Standard III – Resources

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Standard III.C – Technology Resources

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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.

Descriptive Summary

The district’s technology resources are specifically geared to support the instructional program as well as administrative services. Instructional and Information Technology Services (IITS), the primary department to provide and support technology throughout the district, is organized to maximize this support. Bringing both instructional and administrative computing into one department has allowed IITS to be better integrated throughout the district. In bi-weekly meetings with the associate vice president and the five directors, all aspects of district technology are brought together. Infrastructure as represented by Network Services is part of the same team that supports classroom technology as represented by Academic Computing and Multimedia Services. Server and storage resources for Distance Learning (Moodle) are housed in the district’s data center and benefit from the expertise of those staff resources. Instructional Technology staff support the faculty’s use of PeopleSoft in the Instructional Technology Development Center and routinely provide the help pages in conjunction with Application Development and Support, the group that provides programming and analysis for PeopleSoft. Technology decisions are vetted across the spectrum of people who support technology and care is taken to make sure that these decisions will be of benefit both academically and administratively.

Technology planning is integrated with institutional planning in several ways. The Technology Oversight Task Force (3.C.1), chartered by the College Planning Committee (CPC), is tasked with updating and maintaining the Technology Master Plan. The associate vice president of IITS co-chairs this task force with a faculty appointee and IITS directors serve as staff resources. The Distance Learning Task Force (3.C.2) is also co-chaired by the associate vice president of IITS and a faculty appointee. The director of Application Development and Support attends the Student Records Process Subcommittee of the Academic Senate as do several IITS staff members. IITS participates in department planning and program review as part of the district’s overall planning process, and the associate vice president of IITS is part of the vice president-level planning process.

Self Evaluation

Technology planning is highly integrated into the various aspects of the district’s planning process. Important linkages with faculty, staff, and administrators are maintained through several shared governance forums such as the Technology Oversight Task Force and the Distance Learning Force. IITS department plans are regularly submitted through the institution’s planning process.
Actionable Improvement Plans
None

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
The district operates many information systems that are used daily by tens of thousands of students and hundreds of employees. Most systems are accessed via the web. Some systems (SchoolDude, lynda.com) are external and employees login with their LBCC accounts using federated identity management. These systems are essential to the successful completion of the administrative and business affairs of the district in support of teaching, learning and service. In its Technology Master Plan, LBCC identifies its technology needs through three technology areas and seven categories of uses and support. The three areas are administration, instruction, and student services so that technology can support the primary focus areas for the district. The seven categories include equipment, staffing, software licenses/contracts, training and support, development, accessibility, and collaborative and social networking.

Instructional and Information Technology Services (IITS) is responsible for planning, organizing and directing the district’s technology and information systems. IITS is divided into five units that cover the gamut of technology use and support across the institution. Academic Computing and Multimedia Equipment Services and Support provides direct instructional support in classrooms and computer labs. Application Development and Support is responsible for enterprise applications such as PeopleSoft, TracDat, and the data warehouse. Instructional Technology and Distance Learning supports faculty use of technology as well as provides platforms for online teaching technologies (Moodle and LBCC’s in-house developed eZLRN) used by online, hybrid and face-to-face classes. Network Services supports the district’s infrastructure of telecommunications, servers, storage, telephony, and other services. User Support and Web Development includes the help desk, workstation support, and web applications including a custom developed Content Management System for webpage development.

Identifying Needs
Needs are identified through a variety of inputs. Program plans and reviews include a prompt for equipment and technology needs and the Help Desk documents each interaction by the creation of a “ticket” allowing for deeper analysis into the types of requests in order to identify trends (3.C.3). Technology planning to meet district needs is also documented in the Technology Master Plan and the Distance Learning Plan. District groups such as the Responsible Managers Users Group and the Student Records Process Subcommittee of the Academic Senate provide input into the district’s PeopleSoft implementation (e.g., updates,
modifications, new bolt-ons) and the Assessment of Student Learning Outcomes (ASLO) Subcommittee has spearheaded the adoption of Scantron’s ParScore technology to assist faculty in assessing student learning outcomes. The Promise Pathways Steering Committee, as well as their operations group, also identifies technologies that can support student success. The Office of Institutional Effectiveness also tracks “other areas affected” by any area’s goals. IITS is frequently noted as one of the areas affected and this can alert the department’s management to impending new projects and technology requests. IITS provides project plan templates for users requesting services such as new computer labs, and requests can come from the Executive Committee as well as other special task forces created to achieve institutional priorities.

