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.

Technology resources, now, more than ever, are critical for the delivery of quality instruction and the efficient functioning of all areas of the College. Decisions related to the purchase of hardware and software, and changes in technology staffing are made in collaboration with the academic and administrative departments at the College, the District Office of IT (DOIT), and the Information Technology and Services Department (IT&S) at LMC. These efforts are documented in the program review and resource allocation processes demonstrating cycles of planning, implementation, and evaluation. As a result of these planning and collaborative efforts, the College's technology resources are maintained and supported at a level that allows for effective instruction and administrative operations at the Pittsburg and Brentwood campuses, as well as online.

IT&S and Media services play a significant role in providing and supporting the technology needs of the College to achieve the following goals:

- Improve student learning, administrative effectiveness, and the overall functioning of the College through the effective support, and advancement of the use of technology;
- Develop and provide on-going and regular training opportunities for technology-related professional development for faculty, classified staff, and managers in collaboration with the Professional Development Advisory Committee (PDAC);
- Plan, implement, and evaluate upgrades of student and employee computers and software in collaboration with the college department, using established College procedures (Program Review and Resource Allocation Process);
- Maintain a robust network and server infrastructure to support College instructional and administrative needs in collaboration with DOIT; and
- Operate a responsive Help Desk to provide timely and high-quality responses to user issues.

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.

Los Medanos College assures that technology support is designed to meet learning, teaching, college wide communications, research, and operational systems through effective collaboration between the Information Technology and Services Department, District Office of IT, and the academic and administrative departments at the College. Through planning, implementation, and evaluation, LMC's technology resources are maintained and supported at a level that allows for effective instruction and administrative operations at the College.

The Shared Governance Council (SGC) tasked the Technology Advisory Group (TAG) with updating the Technology Strategic Plan for the College in September 2006 (Evidence: SGC

minutes 9/14/2006). TAG is a multi-constituency shared governance committee comprised of classified staff, faculty, students, and managers including the manager of instructional technology. The draft Strategic Technology Plan (EVIDENCE: LMC Tech Plan 2014-2017) and recently developed Technology Grid (EVIDENCE: Technology Goals and Strategic Action Grid) will go through the governance process for review, approval, and adoption in fall 2014. Once adopted, these documents will provide the guidelines for network management, hardware and software standards, and the cycle computer for replacement.

In addition to technology needs identified by TAG, individual departments identify their technology needs in their annual program review and planning update and in their comprehensive program review and planning every five years.

The homepage of the electronic Program Review Submission Tool states that, program review is a collaborative self-study completed by all instructional, student service, and administrative units/departments/programs at Los Medanos College. It is an opportunity to review, analyze, assess and plan for continuous improvement of our programs with respect to student learning outcomes, student achievement, and the overall student experience — all of which lead to student success. The program review process helps us determine how well as program is performing in relation to its own mission, objectives and goals, as well as the mission and strategic priorities of the College. Program Review is an essential component of the process to demonstrate the continuous improvement and effectiveness of each program and the institution as a whole. Program Review integrates planning, implementation, assessment, and resource allocation. (Evidence: PDF of PRST Homepage)

Requests to fund technology needs are then completed and submitted through the Resource Allocation Process. These funding proposals are reviewed, ranked, and prioritized by the Shared Governance Council; however, due to the recent state financial situation, it has been difficult for the College to fund all the requests, even if they were of high priority. However, technology is acknowledged as a high priority at the College and has been identified as such in recent employee and student satisfaction surveys. (EVIDENCE: Employee Satisfaction Survey, 2014, Student Satisfaction Survey LMC 2013)

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 plays an important part in academic, student services, and administrative areas; and is used effectively at LMC to enhance student learning and provide efficient operations at both the Pittsburg campus and Brentwood Center. IT&S takes a lead in all aspects of technology and works with TAG, academic and administrative departments, DOIT, the Professional Development Advisory Committee (PDAC; a shared governance committee), outside vendors, and other constituencies to provide stable technology resources to support current and future technology needs in all areas of the College. Through a continuous and collaborative process of planning, implementation, and evaluation, IT&S works to ensure that the technology-related needs of the College are met.

Technology services

A wide variety of technology services are made available to both the Pittsburg and Brentwood campuses by IT&S. These services include a Help Desk staffed by students, Media Services, computer installation, lab/computer-based classroom re-imaging, and centralized purchasing for software and hardware.

LMC's Help Desk is staffed by dedicated student employees during the library's normal operating hours. Help Desk staff document user issues from all technology areas – media requests, hardware and software concerns, e-mail, online classes, et cetera – and enter the relevant information into the District-provided ticketing system SysAid (EVIDENCE: District ticketing system https://contracosta.sysaidit.com). The SysAid ticketing system is available round-the-clock to all LMC employees through a web-based interface that can be accessed using any Internet-connected computer, smart phone, or other device. Help Desk staff also have two-way radios to communicate with IT&S staff if immediate assistance is required in a classroom during instruction or during an event.

