Sign In
Technology

5/6/19

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Standard III.C.1

C.   Technology Resources

1.   Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.

Departments in Charge (?)

Evidence of Meeting the Standard

POSSIBLE SOURCES OF EVIDENCE*:
- Technology plans or program reviews that evaluate and plan for reliability, disaster
- recovery, privacy, and security;
- Technology inventories;
- Technology infrastructure blueprints;
- Disaster recovery procedure or plan;
- DE/CE technology plan;
- And/or other documents that demonstrate the institution is aligned with this Standard.

ACTUAL CURRENT SOURCES OF EVIDENCE*:

{Brainstorm in Tech Committee Meeting}

FUTURE/TO IMPLEMENT SOURCES OF EVIDENCE*:

{Brainstorm in Tech Committee Meeting}

Analysis and Evaluation

REVIEW CRITERIA:
- The institution ensures that its various types of technology needs are identified.
- The institution regularly evaluates the effectiveness of its technology in meeting its
- range of needs.

- There are provisions for reliability, disaster recovery, privacy, and security, whether technology is provided directly by the institution or through a contractual
- arrangement.
- The institution makes decisions about use and distribution of its technology
- resources.
- The technology infrastructure is sufficient to maintain and sustain traditional teaching and learning and DE/CE offerings.

ACTUAL CURRENT ANALYSIS & EVALUATION*:

{Brainstorm in Tech Committee Meeting}

FUTURE/TO IMPLEMENT ANALYSIS & EVALUATION*:

{Brainstorm in Tech Committee Meeting}

Sources

Taken from Template at: https://accjc.org/wp-content/uploads/ISER_Template.docx
Possible Sources of Evidence & Review Criteria from:
https://accjc.org/wp-content/uploads/Guidelines-for-Preparing-Institutional-Reports.pdf

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.

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

Las Positas College provides robust technology that supports all classrooms, communications, and operations. Banner and other operating systems that enable communication, data collection, curriculum development, and other vital processes and functions of the College are installed, maintained, and updated to maximize their effectiveness. The College Technology Department regularly uses various sources of information to understand and respond to technology needs as they change. Resources such as the Measure B Bond are used strategically through planning that integrates technology investments with institutional plans. Services provided by the Teaching and Learning Center assure that faculty, staff, and students have access to training on all new instructional technologies as they are implemented.

Self-Evaluation

The College meets this standard as evidenced by the 89 percent agreement that technology resources are used to support student learning programs and services and to improve institutional effectiveness as reported in the 2014 Accreditation Survey.[678]

Action Plan

None.

Continuous Improvement Plan

None.

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[678] Fall 2014 Staff survey

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

Technology is widely used throughout the College to enhance its operation and effectiveness. The needs for its usage are identified based upon federal and state requirements, as well as the regular activities of faculty, staff, administrators, and students. The Ellucian Banner enterprise system is utilized districtwide and contains modules that support Student Services, Academic Services, Finance, Human Resources, and Payroll. To complement Banner, the District has implemented a variety of other third-party products and built custom interfaces for a fully integrated system environment. The recent implementation of the Student Success Support Program (SSSP) required the College to make several system and procedural changes to the Banner and SARS systems for data collection and reporting. Degree Works has also been recently implemented as part of the SSSP requirement, and it provides capabilities for automated Student Education Plans (SEPs) and Student Degree Audits that counselors and students can access. Other system improvements that streamline processes to assist students include the state's Open CCCApply for student admissions and the Board of Governors Waiver (BOGW). This system replaced the previous vendor system in 2014. Improvements also include the eTranscripts system, which was implemented in 2013 to provide the ability to automatically send and receive electronic transcripts without manual intervention.[679, 680, 681]

The College has also used digital solutions to make information easier to access and processes less cumbersome. District ITS continues to implement Web-based systems to provide both local and remote access to enterprise systems for all employees and students. For faculty and students, the Banner Waitlist, which is connected to the student email Zonemail system, is used for notifications and online grades and is an example of a heavily utilized and efficient automated feature.[682] District ITS has also begun migrating to mobile apps. In fall 2014, it introduced the Banner Mobile apps for student grades, course schedules, and account holds, and it plans to continue expanding this offering as the vendor releases new features.[683] Many students also use mobile apps for Blackboard and the Follett Bookstore.

District ITS continues to focus on reducing manual processes with automation to improve the institution's productivity. The Argos ad-hoc reporting tool has been implemented for Enrollment Management, Administrative Services, and Human Resources reporting and is being extended to more groups for various types of Banner data.[684] The Banner Document Management System digitizes images and provides storage and retrieval of electronic documents for students and staff with automatic interfaces to the Banner Student, Financial Aid, Finance, and Human Resources/Payroll modules.[685]

679 IT Measure B Bond Activities Accomplishments and Future Plans 2005-2017

680 Summary of Projects from District ITS Strategic Plan, June 2014

681 Bond Activities - IT Update for June 2013 to June 2015

682 IT Measure B Bond Activities Accomplishments and Future Plans 2005-2017

683 Technology Committee Minutes, October 2013

684 District Enrollment Management Committee Notes, September 2014

685 IT Measure B Bond Activities Accomplishments and Future Plans 2005-2017

Increasing the efficiency of College operations, the utilization of the SARS suite of products has increased in recent years with eSARS, which is the Web interface for appointment scheduling; SARS-TRAK for positive attendance data collection; SARS-GRID for counseling appointments and SSSP data reporting, SARS-CALL for phone and email correspondence to students; and eAdvising for online chat capabilities between counselors and students.[686] In 2015, District ITS plans to implement the SARS-MSG module that provides text messaging capabilities to students as another medium for outreach as part of the Student Success Support Program initiative.

