Standard III: Resources

The institution effectively uses its human, physical, technology, and financial resources to achieve its broad educational purposes, including stated student learning outcomes, and to improve institutional effectiveness.

Descriptive Summary

Self-Evaluation

Actionable Improvement Plans

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 & 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-https://www.lbcc.edu/techplan/], chartered by the College Planning Council, 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 -http://www.lbcc.edu/DL/dlplan/index.cfm] is also co-chaired by the Associate Vice President of IITS and a faculty appointee. The Director of Application Development & Support attends the Student Records Process sub-committee of the Academic Senate as do several IITS staff members. IITS participates in program planning and review as part of the District’s overall planning process and the Associate Vice President of IITS is part of the VP-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 component areas of focus 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 (5) units that cover the gamut of technology use and support across the institution. Academic Computing & Multimedia Equipment Services & Support is provides direct instructional support in classrooms and computer labs. Application Development & Support is responsible for enterprise applications such as Peoplesoft, TracDat, and the data warehouse. Instructional Technology & 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 & Web Development includes the Help Desk, workstation support, and web applications including a custom developed Content Management System for web page 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) Committee 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 identify technologies that can support student success. 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 web site 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 have 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, through project requests that require new services, and through 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 2383. The college supports 200 applications/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 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 our students and faculty/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 has grown significantly. The District started to transition to the Moodle
learning management system in the spring semester 2013. The decision to try a pilot was discussed in the Technology Oversight Task Force


and Distance Learning Task Force


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 & 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 - Distance Learning Plan, May 1, 2008, Appendix 2 – Data Informing Suggested Growth Benchmark]. Over 400 web-enhanced courses were developed for on-campus courses that integrate the web into their curricula. The 2012-2103 academic year saw 13,871 enrollments (8.3% of total) and 413 distance learning classes (5 of total). Since integrating course, professor, and student information from Peoplesoft into both the legacy LMS and Moodle, usage of either learning management system in support of non-distance learning classes (web-enhanced) has grown significantly. Over 200 professors and 7000 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 (instructional method=72) continued 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 character 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, VP) 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 [3.C.9]. 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 [3.C.10]. 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.18-Help Desk Satisfaction.jpg]
User Surveys
As of September 6, 2013, 4,709 Help Desk user surveys had been completed. 4350 (92.4%) said they were Very Satisfied, 263 (5.6%) said they were Satisfied, 55 (1.2%) said they Dissatisfied, and 41 (.8%) 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.11]. One of those areas was whether or not District employees felt that their work requests to IITS were completed in a timely manner. 57.1% of all employee groups agreed and 22.8% of employees strongly agreed. Only 03% disagreed. While users recognize that there can never be enough support resources, this showed that employees felt their needs were being taken care of 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.17 - chronology of major Peoplesoft upgrades.]

Virtualization technologies, both server and desktop, have improved since 2006 and the data center is completely virtualized. Virtual labs (http://vlab.lbcc.edu) are now offered that allow students using their own devices or District equipment to access a “lab desktop” from anywhere with campus or Internet connectivity. This 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. 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 & 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 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 the 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,

Actionable Improvement Plans

None.

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 core competencies 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 in designed to help develop information literacy skills.

LBCC maintains multiple open access computing labs on both campuses. These labs are staffed by instructional assistants trained to help students develop skills to utilize 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). 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 the spring semester of 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 the spring semester 2013 by the ITDC and Faculty Professional Development. ITDC staff and management regularly participate in Flex 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 Web Pages for Face to Face Classes, Instructional Presentations, Beyond Online Teaching with Virtual Presentation Skills, and The Flipped Classroom.