The Media Services unit of IT&S assists in the design of LMC's smart classrooms as well as the maintenance of smart classrooms. Smart classrooms have become a mainstay of instruction at LMC. Media Services works with the rest of IT&S and strives to keep all smart classrooms operating effectively at all times. In addition, Media Services is responsible for meeting an assortment of media needs such as assisting in the planning and execution of campus events that require media equipment, the regular delivery of media equipment for instructional and administrative use in rooms that are not currently smart classrooms, and assuring the reliable operation of all media equipment.

Purchasing for all technology and media-related equipment and software is centralized with IT&S. In 2009, SGC charged TAG with evaluating campus technology purchasing. As a result, and as reported to the SGC on April 13th, 2011, (EVIDENCE: TAG Report to SGC 041311 C. Benzler) purchases are identified and prioritized in accordance with the program review objectives, the resource allocation requests, the draft Technology Plan (EVIDENCE: LMC Tech Plan 2014-2017), and the recently developed Technology Goals and Strategic Action Grid (EVIDENCE: Technology Goals and Strategic Action Grid) This process ensures that purchases are made based on identified priorities and that the guidelines for network management, hardware and software standards are maintained and evaluated.

In addition, the District has a software purchasing agreement with Microsoft (EVIDENCE: Microsoft Campus Agreement http://www.microsoft.com/education/en-us/buy/Pages/licensingOption.aspx) for all three colleges which allows LMC IT&S to install several Microsoft products on all campus computers. Similar agreements established by the Foundation for California Community Colleges (FCCC) enable IT&S to purchase Adobe and other software packages at a significant savings compared to retail pricing. These agreements cover all computers at both locations. Currently, funding for LMC's Microsoft Campus Agreement is provided through the District. LMC's site license is for Microsoft Office Campus License Agreement with enhanced faculty/staff desktop bundle and enterprise CALS and DMOP. The annual cost for fiscal year 2013-2014 was $34,452.50. (EVIDENCE: P0015417 to Computer Land – Silicon Valley)

Software on computers in student computer labs and computer-based classrooms is updated regularly, with most updates occurring on an annual basis. This process is known as lab re-imaging – the software installed on computers in these areas includes a standard package of software (EVIDENCE: Lab Re-imaging v0) and additional software depending on the instructional focus of the lab (EVIDENCE: Computer Labs Spreadsheet Spring 2014). A computer lab software reimaging schedule (EVIDENCE: Lab Reimage v0) has been developed and implemented. This reimaging schedule is posted on the LMC IT webpage for transparency (Evidence: LMC IT Website). In addition to being posted on the webpage, emails are also sent to department chairs and deans requesting information regarding plans for new/upgraded software and hardware for student labs the semester prior to their scheduled re-image. As the lab reimage document indicates, upgrading/new software must be a decision that is made with input from all areas that use a lab. To avoid miscommunication, all communications of the upgrade/new software are requested to come for department chairs or their single designated contact person.

Software for administrative computers includes the standard package plus any software that is required for the specific functions performed by the primary user of the computer. In addition, administrative computers have access to the District's Enterprise Resource Planning (ERP) program, Colleague. Updates on administrative computers occur when the computer is upgraded or replaced or when a major upgrade of application software becomes available. (EVIDENCE: Lab Re-imaging v0)

Assistive software is planned and implemented by the alternative media specialist, who coordinates with IT&S to ensure that LMC's assistive software is current and is installed on as many student computers as is allowed by licensing. The specialist provides training and assistance to students in the areas of alternate media and assistive software. Section 508 compliance efforts are also led by this staff member.

Distance Education

Courses provided through distance education have increased at LMC since the last accreditation site visit. In order to meet the needs of LMC's diverse community, including those who find it difficult or impossible to take face-to-face courses on campus, two departments within LMC (Computer Science and Travel Marketing) have provided the opportunity for their students to earn an AS degree and multiple certificates with 50 percent or more of the instruction occurring online. A substantive change proposal for this was submitted and approved by ACCJC in March 2013. Distance education promotes learner success through innovative, interactive teaching, learning, and technology. LMC strives to provide access to quality online programs that meet the needs of a diverse population. Curricular offerings and student services for distance education are reviewed by the Distance Education Committee, and the Offices of Instruction and Student Services.