Expanding Demand for Services

Providing an ever-increasing array of services to enable greater student success has influenced the development of the LBCC infrastructure. The district website is continually enhanced with information and web applications to support projects such as Promise Pathways as well as additional services geared toward promoting student success such as the electronic Student Education Plan and Degree Audit systems implemented within PeopleSoft. Additional fields in PeopleSoft have been added to assist the tracking of student participation in the Promise Pathways initiative. Software applications such as TutorTrac and LabTrac are used to support and document student participation in the district’s success centers. Additional employee self-service functionality such as viewing and printing paycheck stubs and W-2 forms has been added to PeopleSoft.

Wireless connectivity is fairly ubiquitous and the district has increased the bandwidth of the connection between the Liberal Arts and Pacific Coast Campuses. “Unified Communications” enabling chat, video, telephony, and email, is being rolled out as the district moves from its Cisco Voice over IP (VoIP) telephony to Microsoft Lync. Additional services are also being run over the district’s converged IP network, including Environmental Management Systems, fire alarms, keyless door entry systems, parking meter dispensers, and even sprinklers for watering control.

The growth of network and data center capabilities is a reflection of the growth in demand for services. These needs are identified empirically through network monitoring, project requests that require new services, and groups such as the Technology Oversight Task Force. All of these needs have been met through general fund budgeting.

Wireless connectivity (Wi-Fi) has grown substantially since the last accreditation visit. In 2009, LBCC has 86 wireless access points, was able to sustain 750 concurrent users, had 16 buildings with wireless service and saw an average peak usage of 720 users. In 2013, LBCC has 224 wireless access points, is able to sustain 4,249 concurrent users, has 41 buildings with wireless service and sees an average peak usage of 3,640 users. The growth in storage is another measure. In 2009, total Storage Area Network (SAN) space was 20 Terabytes. In 2013, that number has grown to 84.45. Similarly, growth in virtual machines has gone from 175 virtual servers and zero virtual desktops to 336 virtual servers and 208 virtual desktops. Bandwidth between the Liberal Arts Campus and the Internet was 42 Megabytes in 2009 and is 1 Gigabyte in 2013. Bandwidth between the Liberal Arts Campus and the Pacific Coast Campus was 10 Megabytes in 2009 and is 100 Megabytes today.
Academic Technology

The Technology Master Plan identifies that the college maintains 104 open access labs for student use, 34 of which have over 30 computers per lab. Instructional computers used by students at LBCC total 2,383. The college supports 200 applications and software.

The college currently has 194 classrooms with permanently assigned multimedia equipment. Media Services supports the entire academic schedule from 7 a.m. to 10 p.m. Mondays through Thursdays and 7 a.m. until 4 p.m. Fridays on during the semester.

The library provides 24/7 electronic access to over 15,000 e-books and 30 database subscriptions, including the state system wide database collection from EBSCOhost which has been in place since January 2012.

The library migrated from their integrated library system (ILS), Voyager, which had been in place for ten years, to a new cloud-based system developed by OCLC, WorldShare Management Services (WMS) in fall 2012. WMS provides an improved user experience by providing access to a federated search feature which allows students and faculty and staff the ability to search both physical library holdings as well as electronic journal articles. The patron extract process had to be reprogrammed for the new WMS system. As part of this move, disabling the old ILS required a relocation of the proxy server (ezProxy). Additionally, the library web server was aging and was relocated to a new server in spring 2013.

Distance Learning

Distance learning and the use of online teaching technologies to support face-to-face instruction have grown significantly. The district started to transition to the Moodle learning management system in the spring 2013. The decision to try a pilot was discussed in the Technology Oversight Task Force (3.C.4) and Distance Learning Task Force (3.C.5) and was also the result of one-on-one discussions with faculty who wanted an alternative to eZLRN, the in-house developed system. The implementation of Moodle provided a more robust learning environment and addressed long standing faculty concerns about the legacy system including integration of a third party software, ease of use, seamless integration with publisher materials, and the option to group multiple classes into one Moodle course site.

The spring 2013 semester pilot was successful and Instructional Technology and Distance Learning hosted two intensive Moodle “Core Fitness” training sessions for faculty. Over 20 faculty were trained in each session (3.C.6, 3.C.7). One-hour Moodle information sessions were also hosted in the Instructional Technology Development Center over the spring semester. Online training was offered using the district’s subscription to the lynda.com video training site.

