooms, with many more installations planned for the immediate future.

Self Evaluation

The institutional goal is to provide a computer workstation (desktop or laptop) to each full-time faculty and staff member. As of now, virtually every faculty and staff member has access to a computer in their office or workroom. The San Mateo County Community College District's Centers for Teaching and Learning (CTL) provides faculty, staff, and administrators with the innovative pedagogical and technological expertise each needs to most effectively sustain the SMCCCD's leadership role in higher education–one which utilizes best practices and a student-centered approach to deliver

quality instructional content and services to a student population with diverse learning styles and abilities.

When considering the 23 smart classrooms, 8 computer labs and the 9 classrooms to be converted this year Cañada will have high-tech media equipment installed in over 75% of the classrooms by the end of this year, versus less than 15% just three years ago.

ACADEMIC LABS

ESL
The primary lab for ESL has 23 computers. All of them are Pentium 3, mostly 500mhz, with 128mb RAM, running Windows XP. These computers have been identified as being in need of replacement during the 2006-07 academic year.

Business Skills Labs

The Business Skills labs are the largest collection of computers on the main campus. The labs are housed in three separate rooms on one floor. Each room can be used for instruction or lab. They all have overhead LCD projectors. Currently one lab has been converted to a "smart classroom" with the other two to follow soon. These labs support all of the business skills classes in addition to medical reporting, English, and Middle College.

The largest lab contains 39 Dell computers running Windows XP. The next smallest is the newest having been updated in January 2006 and contains 32 of the latest Dell computers.

The next lab has 28 Dell computers running dual platform – Vista and Windows XP. This lab was recently updated in January 2007 and the classroom was converted to a "smart classroom" during the fall 2006 semester.

The Multimedia Department is part of the Business and Workforce Development Division and has a cross platform lab of 17 IMac computers and 17 Dell computers. This lab tries to be on the leading edge of technology due to the requirements of the industry that it is preparing students for. In January 2007, the 3D Animation and Video Game Art classroom was renovated and there are 25 Macintosh computers running high end software application programs.

Science & Technology

The primary lab has 18 Dell computers that are up to date and meet the current minimum standards set by ITS.

Physics/Engineering

The Physics/Engineering Department has a lab with 25 computers in its main room with an additional 20 laptops with wireless internet access.

Library & Student Resource Center

At the current time, the library provides sessions to teach students how to find and evaluate information in databases and a self-paced course "Introduction to Information Research." In addition, online tutorials are available for faculty and staff. Effective fall 2007, the new three-floor Building 9 will be a hub for Cañada College, placing the Library, Learning Resource Center, and Student Services at the heart of the campus. The 72,000 square-foot building will provide a new point of entry, linking the student parking lots to the campus quad via the building's elevators and terraces. The entire building also has wireless access for anyone using a laptop computer.

The first level of the building will consolidate Student Services to improve access to Admissions and Records, Counseling Services, Financial Aid, placement testing, and programs for students with disabilities. Direct access from the quad will provide a much-needed integration of the spectrum of Student Services. The new Student Services Center will include 12 computer stations for registration, 8 computers in the Counseling Resource Room, 14 in "Smart Classroom"/CTL 153, 29 computers in "Smart Classroom" 150, 19 in the Computer Lab Testing Center, and will include the Writing laboratory.

The additional space provided in Building 9 will greatly enhance the instructional programs offered by the Learning Resource Center. The Center includes tutorial and writing centers, computers, and offices for instructors and faculty. The Learning Resource Center on the second floor will have 3 areas designated for student research with 10, 66 and 42 computers in each, for a total of 118. A room designated for listening and viewing will have 8 computers. There will be 2 "Smart Classroom" computer labs, one at each end of the building, with 49 and 35 computers respectively – totaling 84 computer lab stations.

The new third-floor Library will have an expanded collection and an increased number of student computer stations. There will be a total of 93 computers for student use in the Library. The Reference/Microforms area will include 42 computers, Reference Collections will have 14, and the AV/TV "Smart Classroom" 324 will have 37 computers.

The Learning Center is the second largest collection of computers. It contains 75 computers and supports classes across the curriculum.

Off Campus Facility

 The primary off campus facility is located at OICW in Menlo Park. There are two computer labs/classrooms. One lab is part of the Business and Workforce Development Division and has 31 Dell computers. The other lab is the Learning Center. This lab has 17 Dell computers. Several of the computers in this facility were updated when the Business Skills lab made an upgrade to replace their slower Dells. This update resulted in this lab meeting the current minimum requirements in place by ITS.

Planning Agenda

No recommendations at this time.

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

The College is supported by technology. Technology needs often originate with the faculty. Deans will meet with their faculty and each other on a regular basis. Technology and budget items are discussed. There is also a technology consultant/liaison at the District Office. One of the liaison's functions is to determine the feasibility of the requests and attach estimated prices of such requests and to make recommendations of such technology. Service requests are submitted to the District Help Desk. The District Help Desk began in 2002. ITS (Information Technology Services) became centralized in 2001. Additionally, there are several district-wide that meet to discuss technology. These committees are: Enrollment Management Committee, the Student Services Committee and DITC (District Instructional Technology Council). Bond money that has become available will help drive the need to update the current minimum standards for computers that are used on campus. These dollars will help provide the means for upgrading current equipment and replace equipment that is out-of-date and no longer meets the new minimum standards set by the District Information Technology Services.