In 2011, the District wide Learning Management Task Force (LMSTF) was charged with researching available learning management systems (LMS) and selecting a single system to be used across all campuses in the District. LMSTF members included faculty, students, classified staff, and managers from all three campuses and the District Office. After requesting proposals through a public process, submittals were evaluated by the LMSTF. Seven proposals were evaluated. All members of the District were invited to attend presentations by the vendors. At the

end of the process, the LMSTF selected Desire2Learn (D2L) as the LMS for the District. (EVIDENCE: Learning Management System Recommendation)

After the selection of D2L as the LMS for the District, training for faculty was provided as described in section III.C.1.b. In addition, a process was developed to extract content from the previous LMS - Blackboard - and import that content into D2L. The process consisted of using Blackboard's batch export capability to pull content out of Blackboard. D2L's bulk import process was then used to upload that content into D2L. Content was transferred for all the Blackboard courses for spring, summer, and fall semesters for the 2013 calendar year. The process was used to move content from Blackboard to D2L for selected classes that were not taught in the 2013 calendar year, but would be taught using D2L at some point in the future.

Professional support

In addition to the Help Desk described in the previous section, professional support for the campus is provided in the areas of technology training, College web-based application development, and user support by LMC IT&S and DOIT staff.

Training needs related to technology are determined using a District wide survey that is administered annually by the CCCCD Professional Development Committee (Evidence: District-wide surveys). Results of the survey are reviewed by LMC's Professional Development Advisory Committee and technology-related professional development needs are identified and training opportunities are scheduled and provided. Training opportunities include workshops pre-semester Flex days, variable Flex sessions during the semester, on-site multi-session trainings (provided by both employees and vendors), off-site training provided by vendors, and funding for conference and workshop attendance.(EVIDENCE: List of technology workshops M. Oleson)

Issues with District-provided applications such as Colleague (ERP system), InSite (District wide communications portal), and e-mail are addressed by District IT staff. Issues with computers, printers, network, and media equipment at the Pittsburg campus and the Brentwood Center are addressed by the LMC IT&S staff. Currently, IT&S support staff at LMC consists of two computer and network specialists, one electronics technician, a senior administrative assistant shared with the library, twenty percent of a senior computer and network specialist located at the District Office, and one web application specialist. Additional assistance is provided by two classified computer center technician IIs in LMC's mega lab (2nd floor of the Core Building) who also support the Business and Process Technology computer labs as well as the instructors' computer podiums in the classrooms affiliated with these programs.

Facilities

Technology facilities at LMC include computer-based classrooms and labs, smart classrooms, program specific computer labs, servers, network and Internet connections.

Computer-based classrooms, computer labs and areas where student computers are available are all cataloged in the Computer Lab Spreadsheet (EVIDENCE: Computer Lab Spreadsheet Spring 2014). The spreadsheet indicates the location, number of student computers, and the current

software for the labs and classrooms, as well as other information related to the labs.

Numerous smart classrooms are available at both the Pittsburg and Brentwood campuses. Currently, there are 55 smart classrooms at the Pittsburg campus and seven at the Brentwood Center. Additional classrooms will be converted to smart classrooms as funding becomes available as stated in the draft technology plan. The standard equipment for smart classrooms includes an LCD projector, computer workstation, DVD/VCR player combo, speakers, switching equipment, and a connection to the campus network, and the Internet. In addition to the smart classrooms with built-in equipment, several smart carts are available at both the Pittsburg and Brentwood campuses with laptops, LCD projectors and DVD/VCR player combinations. These mobile smart carts are delivered to classrooms and meeting rooms upon request.

The networks at both the Pittsburg campus and Brentwood Center have recently been upgraded through the bond-funded Infrastructure Upgrade Project (IUP) (EVIDENCE: CCCC-Final-Rpt-With Appendices District Technology Plan). This project, completed in mid-2014, funded the upgrade of network switches, routers, wireless access points, and firewalls, adding equipment and additional network cabling to support voice over IP (VoIP). In addition, the capacity of the link between the District Office and both the Pittsburg campus and the Brentwood Center has been increased in order to better serve the administrative needs of both campuses. The capacity improvement of the link to the Brentwood Center enables a higher level of service in areas such as counseling; transcript, record retrieval and storage; enrollment assistance; and budgeting at the Center. The project included an equipment refresh component that will replace all network equipment seven years after installation. As a result of this project, it is expected that the network at both locations will be viable until at least 2025.

Servers are housed in both Pittsburg and Brentwood, with the main server farm located in Pittsburg. A majority of Pittsburg's servers have been virtualized using VMware's ESX infrastructure, Dell servers, and an EMC SAN. These servers make possible services such as the College intranet, authentication, application serving, network file storage, print services, and backup. The College servers support both instructional and administrative computing needs. The Pittsburg campus server farm hosts LMC's website server and Blackboard – the online LMS server that was retired after fall semester 2013. The College goal is to refresh the server infrastructure on a seven-year cycle.