Distance learning enrollment reached 8,364 in 2006-07 with 266 distance learning classes (3.C.8). Over 400 web-enhanced courses were developed for on-campus courses that integrate the web into their curricula. The 2012-13 academic year saw 13,871 enrollments (8.3 percent of total) and 413 distance learning classes (5 percent of total). Since integrating course, professor, and student information from PeopleSoft into both the legacy LMS and Moodle, usage of both learning management system in support of non-distance learning
classes (web-enhanced) has grown significantly. Over 200 professors and 7,000 students logged into Moodle during the fall 2013 semester. Moodle and the legacy system can both support self-service use by the faculty and students and the Distance Learning office’s help is not always required. Many professors can now use these systems on their own, making tracking of LMS usage in face-to-face classes more difficult. Fully online courses continue to be tracked.

**Authentication**

Authentication for distance learning students is handled using a secure login (https) with individual usernames and passwords. Password strength is enforced. Passwords must be at least 8 characters with at least one non-alphabetic character. When a first-time Moodle-using student requests a password, the confirmation (not the password) is sent to that student’s email address as they have entered it into PeopleSoft, the district’s Enterprise Resource Planning system. The student then has to confirm that he or she made the request for a password before it is sent. When the new “Viking ID” is put into production in the late spring of 2014, students will have a single username and password that will eventually give them access to all campus systems over time. Moodle will be one of the first to use this new ID and by November 2014, students will use it to login to PeopleSoft to register for the spring 2015 semester.

**Planning**

In response to recommendations from the last evaluation report and from the Program Planning and Review Task Force, the district implemented TracDat from Nuventive (longbeach.tracdat.com) in fall 2009. It is used for college-wide processes such annual department planning at all levels (department, school, vice president) and all areas (instructional, student services, administrative), program review, and outcomes assessment for student learning outcomes and service unit outcomes. Course SLOs in TracDat are used to populate course SLOs in the Course Outline of Record database. Reports generated from TracDat are used to inform resource allocation (grants, VTEA, Cap Outlay, etc.), hiring priorities, and ACCJC reports. TracDat is continuously being updated and refined to meet the needs of the district.

Laserfiche imaging implementation has expanded to include additional departments including Accounts Payable and most recently Facilities and the Bond Management Team. The software has been upgraded and technical capabilities have increased. User support is provided through either the vendor’s (ECS) help desk or through the IITS help desk. The district has also worked to improve communications by implementing services from Blackboard Connect. This hosted service provides the district with the capability to call, email or text message. Specific and targeted messages can be sent to particular populations taken from information in PeopleSoft. For example, students who are in danger of being dropped for non-payment by the deadline are messaged using this system. The district is actively soliciting student SMS numbers as an opt-in mechanism to be able to send them important information via text messaging.
Self Evaluation

Through the Technology Oversight Task Force and the Distance Learning Task Force, program planning and review documentation, as well as requests that come from the implementation of specific district initiatives, the department is well-informed on district technology needs for learning, teaching, college-wide communications, research, and operational systems. Each year, the Technology Oversight and the Distance Learning Task Forces update their plans.

On January 9, 2012, IITS rolled out upgraded help desk software to improve the customer experience. One component of the software sends each person requesting services a link to an online satisfaction survey. The survey, modeled on the industry standard NetPromoter survey, asks one question: “How satisfied were you with your contact with the help desk and IITS?” (3.C.9)

User Surveys

As of September 6, 2013, 4,709 help desk user surveys had been completed. Of the responses, 4,350 (92.4 percent) said they were "Very Satisfied," 263 (5.6 percent) said they were "Satisfied," 55 (1.2 percent) said they were "Dissatisfied," and 41 (.8 percent) said they were "Very Dissatisfied." Even with the declining resources faced by the community college system, IITS has maintained an overall favorable rating by the community served.

In November 2013 a survey was sent to all LBCC employees asking for a variety of input about different aspects of the district (3.C.10). One of those areas was whether or not district employees felt that their work requests to IITS were completed in a timely manner. Fifty-seven percent of all employee groups agreed and 22 percent of employees strongly agreed. Only three percent disagreed (others indicated neutral or not applicable). While users recognize that there can never be enough support resources, this showed that employees felt that their needs were being met by the department.