Another major districtwide change that will improve communications at the College is the elimination of the Novell operating system and Groupwise email system. LPC has been utilizing Microsoft Active Directory for instructional computing for several years while the District enterprise systems continued to operate under the Novell environment. From 2013 to the end of 2014, District ITS converted the services gradually with the Data Cove archive system being the first portion completed, followed by the Active Directory conversion with Windows 7 and Office 2010/2013. The final step for the Groupwise email conversion to the Exchange server with Outlook was completed in spring 2015.[687, 688, 689]

Las Positas College has been utilizing the CurricUNET curriculum system to develop courses and programs for several years. It is investigating migration to the Program Review module in CurricUNET to replace its current program review forms and processes to achieve a fully integrated database system for the program review cycle.[690] LPC utilizes eLumen for its SLO assessment processes, and it plans to migrate to the vendor's new cloud option, which provides other enhancements including additional reporting, in 2015.[691]

LPC student and faculty online learning needs are addressed on an ongoing basis. Results of the annual Student Distance Education Satisfaction Surveys are discussed and acted upon by the Distance Education Committee. For example, in 2013, 69 percent of students indicated that videos helped them learn best in distance education classes. As a result, instructors were reminded of the existing video-related workshops offered by the Teaching and Learning Center, and a new workshop, Enhance Your Classes with Library Streaming Videos, was created and facilitated by a College librarian.[692, 693] Via surveys, students have also expressed a desire to have a wide variety of courses and programs available online.[694] Faculty are surveyed annually to determine their online learning needs.[695, 696] Those needs typically include training on new technologies and result in additional workshops offered by the College's Teaching and Learning Center.[697] These workshops concentrate not only on the technical aspects of the new tools, but also on the pedagogical aspects. Faculty needs are also communicated through division representatives on the Distance

686 Technology Committee Minutes, February 2014

687 Technology Committee Minutes, February 2014

688 Technology Committee Minutes, January 2014

689 Summary of Projects from District ITS Strategic Plan, June 2014

690 Summary of Projects from District ITS Strategic Plan, June 2014

691 Student Learning Outcomes Committee Minutes, April 2014

692 DE Committee Minutes, 02-28-14

693 Spring 2014 TLC Workshops

694 DE Student Survey Results

695 TLC Survey Results, 2013-2014

696 DE Faculty Survey Results, Fall 2012

697 TLC Workshops Web Page

Education Committee. Discussion and analysis of adding online courses, degrees, and certificates take place within disciplines and academic divisions, as well as within the Enrollment Management Committee, advisory committees, and the program review process.[698, 699]

The College's Technology Department uses various mechanisms for assessing technology needs on campus. Instructional computer systems are reimaged and updated every semester to meet the needs of the courses being taught. As part of this process, e-mail notifications are sent to faculty requesting feedback and any changes or updates to the technology that might be needed. Feedback is then reported back to the College's Technology Committee.[700] Additional hardware or software needs can be communicated through the Technology Support Desk, through Instructional Equipment Requests, or brought to the Technology Committee.[701, 702, 703] In 2008, after surveying the College, the institution created classroom instructional equipment standards to better support the use of technology in classroom instruction.[704] Currently, new standards are being developed to respond to the changing expectations of today's students. The districtwide Technology Coordinating Committee is in the preliminary stages of identifying new distance learning technologies for classrooms, in addition to new standards for general classroom technology.[705]

The College's Technology Department and District Information Technology Services have established standards for all infrastructure, equipment, and software in classrooms, computer labs, employee offices, multi-use areas such as conference rooms, and for employee access levels based on job function. These standards are developed based on industry standards, best practices, new product research, and information from the College community via surveys, Technology Committee discussions, and individual conversations.[706] The standardization of quality, user-friendly equipment and software throughout the campus enhances the teaching and learning experience by enabling faculty and students to move from one learning environment to another and still be familiar with the functionality of the technology, as well as by reducing the time that technology staff need to spend on troubleshooting equipment malfunctions. Computer standards are reviewed annually and updated as new technologies become available. The standards are also updated as new technologies are identified as needed upgrades, or in the case of the Measure B Bond, when specifying equipment for a new building.[707] Often, manufacturers provide their own roadmaps for life cycle, and these often outpace the timelines put in place by the institution. This usually results in adopting the latest technology into the institution as it becomes available. In these cases, the standards are updated at the time they are adopted. The life cycle document has identified timelines to review classroom equipment, as well as printers and other audio-visual items. These technologies are typically in place for at least seven years so the College can maximize their usage before upgrading.[708]

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698 Enrollment Management Committee Web Site

699 Program Review Web Site

700 Technology Committee Minutes, January 2014

701 Request computer/network support

702 Software Update Request

703 Resource Allocation Committee Minutes, November 2013

704 Classroom Equipment

705 Technology Coordinating Committee Minutes, September 2014

706 IT Measure B Bond Activities Accomplishments and Future Plans 2005-2017

707 Computer hardware/software standards

708 LPC ITS Technology Equipment Life Cycle Plan

All classrooms are considered "smart classrooms" since they have a standard computer, document camera, a laptop port, and a mounted data projector. These are all connected to an SP controller for ease of use.[709] Some classrooms contain additional functionality to meet the needs of the disciplines taught within. The Technology Department maintains web pages that detail all the equipment that resides in each classroom and web forms that allow an instructor to request specialty equipment or services or to report equipment malfunction.[710, 711, 712, 713] Every classroom and conference room is also covered by wireless access points using the 802.11b/g/n standard. The department also maintains a web page showing the wireless coverage across campus and provides students with instructions on how to connect to the wireless network using Windows or Mac devices.[714]

District ITS has standardized on Cisco routing and switching products for the core WAN/LAN connectivity. District ITS also developed a set of Cabling Infrastructure standards that encompass copper and fiber connectivity for voice and data systems inside, and between, all buildings at LPC, Chabot, and the District office.[715] College computers and laptops are standardized through multi-year contracts that are either negotiated in an open bid process or obtained through the state. Multiple configurations are specified in the contracts based on College needs for student computing, faculty and staff computing, and current and forecasted industry standards.[716] All College PC computers use a standard image with the Windows 7 operating system, Microsoft Office 2010/2013, Internet Explorer 11, and Adobe Acrobat 11 Pro. Macintosh computers are imaged with OSX Office 2011 and Adobe products as needed.