Hardware

Instructional computers at both campuses are located in many computer-based classrooms and labs, smart classrooms, and other locations such as the Honor's Center and MESA. Computers for student use are available during normal operating hours of the locations housing the computers (EVIDENCE: Computer Labs Spreadsheet Spring 2014). All campus instructional computers have a standard set of software installed which includes the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (such as Silverlight, Acrobat Reader, Flash player), Symantec End-point protection (anti-virus, network protection), and Faronics Deep Freeze which is currently installed on instructional computers only (EVIDENCE: Lab Re-image v0) (EVIDENCE: Computer Labs Spreadsheet Spring 2014). Curriculum-specific instructional software is installed in program-related computer labs to support the needs of the instruction offered in the lab. All software is installed under the terms that are specified in the software licensing documentation. The goal at LMC is to refresh instructional computer

hardware on a five-year cycle.

All full-time faculty are provided a desktop computer in their office. There are also several computers provided in shared offices for part-time faculty at both locations. As with instructional computers, faculty computers have a standard set of software installed when delivered which includes the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (such as Silverlight, Acrobat Reader, Flash player) and Symantec End-point protection (anti-virus, network protection). (EVIDENCE: Lab Re-image v0) (EVICENCE: Computer Labs Spreadsheet Spring 2014) Other District-owned software can be installed on faculty computers as needed, if done so under the licensing agreements for the software packages. As with instructional computers, the goal is to refresh faculty computer hardware on a five-year cycle.

Administrative computers are supplied at all workstations that are used by administrative personnel. Similar to other computers on campus, administrative computers have the standard same set of software installed when delivered, and the Colleague enterprise resource planning (ERP) system. Other CCCCD owned software can be installed on administrative computers as needed if done so under the licensing agreements for the software packages. The goal is to refresh administrative computer hardware on a five-year cycle. However, due to the recent state budget crisis, the College has not been able to adhere to this goal.

As computers are replaced and deemed insufficient for use in one area, they are "retired" from that area and re-purposed to another area until they are not repairable or determined to be unusable. For example, a computer that has been replaced in an administrative area may be re-purposed as a check-in kiosk or print release station for the pay-for-print system. Re-purposing decisions are made by IT&S with input from departments that are retiring the computers or that have need for older equipment.

Software

As noted in the above sections, each computer at LMC's campuses is loaded with a standard set of software. This software consists of the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (such as Silverlight, Acrobat Reader, Flash player), and Symantec End-point protection (anti-virus, network protection). Historically, software required to support instructional programs has been purchased by the instructional department requiring the software.

All current CCCCD employees and students have access to information through the District-provided InSite portal and the WebAdvisor web-based application. Both InSite and WebAdvisor are integrated with CCCCD's Colleague enterprise resource planning (ERP) system. Colleague is used as a repository and reporting tool for academic and administrative information for the colleges. Colleague's SQL Reporting Services is used to deliver standard and customized reports to the colleges.

Licensing for many Microsoft products is provided through LMC's campus agreement purchased through the Foundation for California Community Colleges. Funding for LMC's agreement and Symantec End-point software is provided by the District. IT&S maintains licensing documentation for all software installed on computers at both the Pittsburg and Brentwood campuses. IT&S staff members are specifically instructed to install only software licensed to

LMC or CCCCD on College computers.

Communication

All full and part-time faculty, full-time and part-time classified staff, and managers are provided an e-mail account upon request by their supervisors. Starting in 2012 and completed in early 2013, LMC and CCCCD moved from self-hosted Exchange servers to cloud-based email provided by Microsoft's Office 365. CCCCD-provided email can be accessed from any Internet-connected computer and devices such as smart phones.

Since 2011, all enrolled students are given access to CCCCD provided email (InSite e-mail) through the InSite portal. Students are informed of their CCCCD email address shortly after their submission of an application to any of the colleges in the District. This email is one of the primary means of electronic communication between students and their instructors, the College and the District. Student email can be accessed from any Internet-connected computer and devices such as smart phones. Messages can be sent to everyone at a college campus, the entire District, or to specific groups of students within a college. Students can forward their InSite email to another email address that they check on a regular basis.

CCCCD's InSite portal is an important tool for LMC and CCCCD to communicate with students and employees. The landing page for each user has targeted and timely information based on the user's location (college) and constituency (student, faculty, classified employee, etc.). Through InSite, students can access their unofficial transcript, register and pay for courses, check account balance, purchase a parking permit, and access many other services. Instructors enter student grades, check rosters, and access other information through InSite/WebAdvisor. All CCCCD employees can access parts of their personal information to examine information, such as their leave balances and electronic W2 forms.