Currently there are no actual objective technological measures, they are all subjective. The District evaluates its needs and current status and then compares itself to other local colleges. Some examples of our improving technology are wireless access, online registration, Banner, and Websmart. The District strives to offer more student service technologies so that students are able to utilize many self help applications. There are plans underway for various surveys to meet the various needs of the College.

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

The District is driven by student and instructional needs. Technology decisions are made from these actual needs. These needs are discussed in division meetings, advisory committee meetings and then through to the vice presidents level. Technological priority lists are used when budgeting expenses. The technology liaison determines budget numbers for various proposals. District technology requirements involve all aspects of a proposal such as, but not limited to: software, building space, and personnel requirements needed to maintain the program.

The District is involved in a process that will integrate all online technologies hopefully to be implemented by spring 2007. Distance learning constitutes tele-courses, online and hybrid courses.

<u>Self Evaluation</u>

As part of the Facilities Master Planning Process, all-college meetings provide opportunities to present and identify the need for changes and improvements. ITS staff emails the evaluation tool after every service request is completed.

The following objectives are from the SMCCCD CTL's mission statement:

Advance:
1   the instructional and professional use of technology by providing training and support to faculty, staff and administrators to allow them to effectively use technology to enhance student-centered learning and college business processes.

2   professional growth and development of faculty, staff and administrators by providing and arranging a full-range of seminars, forums and workshops based on employee needs and wants.

3   district-wide excellence in teaching and learning by modeling best practices.

4   the district-wide use of instructional technology by providing leadership in the design, research, development and implementation of technology.

Advise:
1   local campus and district-wide committees on issues related to technology and instruction.

2   faculty, staff, administrators and contractors on matters relating to construction and modernization of instructional facilities.

3   colleges and the District Office of appropriate levels of budgeting that will ensure the successful implementation of this technology plan.

Create:
1   solutions and tools for faculty, staff and administrators to enable them to do their work effectively and efficiently.

2   task-specific workshops and supporting materials for faculty, staff and administrators.

Maintain:
1   campus-based centers that provide faculty, staff and administrators with access to current computer hardware and software.

2   www.CTLonline.net as an online resource for faculty, staff and administrators.

3   the expertise of CTL staff through participation in local, state-wide and national conferences.

4   this plan by reviewing progress made, assessing future needs, updating the plan annually.

The workshops offered through the Center for Teaching and Learning includes an evaluation at the end of the workshop to evaluate what worked and what needs to be improved. Reports of evaluations summarize how effective the trainings are through the CTL.

Students at Cañada have many resources available for technology training. Beyond the various curriculums offered, there are on-going, loosely structured learning environments available to students. These include:

The Learning Center, which provides a positive learning environment that integrates technological resources and learning assistance services to support student learning across the curriculum. The Center provides assistance through the Writing Center, the Math Lab and the MESA (Math, Engineering and Science Achievement) program, as well as free peer tutoring. Additionally, the Learning Center has open computer labs with access to the internet. Courses, which include transfer-level classes, are primarily self-paced, open-entry courses utilizing computer-assisted and individualized instruction.

The District Help Desk logs and categorizes problems. This information is shared at bimonthly meetings and is a good measurement. The District Help Desk receives requests for repair of hardware and software as well as receives requests for technical support from users. A good example is the implementation of new telephone system in 2006.

Planning Agenda

To develop a college-wide spreadsheet to indicate the year computers in instructional classrooms were purchased and to develop a plan to replace computers on a consistent basis.

Standard 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 District's Information Technology Services Department provides support for the following services at the Colleges and District Office:

During the fall 2005, the District undertook two major projects to improve the network services at each College. The first project was to work with a Siemens network engineer to assist the ITS staff to completely redesign the network architecture to improve performance and reliability in preparation for the installation of the new voice-over-IP telephone system. To implement this redesign, all network equipment was replaced with new Cisco switches and routers. This network equipment has a life-time warranty from Cisco, and in addition ITS stocks spare switches to allow immediate replacement of any failed unit.

The second major initiative was to replace the wide-area network (WAN) connections from the District Office to Cañada College and to Skyline College. Previously, the WAN connections only provided 20MB/s of bandwidth to each College. The new Opt-E-Man connections now provide each College with up to 500MB/s of bandwidth. In addition, the District acquired a silver service level agreement from AT&T to ensure maximum reliability for this network service.

To ensure that faculty, students and staff have high-performance and reliable access to internet services, the District has installed a dedicated DS-3 (40MB/s) connection to CENIC at each of the three Colleges. As part of the network design, the capability exists to implement a manual failover in the event one of these DS-3's should fail for an extended period of time.

Self Evaluation

To maintain network security the Colleges of the District have deployed a multi-tiered approach. There are Cisco Pix firewalls installed at each College to provide protection to the network. The District has a multi-year agreement with McAfee to provide anti-virus protection for all desktops and Windows Servers including the servers supporting Microsoft Exchange 2003 for email services. Also installed are redundant anti-spam servers to control email spam.