Actionable Improvement Plans

None

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 services, support, facilities, hardware and software have changed and grown since the last self-study. The district has been through several important PeopleSoft upgrades including a database split that separated Student Administration from Human Resources and a further implementation of the self-services functions in the HR system (3.C.11).
Virtualization technologies, both server and desktop, have improved since 2006 and the data center is completely virtualized. The college now offers virtual labs that allow students using their own devices or district equipment to access a “lab desktop” from anywhere with campus or Internet connectivity. This function allows departments like Computer and Office Studies to offer online classes in specialized software applications such as Excel and also affords the staff managing computer labs a better toolset for maintaining the labs (3.C.12). Currently 208 simultaneous virtual desktops are supported; in 2006, there were none.

Data center equipment (firewall, wireless controllers, storage, servers, tape backup, etc.) has been upgraded regularly to support the increased use of technology for operations and institutional effectiveness. The district leases over three different lease periods so that upgrades occur more regularly than only at the end of a single three-year lease cycle. Since the last self-study, connectivity between the two campuses has also increased to allow for better response time.

Phase 1 of the data warehouse project is complete, and the warehouse is being used by Institutional Effectiveness and other departments. Business Intelligence tools from Cognos are being deployed and training is ongoing. Additional data is being added to the warehouse (e.g., MIS data) and phase 2 will see an even wider rollout. Data warehouse use has improved the district’s reporting capabilities including the CCFS-320 report.

Multimedia Equipment Services and Support has deployed WebCheckout to better track and facilitate equipment checkout, as well inventory and maintenance for all classroom technology. Extron Global Viewer is being deployed to provide browser-based access to classroom technology equipment in an effort to provide faster and better troubleshooting when professors have technical problems in the classroom.

The Instructional Technology Development Center continues to provide support, for primarily for faculty users (as well as staff) in the use of technology. This includes helping faculty with PeopleSoft as well as instructional technology such as screencasting. ParScore software from Scantron has been purchased and implemented as a way to assist faculty in collecting SLO data for assessment.

Laserfiche imaging software has been upgraded and the use of the system has been expanded. Call center technology has also been rolled out to the Enrollment Services Call Center that serves primarily students with questions and issues related to registration. The lynda.com subscription allows employees to access training materials for a wide variety of software applications that are in use at the district, such as Microsoft Office and Adobe products.

**Self Evaluation**

The district has made continued progress in using technology to enhance the operation and effectiveness of the institution. District standards are well documented. The distance learning program is moving forward with a modern and full-featured Learning Management System. District staff continue to improve and provide increased access to administrative applications that help streamline workflow and increase efficiency.
III.C.1.b. The institution provides quality training in the effective application of its information technology to students and personnel.

**Descriptive Summary**

**Student Training**

LBCC’s Information Competency Graduation Requirement has two components: Information and Technology. In addition, one of the institution’s GEOs for learning assessment is Information Technology and Computer Literacy, defined as “the skills necessary to find, use, manage, evaluate, and convey information efficiently and effectively.” To help fulfill this requirement, students may acquire training in technology via several routes.

To prepare students to function effectively in an ever-changing technological environment and an information-based economy, the Library provides training for students in the utilization of online databases, electronic books, virtual reference service and other web-based tools designed to help develop information literacy skills.

LBCC maintains multiple open access computer labs on both campuses. These labs are staffed by instructional assistants who have been trained to help students develop skills using productivity and other specialized software.

In numerous classes across the curriculum, students advance their technology skills as part of their coursework. The Computer Proficiency for Academic Success (CPAS) curriculum offered through the Computer and Office Studies (COS) department helps students to develop skills using various aspects of educational technology such as digital image editing, multimedia, electronic communications, and distance learning technologies. In addition to the CPAS curriculum, ten courses from the Computer and Office Studies department satisfy the technology component of the Information Competency graduation requirement. Student learning outcomes from these courses support the institution’s core competency of information technology literacy.

**Faculty and Staff Training**

The ITDC provides faculty training and support in one-on-one and group formats using workshops and open (drop-in) lab time ([http://www.lbcc.edu/itdc](http://www.lbcc.edu/itdc)) (3.C.13). Typical topics of interest to faculty include PeopleSoft help (grades, rosters), software help (Acrobat Pro) and help with online learning technologies (eZLRN and Moodle). In spring 2013, IITS also acquired a site license subscription for all LBCC employees to the lynda.com online video training site. Training on how to use lynda.com was provided in
spring 2013 by the ITDC and Faculty Professional Development. ITDC staff and management regularly participate in Flex Day workshops in addition to offering workshops for faculty at the ITDC. Information about technology used and technology support services is also provided during new faculty orientations.