InSite can also be used by campus or District committees to share documents and other information based on the group membership established. As an example, active committee members can collaborate to post and edit documents, while others in the College can be given "read only" access to these documents.

LMC's website (www.losmedanos.edu) provides a wealth of information for students (both current and perspective), employees, and the general public. It provides important and helpful information about class cancellations, access routes to areas of the campus that are affected by construction projects, and important dates such as registration, add and drop deadlines for courses, and graduation. The main pages of LMC's website are maintained by the Marketing Department, while the content for pages in each instructional, student services, or support area is maintained by a designated member from each area.

Self Evaluation

This Standard has been met – the College offers quality technology support services. The College's IT&S department strives to meet the technology needs identified through SGC, TAG,

program review, resource allocation process, the Technology Plan, and the Technology Grid. However, due to the state's financial situation, it has been a difficult to balance the demands on personnel and financial resources with the expanding technology needs of the College to ensure the continued provision of quality technology support. Other types of technology needs are addressed by Media Services, Marketing/Web Administration, and distance education.

The use of technology has continued to increase, as have requests for technology support. However, due to the state budget shortfall and the corresponding "workload reductions", the staffing to support technology in the College has been reduced. Between 2003 and 2007, two Full Time Equivalent (FTE) positions were reduced from the IT&S department. In fall 2007, one FTE position was restored. In 2010, IT&S staffing was again reduced by 1.5 FTE. In 2011, IT&S lost another .5 FTE, Media Services was reduced by one FTE and, the senior web administrator's position was furloughed for one month annually. Staffing in other support service departments in the College was also reduced during this time period. During the past few years, new processes (lab re-imaging process, centralized and streamlined purchasing process, automation of some software deployment, et cetera) have been developed, implemented and evaluated which has helped IT&S maintain service levels. As funding from the state stabilizes, evaluating and adjusting staffing levels in the College will be essential to provide professional services and support for hardware, software and other facilities.

In fall 2005, a Desktop Computer Replacement plan was developed by TAG (Evidence: Minutes 02/07/05). This plan called for a four-year cycle of replacement for all desktops. However, due to the state budget situation, the College could not implement this plan. In fall 2013, with the fiscal situation improving and recognizing the importance and necessity of refreshing technology, discussions took place in the President's Cabinet about upgrading instructional computers. This project – Technology Renovation Plan - (Evidence: Tech Renovation Plan) will begin in summer 2014, with additional phases during the next four years. With state funding improving, the College will continue with the annual implementation of the computer renovation plan.

In order to better facilitate the lab reimaging, LMC has developed a lab reimage process to provide guidelines for the timely updating and/or installation of software and hardware in labs at LMC's Pittsburg and Brentwood locations. The lab reimage process is aligned and synchronized with program review and the resource allocation timelines. The process includes communication, scheduling, installation/ execution, and testing of new software. It begins with resource allocation proposals submitted in February and ends with re-imaging during Winter Break in January or in August prior to start of Flex week. Due to staffing limitations, each lab is re-imaged only once a year before either the fall or spring semester. (EVIDENCE: Lab Re-imaging v0).

Actionable Improvement Plan

None.

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

Descriptive Summary

Students

Historically, technology training for students has been provided primarily through course work delivered by the Computer Science and Business departments. In addition to computer application course work, students receive training in program specific computer labs located in Math, English, ESL, Biology, MESA, Music, Electrical and Instrumentation Technology, Process Technology, and the Brentwood Center (EVIDENCE: Computer Labs Spreadsheet Spring 2014). The College has combined a student computer area in the library with Disabled Students Programs and Services (DSPS) in order to provide increased access and support for DSPS approved students (EVIDENCE: Library Hours webpage: http://www.losmedanos.edu/library/). The alternative media specialist provides individualized hardware and software training in this area. LMC also offers a Learning Skills course which covers adaptive software and basic computer skills in depth (EVIDENCE: DSPS Courses and Syllabi webpage: http://www.losmedanos.edu/dsps/coursessyllabi.asp).

As stated in Standard III.C.1.a, LMC also offers distance education courses and programs in Travel Marketing and Computer Science. Distance education promotes learner success through innovative, interactive teaching, learning and technology. Specific support services for online (and other) students are offered.