Las Positas College and Chabot use the Blackboard course management system to support teaching on and off campus. The decision to license and utilize Blackboard was made in 2003 by a districtwide committee with representatives from various constituencies, including several faculty members. The committee also decided to have Blackboard host, maintain, and support the server. Today, Blackboard hosts a test and development server and the Snapshot Controller function that connects the District's administrative computing system, Banner, to Blackboard.

So that technology use can be secure and individualized, when personnel are hired, they are asked to sign and submit requests for accounts to access various technology applications. These applications include computer/network access, copy/print/scan access, phone, and voice mail access. Using these requests, accounts are established to meet each employee's needs. For employees who are hired on a temporary basis, expiration dates are set on the accounts so that access is denied after the position ends. Both of these actions are intended to reduce the potential for data compromise and malicious activity on the network.[717]

709 Technology Services

710 Classroom Equipment

711 Instructional Equipment Request

712 Report classroom equipment problem

713 Request equipment training or media duplication

714 Campus Wireless Information

715 Cabling Infrastructure Standards

716 IT Measure B Bond Activities Accomplishments and Future Plans 2005-2017

717 Request Systems Access form

The Technology Department has undergone organizational changes to enhance its productivity. In December 2012, the technology department staffs at LPC and Chabot were changed to report to the District Chief Technology Officer. However, responsibilities to provide local support to the colleges remained the same.[718, 719] Both groups stay at their college sites, and the budgets for their areas remain local, as well. This consolidation of the college IT staffs under the CTO benefited both the College IT and the District ITS staffs by increasing collaboration across all sites to come up with more stable and compatible technology solutions that allow better and quicker service to the user community.

Where resources are constrained, adjustments are made to maximize efficiency. Due to the Measure B Bond, the use and deployment of technology on campus has increased significantly.[720] As noted in the College's midterm accreditation report, an assessment of the need for increased technology staff was performed.[721] Unfortunately, due to budgetary constrictions, the cost of hiring more staff to manage this increase has been prohibitive. The department decided to reduce service hours in the evening and on weekends to allow the existing staff to better serve the increasing needs on weekdays. Fortunately, in the last non-instructional hiring prioritization process, a new technician position was ranked first, and a hiring announcement is expected in the near future.[722]

Monitoring, evaluating, and improving the quality of distance education involves the same process as that used for on-campus instruction. First, there is the evaluation of instruction process through which an instructor teaching a distance education course for the first time is evaluated by a peer. After conducting the formal evaluation, the peer recommends improvements to the instructor.[723] Through the program review process, faculty in individual disciplines review their course and program outcome results to determine what, if any, changes need to be made, and what, if any, resources are necessary to implement those changes. To prepare their program reviews, faculty can compare data from their distance education classes with data from their on-campus classes with the eLumen assessment management system. The results of program review are used to integrate distance education to Las Positas College's planning, resource allocation, and institutional improvement processes.[724]

718 District Information Technology Org Chart, 2013-2014
719 Las Positas Technology Org Chart, 2013-2014
720 Planning Agenda 3C1a Staffing Levels, 2012
721 Planning Agenda 3C1a Staffing Levels, 2012
722 Resource Allocation Committee Minutes, February 2014
723 Evaluation of Instruction form: Online Class
724 LPC Planning Cycle

The Distance Education Committee is responsible for improving the effectiveness of the distance education program. The non-instructional program review for the Teaching and Learning Center includes, evaluates, and modifies the goals set by the Committee to make them more effective. For example, in spring 2014, the Committee addressed the goal of improving the success and retention rates of distance education students by developing recommendations, along with answers to frequently asked questions, to aid instructors in determining how many students to add, and when to add those students, near the beginning of the semester.[725, 726] New goals are added to the non-instructional program review during the College's update window. Goals from the non-instructional program reviews and the instructional program reviews are incorporated into the College's official planning and resource allocation process.

Las Positas College annually measures the rate at which its online students are meeting the program outcomes for distance education. These outcomes were written by the Distance Education Committee and are intended to identify the skills that students should be able to demonstrate as a result of participation in the College's distance education program. Students are asked to assess their skills in four areas: communication techniques online with instructors and classmates, basic skills within the course management system software, basic technology skills, and successful online study strategies. When results become available, the committee analyzes and discusses the results. It then decides what, if any, action needs to be taken to improve student outcomes. Overall, these results have been very positive.[727]

Results from the annual DE Student Satisfaction Survey have also been generally positive. When asked to rate their level of satisfaction with different components of online learning, the 275 students who completed the survey in fall 2013 were mostly satisfied or very satisfied in all areas. This included the DE program as a whole (76 percent), overall course quality (74 percent) and overall course satisfaction (74 percent). When asked if they would take another DE course from LPC, 89 percent indicated that they would. Students also indicated (63 percent) that they learned about the same in their DE classes than they would have in an on-campus class. Interestingly, 21 percent said they learned more in their DE classes, and 17 percent said they learned less.[728]

Faculty, too, are satisfied with their experiences teaching in the distance education mode. Of the 37 instructors who completed the fall 2012 DE Faculty Survey, 97 percent indicated that they were either satisfied or very satisfied with the DE program as a whole, 89 percent were either satisfied or very satisfied with Blackboard, and 100 percent were either satisfied or very satisfied with the technical and pedagogical support they received from the Teaching and Learning Center staff.[729]