Workshop topics offered in the last three years include how to use the legacy learning management system e-ZLRN11 (Transition of Existing Web-Enhanced Classes and Grades for E-Courses Using e-Zgrades), as well as other instructional and administrative technologies such as Instructional Presentations for Your Classroom (Using PowerPoint and Impatica), Oracle/PeopleSoft Faculty Self Service, Web 2.0 in 2012, Instructional Webpages for Face-to-face Classes, Instructional Presentations, Beyond Online Teaching with Virtual Presentation Skills, and The Flipped Classroom.

Flex Day presentations have included topics such as How to use New Technologies in the Classroom, Open Educational Resources, Instructional Webpages for Face-to-face Classes, and Regular and Effective Contact in the Online Classroom.

**Moodle Training**

The implementation of Moodle has also spawned numerous opportunities for the faculty to learn about the software (at brown-bag “Moodle lunches” hosted in the ITDC) and two Moodle Core Fitness intensive training sessions (June and August 2012). Moodle Core Fitness Fridays (fall semester 2012) took the four-day curriculum and spread it out over four Fridays within a two-month period. Evaluations are done using the district’s Flex Day evaluation form (translated into the Moodle feedback tool) and results have shown that the faculty find the most recent training engaging (92 percent agree or strongly agree) and relevant (92 percent agree or strongly agree). Results are available for all of the Core Fitness workshops (3.C.6, 3.C.7).

Other technology training opportunities have included low-cost conferences that have been hosted at LBCC such as EduSoCal (2012) and the Chancellor’s Office Online Teaching Conference (2013). Additionally, the ITDC and distance learning websites link to numerous tutorials on how to use various computer applications. Interactions with the help desk and IITS staff also provide informal training opportunities. The district’s YouTube site hosts a variety of content, including videos to support technology training.

**Training Offered by Others**

Faculty Professional Development works closely with IITS to offer a variety of training sessions. Webinars (http://www.lbcc.edu/FPD/webinars/Tech.cfm) (3.C.14) are one means for training and they are often supported in the facilities of the Instructional Technology Development Center. IITS has partnered with Faculty Professional Development to offer training on topics such as How To Get The Most Out Of Lynda.Com offered April 19, 2013 and again on October 18, 2013.

Personnel in the district computer labs and success centers help students use common technology tools. These facilities also provide access to hardware and software that students may not own.
Self Evaluation
The district is providing many opportunities for technology training for students and employees. Much of the training provided today is on-demand and video based. Additionally, Flex and ITDC workshops for faculty and staff, website documentation, and one-on-one interactions with technology support staff provide another avenue for enhancing technology skills.

Actionable Improvement Plans
None

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 takes several approaches to make sure its technology is maintained and as up-to-date as is feasible. All workstations come with a three-year warranty. The Technology Master Plan specifies an optimal replacement cycle for computers based on their usage. Computer labs that require high-powered workstations to support a particular curriculum are on a shorter refresh cycle than labs that do not require such power. In the challenging fiscal environment of the last several years, the district has still managed to maintain over 100 working computer labs (i.e., anything with more than five stations) and to provide employees with computers that meet a continually rising standard. The highest level of upgrade standard has been maintained primarily through categorical funding specific to those educational programs (3.C.1, pp. 20-23).

Maintenance agreements are in place for mission-critical equipment and software.
Telephony and connectivity upgrades continue to occur, sometimes at lower cost to the district than the previous systems. Moving to Microsoft Lync for telephone services represents an improvement as well as a cost reduction from the previous Cisco telephone system. The connectivity between campuses was increased and overall costs were lowered. Plan are underway to further increase the connectivity between LAC and PCC from 100M to 1G and to increase the PCC’s Internet connectivity from 45M to 1G as well. According to the college's Internet Service Provider (CENIC), this was scheduled for completion in November 2013. This increase in connectivity opens up the possibility of deploying technologies such as server and data replication across that connection.