The Counseling Department offers an e-advising link, with remote access to the following services:

- Information regarding LMC classes, programs and services
- Transferability and articulation agreements for LMC courses
- General academic advising on:
  - Prerequisites, co-requisites, and course content
  - General education options
  - Referrals to campus and community resources
  - College procedures and academic policies
  - Admissions and registration information

Students who use the e-advising link can expect a response within three business days. The link: http://www.losmedanos.edu/studentservices/counseling/online.asp

Personnel

Improved technology training for employees was identified as a recommendation after the 2008 accreditation site visit. As a result, the Shared Governance Council authorized the creation of a

Professional Development Task Force to assess the needs and make recommendations to develop a Professional Development Program. In May 2009, a comprehensive report entitled "Recommendations for a Professional Development Program at LMC" was submitted to the SGC. (EVIDENCE: Final Report to SGC 05-01-09 Professional Development Task Force) The Taskforce recommended that a shared governance committee called Professional Development Advisory Committee (PDAC) be established to oversee and coordinate the College's Professional Development Program. The SGC accepted this recommendation and authorized PDAC to coordinate all staff development at LMC (EVIDENCE: Recommendation B regarding Professional Development). PDAC has become a very active shared governance committee and is comprised of faculty, classified staff, managers, and students.

The District wide Professional Development Committee administers an annual survey to identify technology training needs across the District. In addition to studying the results of the District wide survey, the LMC Technology Subcommittee of PDAC has administered College wide surveys using Survey Monkey to gather more detailed and specific technology training needs of LMC employees. The PDAC Technology Subcommittee also uses evaluations conducted as follow-up to professional development activities to plan, design and make recommendations to the larger Professional Development Advisory Committee for future technology-related professional development activities for LMC employees. Calls to the Helpdesk are also informative in determining staff training needs. In this manner, the College is responding to identified technology-related training needs by offering targeted workshops and drop-in labs designed to meet the needs of the end user. A list of on-going training workshops is located on the staff development page in InSite. (Evidence: https://insite.4cd.edu/webapps/staffdevelopment/WorkshopEnrollment/Default.aspx?campus=lmc)

When new software is 'rolled out', training workshops are made available to all employees. For example, when LMC transitioned from client-based Outlook software to the new Office 365 Outlook email. Multiple trainings were conducted by LMC's technology systems manager and the District's network technology manager on how the transition would be implemented, changes that would come with implementation, and instruction on how to use and become comfortable with the new software.

Workshops are scheduled before the semester begins during Flex, as well as variable Flex workshops during the semester. This training may include on-site multi-session workshops (provided by both employees and vendors), off-site training provided by vendors, as well as funds to attend conferences or workshops (EVIDENCE: List of Technology Workshops M. Oleson). Examples of recent workshops include:

- Flex workshops: (Evidence: https://insite.4cd.edu/webapps/staffdevelopmentWorkshopEnrollment/Default.aspx?campus=lmc)
    - Development of Section 508 compatible curriculum
    - Use of Web 2.0 tools in online instruction
    - Computer security best practices
    - Instruction in the use of LMC's smart classroom technology
    - Microsoft PowerPoint 2010

- Training on CCCCD's new LMS – Desire to Learn (D2L). (EVIDENCE: D2L Trainings S. Jones)

- Variable Flex workshops:
  - Microsoft Word 2010
  - Microsoft Excel 2010
  - Microsoft Outlook 2010
  - CCCCD's new e-mail system
  - LMC's new network file storage system
  - EduStream

- Vendor-provided off-campus workshops:
  - Two-day workshop on Microsoft Excel 2010

Quality training is very necessary as the District transitions to the new learning management system - Desire2Learn. A College kickoff meeting was held at LMC in October, 2012, to plan for and begin the development and implementation of training on D2L for LMC faculty. (EVIDENCE: D2L trainers kickoff meeting 10-17-12) The resource allocation request to support the transition to D2L was approved. It provides a faculty member with 25 percent reassigned time to serve as the D2L Coordinator, an additional 25 percent reassigned time for a faculty member to serve as the Distance Education Committee Chair, along with additional funding to offer D2L training workshops. (EVIDENCE: Planning for D2L Transition) (EVIDENCE: D2L Trainings S. Jones) The training included a series of workshops to coach instructors in using the new LMS, whether for fully online or hybrid instruction, or to supplement face-to-face classes. Faculty members could also *Skype* with the D2L trainer for a one hour online training session.

Self Evaluation

This standard has been met. High quality training is essential to teach effectively with technology, and for the smooth operations of administrative services at the Pittsburg and Brentwood campuses. Professional development needs for technology training are assessed, planned, developed, and delivered regularly. As stated on LMC's professional development homepage: "The purpose of LMC's Professional Development is to *strengthen and support* a dynamic learning environment that promotes and enhances the personal, professional, and organizational development for all staff." (Evidence: PDAC home page screenshot)

The Office of College Advancement coordinates professional development activities and assists in their planning, implementation, and evaluation. The office also serves as a link to District staff development programs. (https://insite.4cd.edu/org/dwco/dst/staffdev/default.aspx). PDAC and its subcommittees, which include the Technology Subcommittee, meet once a month to review requests and information gathered about technology training needs from:

- District wide Professional Development Survey
- LMC surveys to target specific user needs
- Evaluations and comments after professional development activities

This information enables the PDAC Technology Subcommittee to make relevant and timely recommendations to PDAC about future technology workshops and professional development at the College.