725 TLC Non-Instructional Program Review outcomes

726 Adding students to DE classes

727 DE Student Survey results, Fall 2013

728 DE Student Survey results, Fall 2013

729 DE Faculty survey results, Fall 2012

Institutional studies show that the LPC Technology Department has been in effective overall in execution off and on campus. In 2010-2011, it participated in the pilot non-instructional program review. The results of the campus wide Key Performance Indicator survey associated with this review produced high scores in areas of effectiveness, responsiveness, and overall assessment of the department.[730] In the 2014 Accreditation Survey, the percentage of respondents who agreed or strongly agreed with each technology survey statement ranged from 75 percent to 89 percent, showing that more than three-quarters of the College faculty, classified, and administrators are satisfied with the technology on campus.[731]

Las Positas College meets the requirement in the Higher Education Act of 2008 that stipulates that institutions authenticate the identity of distance education students submitting coursework. This authentication is done through the secure Blackboard login process. Each student is assigned a randomly generated user identification number that is used to log into Blackboard. That number is used in lieu of students' social security numbers. Students enter their passwords, which are encrypted by Blackboard, and the system is further enhanced by the additional measure of adding SSL security to the login page. This—along with information that details the protection of student privacy—is explained to students in the College's Blackboard Privacy Statement.[732] As a secondary measure, students are identified by the default email addresses in Blackboard that are given to them by the District. Each email address is formatted based on students' names. LPC, along with its sister college, Chabot, crafted a board policy on distance education that includes an administrative procedure on student authentication.[733, 734] Blackboard is responsible for ensuring reliability, disaster recovery, and security.[735]

Self-Evaluation

The College meets this standard as evidence by the use of various software and technology products designed to enhance learning and productivity. The College's Technology Department and Teaching and Learning Center, along with District ITS, provide quality support for technology usage.

Action Plan

None.

Continuous Improvement Plan

None.

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730 Non-Instructional Program Review, Technology Department, 2010-2011
731 2014 Accreditation Staff Survey, page 5
732 Blackboard Privacy Statement
733 Board Policy on Distance Education
734 Board Policy on Distance Education- Administrative Procedures
735 Blackboard Managed Hosting Services

III.C.1.B

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

Descriptive Summary

Las Positas College offers quality training in the use of technology in a variety of formats to its students and personnel. Training for students takes place formally in credit-based classes, such as those in the disciplines of Computer Information Systems, Computer Networking Technology, Computer Science, and Visual Communications. Training for students also takes place outside of classes, for example, in the Computer Center, Disability Resource Center, and Library. Students enrolled in online and hybrid courses are invited to attend on-campus or virtual orientations held the week before the semester begins and during the first week of classes. These orientations are designed to familiarize students not only with online learning in general, but also with utilizing Blackboard.[736] For students who cannot attend the on-campus or virtual orientations, there is an asynchronous orientation posted on the Online Learning web site that includes video tutorials on how to perform tasks in Blackboard.[737] Also on that web site is a tutorial titled "Succeeding in an Online Course" that consists of seven lessons intended to maximize students' capacities to excel online.[738] Within many online courses, instructors have students complete an initial module that familiarizes students with Blackboard.[739] The College also offers an online study skills course (Psychology Counseling 25) that contains instruction on how to be a successful online learner.[740]

Much of the training in the application of instructional technology takes place in the Teaching and Learning Center (TLC), a 1,879-square-foot facility in Bldg 2400 that opened in 2007.[741] Training is also delivered virtually in order to reach as many people as possible. To effectively focus the delivery of training, faculty, staff, and students are first asked to identify their technology needs. Faculty and staff who use the TLC complete a survey that includes a question on needs.[742] Other students and staff express their needs through the Technology Department and the Technology Committee. Faculty who teach distance education courses complete a survey that asks for training needs so they can improve their classes.[743] Students taking distance education courses are asked about their needs on the Distance Education Student Satisfaction Survey.[744] Moreover, the Distance Education Committee identifies and discusses training for all faculty and students who use instructional technologies, not just for those who teach and take online courses.[745]

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736 Synchronous Online Learning orientations

737 Asynchronous Online Learning orientations

738 Succeeding in an Online Course tutorial

739 Module 1 screenshot

740 PSCN 25 Information Page

741 Teaching and Learning Center

742 TLC Satisfaction Survey

743 DE Faculty Survey

744 DE Student Satisfaction Survey

745 DE Committee Minutes, 01-24-14

The TLC staff trains faculty on a variety of topics, such as online learning, maintaining web sites, and using clickers in the classroom. Much of the training centers around Blackboard, but it also includes tools for developing multimedia instructional content that can be delivered both online and via mobile devices. Each training session incorporates techniques for making online materials accessible to students with disabilities. For faculty who cannot attend a particular session, one-on-one appointments are available. Training is also available online.[746] Specialized training is available to faculty who want to design online courses, design hybrid courses, or enhance their face-to-face classes with online content in Blackboard.[747] Faculty on the College's Student Learning Outcomes Committee provide training on writing and assessing outcomes, and staff in the TLC train faculty on entering outcomes and assessment data into eLumen.