The move of the IITS data center from Building N to Building O allowed for significant infrastructure improvements. Business continuity and disaster recovery have also improved. The new data center has a diesel generator for backup power and redundant air conditioning units. The training lab I O1 also serves as the district Emergency Operations Center since it can use the generator as well. The new data center at PCC was also brought on online.
Computer and Classroom Technology Refresh

Equipment refresh has been challenging in the fiscal environment of the past several years. However, the district has worked to make sure that there is adequate technology available. Several methods and strategies have been deployed to accomplish this. Where appropriate, bond-funded construction projects have either updated technology or in the cases of new construction, brought in technology that meets current needs and standards. For example, two of the most recent construction projects have added 36 new learning spaces, some of which are computer labs. Twenty-eight are in the MDAB project and eight are in the newly opened Student Support Services one-stop shop in Building A. Other projects since the last self-study include T Building (South Quad) with 24 new learning spaces, also including computer labs. South Quad also includes a highly technology-enabled board room capable of video recording and streaming as well as advanced multimedia control and a new multipurpose room with media and control systems. These projects have also included new network equipment and premises wiring, which meets the district’s published standards. Classroom technology standards are documented in the Design Standards used by the Bond Management Team on various projects (3.C.15).

The previous Technology Plan’s “Jump Start” funding refreshed many computer labs and smart classroom technology as well as infrastructure equipment that provides wireless connectivity. “Virtual Desktop Interface” technology has allowed the district to provide “virtual labs” that run from servers in the data center. This allows lower-powered computers to run software that would have previously required workstation upgrades. This also provides for more efficient lab management.

All new faculty are given a new computer. Pre-Intel Macintosh computers have been replaced. In the 2011-12 year, 150 in-place upgrades of RAM (memory), hard drives, and operating systems allowed the district to continue to raise the minimum standard for a workstation. Grant and categorical monies have been deployed where appropriate to keep computer labs up-to-date as well. The district receives a yearly allocation of “PEG” (Public, Education, and Government) money from the city of Long Beach’s cable franchise. This funding, which supports the college’s broadcast activities, has allowed Instructional Media Production Services to keep its cameras and other systems updated.

In fiscal 2013-14, one million dollars was allocated for classroom, lab, and employee technology refresh (3.C.16). The Technology Oversight Task Force has agreed to an approach that focuses such upgrades on the “worst of the worst” with an eye toward always raising the minimum acceptable standard. This will result in the further standardization of computer lab and smart classroom environments. Standardization increases usability as it provides a common interface for faculty to use technology in support of learning and teaching. Approximately 55 percent has been spent on refreshing computer labs, 34 percent on the renovation of media systems in 25 classrooms, and the remainder on employee workstation refresh, including offering laptops to faculty for the first time (3.C.17, 3.C.18, 3.C.19).
Self Evaluation

The institution is meeting the need to provide a well-maintained and up-to-date technology infrastructure. Regular updates and improvements continue to occur. The Technology Master Plan represents a moving target, always looking five years in the future. The institution continues to work to achieve the primary goals of the Technology Master Plan – using technology resources to support student success, administrative goals, and employee productivity.

Actionable Improvement Plans
None

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

Descriptive Summary

Technology resources are distributed across the entire spectrum of users and uses at the district. Computer labs (physical and virtual) support student learning and provide access to hardware and software for all students. Employee desktops support the staff in their use of technology. Additional hardware such as scanners, printers, networked copy/fax/scan machines, and other specialized equipment is deployed as needed.

Data center equipment and upgrades provide the network, server, storage and backup infrastructure. These are continually adjusted to meet the dynamic demands for services. Data center virtualization has allowed for an agile response to new server needs in particular. Wireless network access is ubiquitous throughout the district, though some of the older buildings pose structural and technical challenges. The wireless infrastructure (like all data center services) is closely monitored to keep track of demand and the district’s ability to provide connectivity. Recently, over 10,000 simultaneous wireless connections were measured.

The Technology Master Plan specifies optimal replacement cycles for district technology. These cycles reflect the varying uses of technology and try to match shorter replacement cycles with areas that require more up-to-date equipment to achieve their goals. They are documented in the Technology Master Plan in the section discussing equipment life-cycle recommendations. The technology replacement cycles are as follows:

- Computer Lab – Type A (using technology to teach technology): two years
- Computer Lab – Type B (using discipline-specific software): two to four years
- Computer Lab – Type C (running basic and low-level applications): four to six years
- Production Servers for PeopleSoft/Virtual Server Cluster: three years (servers are leased)
• Storage Area Network - Add storage yearly. Upgrade SAN every three years via leasing.
• Network Equipment: five to eight years depending on network load and equipment obsolescence.
• Technical Support Staff Computers: two years
• Multimedia (AV) equipment: eight to ten years with upgrades as appropriate
• Faculty and Staff Computers: four years

The bond-funded construction program is providing resources to ensure the distribution of new technology in the remodeled and new building projects. The technology in these projects reflects both the district’s technology documented standards as well as the program planning process for each project. Wired and wireless connectivity as well as smart classroom technology are standard, but additional technologies depend on the resources requested in the department’s annual plan and prioritized through the planning process.