All the recommendations included in the Professional Development Task Force report entitled "Recommendations for a Professional Development Program" (EVIDENCE: Final Report to SGC 05-01-09 Professional Development Task Force) with regard to the structure, staffing, and instructional technology training have not been fully implemented due to funding constraints. As funds become available, based on current College priorities, technology needs are addressed; for example the D2L transition training (EVIDENCE: Planning for D2L Transition. Technology training continues to be a high priority for the College and the College continuously explores alternative funding sources.

Actionable Improvement Plan

None.

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

The Information Technology and Services Department in collaboration with the District Office of IT (DOIT) and campus shared governance committees – Shared Governance Council (SGC) and the Technology Advisory Group (TAG) - advises the College on acquiring, purchasing, upgrading, and replacing the equipment for the technology infrastructure. Current IT&S staffing consists of one manager, one senior computer and network specialist, two computer and network specialists, one electronics technician, and a half-time senior administrative assistant.

The District wide Strategic Infrastructure/Telecommunications plan (2009) (Evidence: District wide plan) addresses the infrastructure for data, voice and video communications across the District. This seven-year plan addresses redundancy and survivability needs of the District, the rate of adoption of Voice over IP, and the updating of the outdated telephone system. This plan is being implemented and is called the Infrastructure Upgrade Project (IUP).

The network and telecom infrastructure (switches, routers, firewalls, wireless system and telephone system) at LMC's Pittsburg and Brentwood campuses was recently updated under a District wide Infrastructure Upgrade Project (IUP) (EVIDENCE: CCCC-Final-Rpt-With Appendices District Technology Plan). This new equipment was funded through bond funds and was planned by a District wide task force that included faculty, classified staff, and management from all three colleges in the District as well as the District Office. The IUP has replaced all network and telecom infrastructure as well as the current telephone system with a Voice over IP (VoIP) system integrated throughout the District. The project calls for a refresh of equipment after a seven years (currently scheduled for 2020) that will ensure that network and telecom equipment will be adequate for the College's needs until at least 2025.

At the College level, the Technology Renovation Plan (EVIDENCE: LMC Technology Renovation Plan 012714) for refreshing instructional and administrative technology infrastructure (instructional and administrative computers, smart classroom equipment, printers, et cetera) has been developed and approved by the College president, and is in the process of being implemented. This technology refresh plan identifies groups of computers based on the age of the equipment and schedules them for replacement on a five-year cycle. Funding for the current Technology Renovation Plan is provided through redevelopment funds. Windows-based computers are purchased with a five-year warranty that guarantees that computers in a specific area can be maintained for their projected life cycle. Apple computers are purchased with three-year AppleCare agreements (the longest offered by Apple) and repairs to Apple computers are made by IT&S or authorized repair providers after the warranty period expires.

Software updates/upgrades for computers in instructional classrooms and labs are performed on an annual basis (EVIDENCE: Lab Re-imaging v0). During this update process, the current College standard operating system -Windows 7 - is installed on all computers that can support this operating system. Updates to the Microsoft Office Suite, web browsers, add-ons and instructional software (if available) are made as well. Additional software identified and funded through the resource allocation process are installed at this time. Minor updates for web browsers and add-ons are performed on an as needed basis in instructional classrooms and labs to support instruction.

Software updates/upgrades for administrative computers are performed during computer replacement, or on an as-needed basis to support the administrative needs of the campus.

New technology equipment needs, not included in the refresh plan, are identified through the program review process. Requests to fund this additional equipment are made through the resource allocation process. The SGC reviews and prioritizes program improvement requests for new technology infrastructure equipment. (EVIDENCE: RAP Update on 2013-14 Funding Memo to Campus Community_5-24-13)

From 2002 through spring 2013, the College used Blackboard as its learning management system (LMS). During that time, LMC's Blackboard system was managed by either an instructor on reassigned time or by the IT&S department. In 2011, a District wide task force was convened (EVIDENCE: LMS Task Force Charge v2) and tasked with identifying and implementing a single LMS for all three colleges in the District. The task force included faculty, classified staff, and managers from all colleges in the District and management from the District Office. Based on the recommendation of the LMS Task Force (EVIDENCE: Learning Management System Recommendation), Desire2Learn (D2L) was selected as the LMS to be implemented across the District. The College began with partial implementation of D2L in summer 2013, and full implementation in spring 2014 along with a de-commissioning of the Blackboard system. D2L is maintained by the DOIT, and local support at the College is provided by a faculty on reassigned time as well as the IT&S department.