Las Positas College gathers feedback to help ensure that the training and technical support it provides students, faculty, and staff are appropriate and effective. Students participating in the online learning orientations at the beginning of each semester are asked to complete a survey that measures their level of satisfaction with the instruction they received and gathers recommendations for improvements. The orientation facilitator analyzes the results to determine what changes, if any, need to be made. Student feedback indicates that orientations are effective.[748] The annual Distance Education Student Satisfaction Survey measures the College's distance education outcomes, which include the technical skills students need to master to be successful online. Results consistently show that students have met these outcomes. In the same survey, students are asked to rate their experiences, if any, with the technical support desk. In fall 2013, 36 percent indicated they were either satisfied or very satisfied (57 percent were neutral or not applicable) with the technical support they received.[749] The Distance Education Committee analyzes results of this survey to determine any necessary changes.[750]

The TLC surveys faculty and staff who utilize its services, and the results are generally positive. For example, 80 percent of respondents indicated in spring 2014 that their workshop/training session/support session met their needs (17 percent did not answer).[751] Results are discussed among the TLC staff and the Vice President of Academic Services.[752] Since the TLC staff also supports distance education faculty, the Distance Education Faculty Survey asks instructors to rate their level of satisfaction with the support they receive. In the latest results, 86 percent indicated that they were very satisfied, and the other 14 percent indicated that they were satisfied.[753] As they do with the student survey, the Distance Education Committee analyzes results of this survey.[754] Faculty who complete the Online Course Development Program are also surveyed, and when asked to rate the quality of instruction they received, 90 percent rated it as excellent, and 10 percent rated it as above average. Survey results are used to make any improvements to the training.[755]

746 Workshops and Appointments

747 Blackboard Training

748 Spring 2014 orientation survey results

749 DE Student Satisfaction Survey, Fall 2013

750 Survey results follow-up

751 TLC Satisfaction Survey results, 2013-2014

752 TLC Satisfaction Survey results, 2013-2014 dialog

753 DE Faculty Survey results, 2012

754 DE Committee minutes, 11-30-12

755 OCDP survey results

College employees also receive high-quality technology training from District ITS. To identify training priorities and topics, District ITS conducted interactive training surveys with administrators and classified professionals during the summer of 2014 and plans to do a similar session with the Academic Senate for faculty in fall 2014.[756, 757] Topics for training are also selected based on the systems that District ITS administers for faculty, staff, and administrators. Those systems include software for email and Curricunet, along with the various Banner Enterprise System modules and tools like Financial Aid, Document Management System, Degree Works, Human Resources, and Argos. For major new systems, District ITS coordinates with the vendor of the applications to assist in providing initial user training, which is done in groups. These training sessions are recorded to enable users to watch them asynchronously. Non-vendor trainings are recorded, too, and these trainings also come in the form of onsite classroom workshops, remote online webinars, and one-on-one assistance.[758, 759] In addition, District ITS utilizes the train-the-trainer model within the user departments to emphasize internal departmental procedures. Tutorial software packages for the Banner system and other general purpose software, such as Microsoft and Adobe products, have been purchased and distributed.[760, 761, 762, 763] However, District ITS does not include a dedicated trainer on its staff. The Organizational Review of District Office and Maintenance and Operations Department, conducted by School Services of California, Inc., identifies the benefit of hiring dedicated trainers to the ITS staff to handle solely the user training and documentation needs, but this has not been possible due to lack of resources.[764]

Self-Evaluation

The College meets this standard as evidenced by the high level of satisfaction that students and personnel report after they receive training.

Action Plan

None.

Continuous Improvement Plan

None.

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756 Administrators training survey, 2014

757 Classified training survey, 2014

758 DegreeWorks Training - LPC A&R, April 2012

759 WebEx Training Session - AR/Counseling

760 Banner User Guides

761 Microsoft Online Learning

762 Adobe Software Resources

763 CLPCCD Migration from GroupWise to new Outlook Email

764 Organizational Review of District Office and Maintenance and Operations Dept.

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 LPC Technology Department staff (IT) and District Information Technology Services (ITS) collaboratively provide support for the management, maintenance, and operation of the technological infrastructure and equipment. Services provided include instructional computing, administrative computing, system design and applications programming, network infrastructure (WAN and LAN), servers, desktop support, Web development and support (Internet and Intranet), hardware and software support, audio visual support for smart classrooms, phone systems, Help Desk assistance, and user training. District ITS provides for the system planning, development, operational control, monitoring, and security of services offered via the District's network infrastructure. The District establishes vendor maintenance agreements or warranty terms to ensure service levels are sustained for all standard hardware and software.[765], [766], [767]

At the start of the Measure B Bond, the College's Technology Department developed a life-cycle plan for systematically analyzing equipment needs and determining standardized system specifications, as well as when to retire and replace existing equipment with updated systems. This regular cyclical process spreads out the expense and the staff workload evenly over the life of the bond's technology funding and ensures that faculty, staff, and administrators have the equipment they need to be effective. The life-cycle plan identifies equipment life expectancies and refresh as follows:

- Network equipment: five years
- Desktop computers: four years
- Laptop computers: five years
- Servers: five years
- Printers: five years
- Audio-Visual equipment and accessories: three to five years

This plan serves the institution because it allows equipment to be replaced before it fails.[768] When the Measure B funding expires, the College's technology and infrastructure will still be viable for several years, although normal operational and alternative funding will need to be gradually increased the cover replacement costs.

The IT staffs, in collaboration with the College committees and constituent groups, continue to follow the technology plans as specified in the Measure B Bond Information Technology Plan documents for network and facility infrastructure improvements. Each of these technology plans has been completed as planned and has achieved a first-class technology environment with a solid foundation. For the network infrastructure,

765 Information Technology Master Plan ITS Detailed Specifications, Updated 2012

766 Information Technology Master Plan ITS Detailed Specifications

767 CLPCCD Network Infrastructure Upgrade

768 LPC ITS Technology Equipment Life Cycle Plan

the emphasis over the last several years was to increase bandwidth for system access, migrate to more wireless solutions, consolidate the district data storage for the enterprise servers, and provide streaming media capabilities for the classroom.[769, 770]

Some years ago, Las Positas College had purchased a Siemens HiCom 300 telephone exchange system to replace a secondhand AT&T system that didn't support voice messaging. With the completion of the Student Services and Administration Building in 2013, this phone system reached capacity.[771] Plans to replace the phone system are integrated with the construction of the new classroom building, which is in the preliminary design phase in fall 2014.