FLEX Day have included topics such as How to use New Technologies in the Classroom, Open Educational Resources, Instructional Web Pages 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 Moodle (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 4 day curriculum and spread it out over 4 Fridays within a two-month period. Evaluations are done using the district’s Flex evaluation form (translated into the Moodle feedback tool) and results have shown that the faculty find the most recent training engaging (92% agree or strongly agree) and relevant (92% agree or strongly agree). Results are available for all of the Core Fitness workshops. [List of attendees 3.C.6 and 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 web sites 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/index.cfm](http://www.lbcc.edu/FPD/webinars/index.cfm)) are one means 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, web site 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 3 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 (anything with more than 5 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. (See Technology Master Plan, 2013-2018, pp20-23.)

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 current 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. Our Internet Service Provider (CENIC) has told us this is scheduled for completion in November 2013. This increase in connectivity will open 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 & 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.
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. 28 are in the MDAB project and 8 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 that meets the District’s published standards. Classroom technology standards are documented in the Design Standards used by the Bond Management Team on our various projects.

The previous Tech Plan “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 lesser-powered computers to still 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 2011-2012 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 support our broadcast activities, has allowed Instructional Media Production Services to keep its cameras and other systems updated.

In fiscal 2013-2014, one million dollars has been allocated for classroom, lab, and employee technology refresh. 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% will be spent on refreshing computer labs, 34% on the renovation of media systems in 25 classroom, and the remainder on employee workstation refresh, including offering laptops to faculty for the first time.

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 5 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 tries 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.

**Computer Lab – Type A** (using technology to teach technology) 2 years
**Computer Lab – Type B** (using discipline-specific software) 2-4 years
**Computer Lab – Type C** (running basic and low-level applications) 4-6 year cycle
**Production Servers for PeopleSoft/Virtual Server Cluster** - Every 3 years (Servers are leased)
**Storage Area Network** - Add storage yearly. Upgrade SAN every 3 years via leasing.
Network Equipment - 5 to 8 years depending on network load and equipment obsolescence.
Technical Support Staff Computers - every 2 years
Multimedia (AV) equipment - 8-10 years with upgrades as appropriate
Faculty & Staff Computers - every 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 reflect 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 (video in Culinary Arts) depend on the department’s program planning.

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 program 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 twice a semester meetings of the Technology Oversight Task Force.

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 College Planning Council) meets each year to update the Technology Master Plan. 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 web site 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 Implementation Oversight Task Force (DL Task Force – also chartered by CPC) updated the Distance Learning Plan 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 DL Task Force similarly 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 DL Task Force before it was launched.

TracDat, used for program planning and review, provides a field for noting whether or not a program goal/objective requires technology support. These items are provided to IITS by Institutional Effectiveness. The planning process that culminates in the VP-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. Improvements in infrastructure such as telephony and wireless connectivity

Self-Evaluation

The District has significantly improved technology planning and its integration into the institutional planning process. Plan for Technology and Distance Learning are updated on a yearly basis by task forces that report their results to the College Planning Council. Additional sources of institutional input are available and fed into the planning process

Actionable Improvement Plans

None.
Standard III.C – Technology Resources - Evidence List

3.C.1 - http://www.lbcc.edu/techplan
3.C.3 - Trending Areas at Help Desk.jpg
3.C.6 - 2013 Core Fitness Attendees.pdf
3.C.7 - 2014 Core Fitness Attendees.pdf

3.C.8 - Distance Learning Plan, May 1, 2008, Appendix 2 – Data Informing Suggested Growth Benchmark
3.C.9 - 2012 02 23 Laserfiche RIO.pdf
3.C.10 - CN 99688.1 Blackboard Connect Inc Fully Executed.pdf
3.C.11 - IITS_Employee_Survey_Results_November_2013_by_groups.pdf
3.C.12 - Classroom Design Guide document
3.C.13 – Budget Advisory Committee, Minutes, June 17, 2013
3.C.14 – computer lab upgrades
3.C.15 – Employee upgrades
3.C.16 – Classroom media upgrades
3.C.17 - PeopleSoft Update History

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Technology Oversight Task Force website (agendas, minutes, plan):
http://www.lbcc.edu/techplan/
3.C.18 - Help Desk Satisfaction.jpg

CPAS SLO (Melvin Cobb has this information.)