Requests for specialized or additional technology come through a variety of means such as the IITS help desk, requests from deans, VTEA and other grant funded planning, department plans, etc. These are evaluated and, where possible, implemented.

Self Evaluation
With an up-to-date Technology Master Plan and regularly meeting Technology Oversight Task Force, the district is able to be more strategic in distributing technology to directly support the development, maintenance, and enhancement of its programs and services. Technology utilization is monitored through user interactions with the help desk as well as through monitoring technology such as Extron Global Viewer (for smart classrooms) and network/server management tools. That data is used to alert the district to the need for additional resources. Updates are provided to the Technology Oversight Task Force which meets twice each semester.

Actionable Improvement Plans
None

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 planning has become well integrated into institutional planning. The
Technology Oversight Task Force (chartered by the CPC) meets each year to update the Technology Master Plan (3.C.1). This document lays out a roadmap for technology to support the district’s goals. The Technology Oversight Task Force also provides input and guidance into other technology issues such as the district’s refresh strategy over the last three years. The Technology Master Plan is published on the district’s website at http://www.lbcc.edu/techplan/. This plan and the task force that updates it help the district to be more strategic in its planning. A five-year picture is established even though the task force recognizes that technologies may change dramatically in that span.

The Distance Learning Oversight Task Force, also chartered by the CPC, updated the Distance Learning Plan (3.C.2) in the spring semester of 2012. This plan explains the vision of distance learning at LBCC with strategic goals and measurable outcomes in areas such as student access, student support, courses offered, and faculty development and training. The Distance Learning Oversight Task Force also provides input and guidance on the overall direction and implementation of distance learning. For example, the decision to pilot Moodle was discussed in depth at by the Distance Learning Oversight Task Force before it was launched.

TracDat, used for department planning and program review, provides a field for noting whether or not a department goal, project or strategy requires technology support. The Office of Institutional Effectiveness is able to provide a list of these items to IITS. The planning process that culminates in the vice president level-planning groups also provides information as to technology needs to support institutional goals.

Lastly, IITS brings its own expertise to technology planning. Each unit within IITS provides valuable input by identifying district needs and suggesting solutions, such as improvements in infrastructure including telephony and wireless connectivity.

Self Evaluation

The district has significantly improved technology planning and its integration into the institutional planning process. Plans for technology and distance learning are updated on a yearly basis by task forces that report their results to the College Planning Committee. Additional sources of institutional input are available and fed into the planning process.

Actionable Improvement Plans

None
Standard III.C Evidence List

3.C.1 Technology Master Plan 2013-2018
3.C.2 Distance Learning Plan 2013
3.C.3 Trending Areas at Help Desk
3.C.4 Technology Oversight Task Force Meeting Minutes, November 16, 2012
3.C.5 Distance Learning Task Force Meeting Minutes, November 1, 2012
3.C.6 2013 Moodle Core Fitness Attendees
3.C.7 2014 Moodle Core Fitness Attendees
3.C.8 Distance Learning Plan, May 1, 2008 (Appendix 2 – Data Informing Suggested Growth Benchmark)
3.C.9 Help Desk Satisfaction Statistics
3.C.10 IITS Employee Survey Results by Groups, November 2013
3.C.11 PeopleSoft Update History
3.C.12 List of Courses using Virtual Lab
3.C.13 Instructional Technology Development Centers (ITDC) website http://www.lbcc.edu/itdc
3.C.14 Online Teaching and Technology Webinars website http://www.lbcc.edu/FPD/webinars/Tech.cfm
3.C.15 Classroom Design Guidelines
3.C.16 Budget Advisory Committee Meeting Minutes, April 24, 2013
3.C.17 Computer Lab Upgrades
3.C.18 Employee Upgrades Refresh Plan 2014
3.C.19 Classroom Media Upgrades Refresh Project