District ITS completed a districtwide Disaster Recovery Plan in August 2010 to satisfy the accreditation requirement to protect the District Data Center in the IT Building at LPC, as well as the remote college server rooms. This Disaster Recovery Plan was reviewed and approved in 2010 for the Accreditation Midterm Report.[772] The comprehensive Disaster Recovery Plan reflected the significant changes made for the new District Data Center at LPC, which was fully operational in April 2010. The District Data Center at LPC and the College server room have generators and UPS units to maintain continuous system availability, along with alternate failover capabilities through redundancy for critical servers supporting the major enterprise systems.[773, 774]

All data on District and College servers are backed up to tapes and/or disk using industry best-practice procedures. The CLPCCD backup strategy uses a multi-tiered approach, including disk-to-secondary-disk backup of the production data, secondary disk-to-tape backup to high-capacity tape drives, and tape drive rotation and offsite storage. The tapes are rotated in a daily/weekly/monthly/yearly algorithm with a selection of tapes stored offsite in a separate location from the servers. New tape backup equipment has been installed to consolidate server backups where appropriate.[775]

Self-Evaluation

The College meets this standard as evidence by the continued use of the equipment life cycle plan that was developed in 2005 and supported by the Measure B Construction Bond for capital improvements.

Action Plan

None.

Continuous Improvement Plan

None.

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769 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

770 Bond Activities - IT Update for June 2013 to June 2015

771 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

772 Planning Agenda 3C1d Completed

773 Information Technology Services Disaster Recovery Plan, August 2010

774 Information Technology Services Disaster Recovery Plan, August 2014

775 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

III.C.1.D

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

Descriptive Summary

Effective planning and responsiveness assure that technology resources support programs and services throughout the District. The District Strategic Plan for ITS Requests delineates the project priorities on all campuses for both the Banner Enterprise System projects and the Measure B Bond projects.[776] The District Strategic Plan for ITS Requests was approved by the Chancellor's Cabinet, which reviews new college and district requirements for enhanced or improved system features that benefit the students, faculty, and staff.[777] The District Strategic Plan for ITS Requests is developed in collaboration with the Chancellor's Cabinet, college deans, directors/managers of Banner user departments, college technology committees, and college planning committees. Additions for new critical projects are made as needs arise and include state and regulatory mandates as well as changes to accommodate contract negotiations.[778] Besides consideration of the state and regulatory directives, the Chancellor's Cabinet's prioritization of the Banner projects considers three factors: impact on students, improved productivity, and reduction of costs.

Communication on the status of these development projects for Banner and other enterprise systems implementations occurs on a routine basis in several forums. First, District ITS meets with the Banner users to discuss possible new initiatives. These potential projects are discussed with the college technology committees and college user departments that might be affected by the requested change. District ITS is also an active participant in the college technology committees, where new technology initiatives and progress on current projects are discussed. Once the various groups decide to proceed with a proposed new project, the District Chief Technology Officer (CTO) presents the new item to the Chancellor's Cabinet for final review, approval, and prioritization relative to other projects on the task list. Core teams with representation from all impacted locations are established for the major new projects being implemented, and they meet regularly during the project, planning, and implementation phases. Besides communication with the groups involved in the selection and implementation of the projects, District ITS corresponds broadly via email announcements and status updates on the District's websites. In addition to the Banner users and the technology committees, project status updates are also provided by the District CTO to the college presidents, vice presidents, and the Chancellor's Cabinet when major milestones are reached on specific projects.[779, 780]

776 District Strategic Plan, ITS Requests, August 2007

777 Banner Project Priorities from Chancellor's Cabinet, August 2007

778 Annual Update for District Strategic Plan Assessment and Proposed Plans, May 2009

779 Summary of Projects from District ITS Strategic Plan, 2014

780 Technology Committee Minutes, October 2013

The District ITS Strategic Plan was initially developed in 2007 and updated in 2009 for the new districtwide initiatives for its enterprise systems and services for a five-year period.[781, 782] A new revision to the District ITS Strategic Plan for the next five years will be completed in conjunction with an update to the Educational Master Plan for the colleges that is scheduled for completion by fall 2015. Fortunately, District ITS has already purchased software needed for the current priority development projects in the District ITS Strategic Plan, so implementations can proceed without any software or hardware cost impact.[783, 784]

The strategic purpose of the Measure B Bond projects is to upgrade network and computer equipment through 2015 so that the equipment will be usable a few years beyond 2015 when the bond funds have been exhausted. Indeed, most of the technology upgrades and additions to the college campuses over the past several years have been funded by the Measure B Bond.[785] Only those few products that were not eligible for bond funding remained in the operational budgets. As such, equipment procured from 2013 to 2015 will continue to provide a robust platform for CLPCCD users for several years. When the performance of the technology infrastructure begins to gradually degrade, operational funds for technology will need to be increased accordingly to cover these technology replacement costs.