In addition, each College participates in the Microsoft Campus License Agreement which allows them to install the most current releases of the Windows operating system, Office and several other products.

Using Measure A Bond funds, a new telephone system was purchased and installed in 2005. The system is a Siemens HiPath 4000 with a node located at each College. More than 2000 voice-over-IP (VoIP) telephones were installed and the system provides the following functionality:

- Tight integration with Microsoft Exchange 2003 and Active Directory to provide unified messaging i.e. managing voicemail, email and fax messages from either the telephone or from Outlook
- Survivability modules have been installed to continue to provide telephone services when one or more components in the system might fail
- Fax server capabilities built into system to provide fax capabilities from individual PC's. This capability has been installed and will be deployed at the Colleges during the summer of 2006
- Each wiring closet that supports VoIP telephones is equipped with an uninterruptible power supply to provide 4 hours of runtime for the telephones in the event of a power outage
- Enhanced E911 services for safety and security of faculty, staff and students – it is expected that this module will be in production by the end of Spring semester 2006

ITS has in place a comprehensive backup strategy to insure that all server based data is recoverable. The backups are picked by up by an off-site storage company on a weekly basis. The backups include:

- SunGard Banner databases (student, financial, human resources, financial aid)
- Xtender document imaging system
- MS Exchange
- Web servers
- Ad Astra scheduling system
- SARS Grid and Call

However, faculty and staff are responsible for backing up their own data on their desktop systems. ITS is currently evaluating alternatives to provide network storage to make the backup process for staff faster and easier.

To improve reliability of those services that are hosted by ITS from the Computer Center, the District is issuing an RFP to acquire an emergency generator to provide electrical power for at least 36 hours. It is anticipated that this unit will be installed by the end the year. The District provides and supports the maintenance of network infrastructures; the Facilities Master Plan is posted on the website at: http://www.smccd.net/accounts/facilities/planconstruct/masterplan.html.

Instructional equipment requests and discussion take place at the Instructional and Student Services Council.

To provide more widespread and easy access to internet services, ITS has deployed Cisco wireless access points in most high-traffic areas on all three campuses. This project is still in progress and is expected to be completed by the end of fall 2006.

Planning Agenda

No recommendations at this time.

Standard 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 institution technology resources are generated through budget planning and technology needs. The District provides this infrastructure, this is not at the college level. It can be taken to the college level where deans and department managers may require regular back up of data. These back ups should be on a server because the back up system generally is sitting behind the hard drive. Several reasons for back up of data on a server level would be to insure against physical damage and theft. See the Facilities Master

Plan posted on the website at:
http://www.smccd.net/accounts/facilities/planconstruct/masterplan.html.

The policies and procedures are set up by the District (ITS) as opposed to the individual institution, such as Cañada College. These policies and procedures are driven by input from each campus and used to develop a common set of policies and standards that can be applied to the entire district to keep uniformity throughout the SMCCCD.

SMCCCD - ITS Current Minimum support requirements for faculty/staff/lab computers. The following specs are our minimum requirements for ongoing support by ITS Technicians. While computers of lower specs are usually available, they are not recommended or supported by ITS.

Current Windows Minimum supported System:

- Dell Optiplex GX240 (1Ghz CPU or faster)
- Windows XP – Service Pack 2
- 512 MB memory (RAM)
- 20 GB hard drive with at least 3 GB free space
- DVD-Rom drive
- Built-in Ethernet
- 17" monitor or larger
- Keyboard
- Mouse

Current Macintosh - Minimum supported System:

- Laptops: iBook or PowerBook G3
- Desktops: eMac, iMac or Power Mac G4, 700MHz or faster
- Macintosh Operating System OS X
- 512 MB memory (RAM) or higher
- 20 GB hard drive or higher with at least 3 GB free space
- DVD-rom drive
- Built-in Ethernet.
- 15" monitor or larger (17in for G4 and later)
- Keyboard
- Mouse

Self Evaluation

The District participates in forums for online technology. There is a support structure set up for faculty and staff, as well.

Cañada College is committed to provide all faculty members with computers. Full-time faculty members have either a laptop or a desktop and a large percentage of part-time

faculty members have personal laptops, as well. The utilization part of this question needs to be surveyed of the faculty.

Planning Agenda

No recommendations at this time.

Standard 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

The ITS Department works closely with the Cañada College personnel in order to assess the effective use of current technology resources and recommends technology changes to enhance instruction. Also, as the Student Learning Outcomes (SLOs) are created for each course, program, and overall institution, there will be an assessment of future technology needs in and out of the classrooms.

Self-Evaluation

The institution prioritizes needs when making decisions about technology purchases by using the shared governance process at the College. This shared governance process has worked well at the College. Priorities flow from requests and needs from the departments to the division to the deans and then on to the Vice Presidents, then on to the Budget & Planning Committee, College Council and then to the President with a list of recommendations. There is a proposed four year technology replacement cycle that is district wide. See the minutes of the all-college meetings concerning the Facilities Master Plan.

Planning Agenda

No recommendations at this time.