Using bond funds, District ITS has installed high-performing networks at CLPCCD locations and established a Cisco standard for all switches, routers, and wireless access points. The network equipment consists of switches that connect to the cabling in the walls, and these switches allow computers to connect to resources such as printers and servers. Network routers join the switches to provide a connection outside of the local campus network, either to another CLPCCD campus or to Internet resources. CLPCCD has completed four vendor bid awards for new switches and routers, and these changes have effectively doubled the size of the networks at each campus since 2005. These switches also expanded the 10 GB fiber connections so that buildings with high-density connections could take advantage of increased uplink speeds to server and Internet resources. The current network has nearly three times the availability and over 1,000 times the performance of the 2005 network.[786, 787, 788, 789]

781 District Strategic Plan, ITS Requests, August 2007

782 Annual Update for District Strategic Plan Assessment and Proposed Plans, May 2009

783 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

784 Bond Activities Information Technology Update, 2013-2015

785 District Budget Study Group Minutes, May 2011

786 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

787 Information Technology Master Plan ITS Detailed Specification, Updated 2012

788 CLPCCD Network Infrastructure Upgrade

789 Bid 14-03 Network Infrastructure Equipment

Computer infrastructure has developed appropriately as application and user demands have increased. Upgrades were required at both the server and desktop level to increase capacity. District ITS and College IT groups standardized on Hewlett-Packard servers after a joint industry analysis process at the beginning of the Measure B Bond. Beginning in 2005, servers were migrated to HP DL server platforms in administrative server/data centers. District ITS has migrated to a blade/SANS infrastructure in lieu of dedicated servers. The District ITS upgrades to blade servers, SANS, and VMW represent the implementation of new technologies that balance server CPU, memory, and disk resources across all applications, enabling expansion of the hardware resources with minimal downtime and providing quicker recovery from failures.[790, 791]

The District achieved its overall network design goal of replacing aging hubs and switches with state-of-the-art 10/100 switching to the desktop, Gigabit (copper) connectivity to the servers, and Gigabit (fiber) backbones to each building. All connections between the colleges and the District were upgraded to the new Opteman metro Ethernet Wide Area Network (WAN). As part of the network infrastructure upgrades, District ITS purchased and deployed higher-performance routers for the internal Opteman WAN links. To keep ahead of the bandwidth demand for site-to-site network communication, District ITS upgraded the port speeds of the LPC campus to 50 Mb.

Over the past several years, ITS has implemented significant expansions in the data connections between the campuses. Since 2009, it transitioned from the old T-1 data lines, which had a maximum bandwidth of 1.5 Mb, to the DS-3 lines, which had 4.5 Mb. In 2009, CLPCCD transitioned to the most current Opteman Ethernet connections that began with a bandwidth between campus locations up to 20 Mb. In 2010, the Opteman bandwidth was increased to 50 Mb between campus locations to support the move of the District ITS Data Center from Chabot to LPC. The new Opteman connections have the added advantage of providing flexible bandwidth options so that as site traffic changes, the bandwidth can be increased accordingly. In 2014, the Opteman WAN data lines were again expanded to support the ValleyCare Medical facility.[792]

In addition to the Opteman connections, ITS also expanded the CENIC Internet connections that are provided by the state from 45 Mb to 1GB speed. This provides substantial room for growth. Within the next year or so, the CENIC connection is anticipated to be expanded to 10Gb, and CLPCCD is positioned to take advantage of that Internet speed increase when it becomes available.[793, 794]

District ITS and the college technology departments maintain physical security and network accessibility to administrative and instructional servers. The servers are located in a locked room accessible only to appropriate technical staff with key card access and are controlled with alarms after hours in the restricted areas.[795, 796, 797]

790 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

791 CLPCCD Network Infrastructure Upgrade

792 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

793 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

794 CLPCCD Network Infrastructure Upgrade

795 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

796 Information Technology Services Disaster Recovery Plan, August 2010

797 Information Technology Services Disaster Recovery Plan, August 2014

The District Data Center that supports the enterprise systems and network infrastructure districtwide was fully operational in its new location in April 2010. Located on the LPC campus, the data center includes a District Administrative Computer Room, Network Room, LPC Instructional Computer Room, and staff offices for both the District ITS staff and the LPC technology staff. The building is equipped with UPS units, a backup generator for continuous availability, HVAC units with primary and secondary units for redundancy or failover, and an Inergen system for fire suppression. The Central Utility Plant (CUP) on campus is equipped with a primary and secondary pump/chiller to provide water to the HVAC systems in the IT Building, and if the CUP system fails, the IT building is equipped with a backup chillers. Several levels of control and monitoring within the server rooms, including electrical panels, UPS, building security, server room heat levels, and general EMS monitoring using the campus Allerton system, identify any problems quickly. The building security is restricted to IT, security, and Maintenance & Operations personnel. The exterior doors require personalized access cards using card readers. Access to the internal doors to the server and network rooms requires two-factor authentication using an authorized access card plus a matching PIN number. The building security is based on the AMAG System for access and includes emergency communication and video surveillance monitored by LPC Campus Safety and Security.[798, 799, 800]

The District uses anti-virus protection on each desktop to limit the possibility of virus attacks. Another important element of ongoing network security is the monitoring and interpretation of traffic and event logs. District ITS has deployed products for log management and traffic monitoring, such as Intermapper, that has the ability to graph bandwidth usage and provides quick identification of traffic abnormalities, such as high peaks of usage. District ITS monitors and operates Cisco ASA firewalls for daily security protection from network intrusions. The campus has two firewalls in the redundant failover configuration, and this functionally has been successful in maintaining constant Internet access/presence during the infrequent outages that have occurred. Firewall logs are exported and stored to the Manage Engine Log Management server for analysis and trending.[801, 802, 803]

For the Banner Enterprise Student Information System (CLASS-Web), security access for students, faculty, and staff is controlled through a User ID and Password (PIN). The User ID is a generated number, and the passwords are user-controlled and must be changed every six months. Besides the login access restrictions, the Banner system has a timeout of fifteen minutes to prevent inadvertent intrusions. For all Banner access, Banner Role Security defines that to which each user has access.[804] Banner uses an HTTPS browser that requires server authentication and allows the user's browser session to be encrypted over the Internet.

798 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

799 Information Technology Services Disaster Recovery Plan, August 2010

800 Annual Update for District Strategic Plan Assessment and Proposed Plans, May 2009

801 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

802 Information Technology Services Disaster Recovery Plan, August 2010

803 Information Technology Services Disaster Recovery Plan, August 2014

804 CLPCCD Information Systems Memo, 06-30-07, pages 4 & 5

There is substantial wireless coverage throughout the campus as a result of new building renovations in recent years that have added the cabling infrastructure to support the wireless access points. Older buildings have also been equipped with wireless in areas where the cabling was adequate to support the wireless access points. LPC has over 95 percent wireless coverage in all major buildings, with 74 access points throughout 28 buildings. District ITS installed a centralized Wireless Management System in 2010 to allow College and District IT staffs to monitor traffic remotely from any location in order to identify and repair problems.[805, 806, 807]

The decision to license and utilize the Blackboard course management system was made in 2003. Blackboard also hosts, maintains, and supports the system. Additionally, Blackboard hosts a test and development server and supports the Snapshot Controller function that connects Banner to Blackboard. The LPC's Teaching and Learning Center (TLC) provides hardware and software to use in conjunction with Blackboard. Software includes the Adobe suite of multimedia products and Camtasia Studio, which is used to create videos from screen recordings and PowerPoint presentations.[808] When distance education faculty were asked to rate their satisfaction with "facilities and equipment used for DE," 78 percent marked either satisfied or very satisfied, while 16 percent marked "Not Applicable."[809] In the same survey, 89 percent of distance education faculty and 84 percent of students were either satisfied or very satisfied with the Blackboard system.[810, 811]

Self-Evaluation

The College meets this standard as evidence by regular conversation with College and District staff to determine immediate and long-term needs and develop strategies for ensuring the stability and effectiveness of technology resources.

Action Plan

None.

Continuous Improvement Plan

The College meets the standard; however, to achieve continuous improvement, the College will continue to analyze funding sources that will allow the technology equipment and infrastructure to be upgraded or replaced after the Measure B Bond expires.

805 Campus Wireless Information

806 Information Technology Measure B Bond Activities Accomplishments and Future Plans, 2005-2017

807 Annual Update for District Strategic Plan Assessment and Proposed Plans, May 2009

808 TLC Technology Web Page

809 DE Faculty survey results, Fall 2012

810 DE Faculty survey results, Fall 2012

811 DE Student Survey results, Fall 2013

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

Technology and institutional planning are integrated at the College and districtwide. Collaboration between the District and College committees including the technology committees, the Bond Technology Team, and the distance education committees occurs to ensure consistency of standards and procedures, as well as to establish strategies for new initiatives and standards. A new districtwide Technology Coordinating Committee (TCC) was established in spring 2014 as part of the new Board-approved Integrated Planning and Budget Model (IPBM).[812] The TCC will be instrumental in promoting coordination across all locations and expanding communication to ensure transparency on technology recommendations. In addition, the TCC will provide an opportunity for user groups to become more actively engaged in technology reviews, product selections, project implementation, and assessment.[813]

The 2012 Facilities Master Plan was developed from meetings with constituency groups, shared governance groups, and technology staff, as well as information from the Information Technology Plan and departmental program reviews.[814] The Facilities Master Plan and the Information Technology Master Plan have driven most of the technology projects and improvements funded by the Measure B Bond.[815, 816]

Several other sources of information influence technology planning. Results from an instructional systems survey helped identify technology needs in the smart classroom environment.[817] For example, the current projection control systems are a result of a faculty need for more intuitive control of the equipment in the classroom. Another survey is scheduled to be released in 2015 to help identify new technology needs in the new classroom building. In addition, technology needs are documented in program reviews or brought to the attention of the Technology Committee either at the college or district level.[818, 819] These mechanisms ensure that all requests or needs are properly vetted and discussed to ensure a successful solution.

The LPC technology staff regularly initiates communication with programs and services about their changing technology needs. Faculty or staff requesting software or hardware contact the College Technology Department for consultation, review, and compatibility of the desired equipment or software prior to its acquisition.[820] This enables the Technology Department to work collaboratively with the other areas to

812 Integrated Planning and Budget Model (IPBM)

813 CLPCCD Technology Coordinating Committee, March 2014

814 2012 Facilities Master Plan

815 Information Technology Master Plan ITS Detailed Specification, Updated 2012

816 Information Technology Master Plan ITS Detailed Specifications

817 Classroom Technology Survey Results, 2006

818 Program Review Template

819 Technology Committee Minutes, October 2011

820 Computer software request

develop collective purchasing and implementation plans that best utilize the resources available. The 2014 Accreditation Staff Survey shows that 89 percent agree or strongly agree that technology resources are used to support student learning programs and services and to improve institutional effectiveness.[821]

Other processes integrating technology and institutional planning include the Technology Life Cycle Plan, which forecasts purchasing decisions regarding computer, network, audio and visual hardware. This plan describes what type of system should be installed for what need and when certain equipment will be replaced by the College's Technology Department.[822] For other equipment needs that have a technology component, the College utilizes the Instructional Equipment (IE) request process that is managed by the Resource and Allocation Committee (RAC). The IE process asks the requestor to identify the need and how it relates to that area's program review. If the equipment requested has a technology component, the request is routed to the Technology Department for review and confirmation that the equipment is compatible with the districtwide network infrastructure. The RAC then reviews and prioritizes all the equipment requests and forwards the final listing to the President.[823, 824]

In the 2014 Accreditation Survey, 82 percent of the responders agreed or strongly agreed that there is sufficient technology to perform their jobs.[825]

Self-Evaluation

The College meets this standard as evidenced by the level of planning and coordination between the technology staff and all of the appropriate stakeholders on campus. Its assessment and evaluation processes are also effective based on the high level of satisfaction that staff report.

Action Plan

None.

Continuous Improvement Plan

None.

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821 2014 Accreditation Staff Survey

822 LPC ITS Technology Equipment Life Cycle Plan

823 Resource Allocation Committee minutes, November 2013

824 Instructional Equipment Request form, 2014

825 2014 Accreditation Staff Survey