The LMC IT&S and DOIT maintain the technology infrastructure equipment, and the network and telecom infrastructure. IT&S at the College is responsible to maintain all non-network equipment on campus, instructional and non-instructional computers, smart classroom equipment, printers, and other miscellaneous technology equipment.

Critical data on network shares is backed up on a nightly basis through an automated process. Files from the backup are restored upon request in a timely manner by IT&S staff. Currently, there is no off-site backup replication disaster recovery plan, but the draft Technology Strategic Plan includes the need to consider such an off-site backup.

Both LMC IT&S and DOIT use the same web-based ticketing system – SysAid - where users can report and track the progress of resolutions for issues with technology equipment. SysAid was selected by and is maintained by the DOIT. In order to meet institutional needs, the open source ticket management system was replaced in spring 2013 by the District wide SysAid IT helpdesk software. This new ticket management system provides more efficient communication by allowing staff and students to initiate help tickets by emailing https://contracosta.sysaidit.com. Users can then select from a drop down menu to receive help with smart stations, District Portal or password resets. SysAid integrates all the essential tools into one Service Desk and allows staff and students access to their helpdesk history as well as open helpdesk tickets.

The District InSite portal provides targeted and timely information on the landing page for each user that is determined by the user's location (college) and constituency (student, faculty, classified employee, etc.). Through InSite, students can access their unofficial transcripts, register and pay for courses, check account balances, purchase parking permits, and many other functions. Instructors enter student grades, check rosters, and access other information through InSite/WebAdvisor.

Beginning in 2011, all enrolled students have been given a CCCCD e-mail address (InSite e-mail) through the InSite portal. Students are informed of their CCCCD e-mail address shortly after submission of their application to any of the colleges in the District. Student e-mail is one of the primary modes of communication between students and their instructors, the College and the District. Student e-mail can be accessed from any Internet-connected computer and devices such as Smart phones. Messages can be sent to everyone at a campus, the entire District, or to specific groups of students within a campus. Students can forward e-mail from InSite to another personal e-mail address that they may check more regularly. InSite is available year round to students.

The District is currently in the process of implementing a single sign-on authentication to cover access to InSite/WebAdvisor, campus computers, e-mail, online courses, remote access through a VPN (employees only), and the campus' wireless network.

Self Evaluation

The current refresh cycle for administrative desktops, classroom/lab computers, and laptops is five years, although funding has not always been available in the last few years to purchase replacement equipment on this cycle. There are short term funds to replace the next group of computers in the Technology Renovation Plan (EVIDENCE: LMC Technology Renovation Plan 012714), but a longer term solution to ensure that continuous and consistent funding is available to meet the five-year replacement cycle needs to be determined.

Current staffing for IT&S is inadequate to meet the continuous acquisition, maintenance, upgrading and replacement of technology infrastructure equipment needs of the College. With

over 1,000 computers and 62 smart classrooms at the two campuses, there needs to be an evaluation of the adequacy of staffing to ensure that the technology infrastructure of the College can be well supported.

Although critical files on network shares are backed up on a regular basis, we do not yet have a plan for business continuity in the event of a disaster (such as a fire or an earthquake). In addition, the backup system needs to be expanded to include images of critical servers and other critical data maintained by the College.

Technology refresh cycles, staffing, and a business continuity plan are included in the Technology Plan that is currently in draft form and will go through the governance and approval process in fall 2014.

Actionable Improvement Plan

A comprehensive LMC Technology Strategic Plan, aligned with the College's Educational Master Plan, will be completed and will identify processes for technology infrastructure refresh and staffing for technology support and training. Approval of the LMC Technology Strategic Plan by campus shared governance bodies is expected by December 2014. With completion of the Plan, IT&S, Business Services, and the President's Office will work to identify resources to support the Plan.

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 is utilized extensively for instructional, student services, and administrative purposes across the Pittsburg and Brentwood campuses. Planning for and distribution of technology resources at the College is guided by the District wide Strategic Infrastructure/Telecommunications Plan (2009) (Evidence: District plan) and the draft Strategic Technology Plan (2014-2017) (EVIDENCE: LMC Tech Plan 2014-2017). The College plans are implemented after program review and planning, and funded through the resource allocation process (EVIDENCE: RAP Update on 2013-14 Funding Memo to Campus Community_5-24-13). In addition to the IT&S program review, instructional, student services, and administrative departments evaluate their programs and identify their technology-related needs annually as part of their program reviews. Programs and units then submit requests to fund technology needs described in their program review. The Shared Governance Council (SGC) reviews resource allocation requests for 'program improvement', and recommends a prioritized list of proposals to the College president for approval. Requests for 'program maintenance' are reviewed and approved by the President's Cabinet.

As demonstrated by the numerous computer labs and classrooms (EVIDENCE: Computer Labs Spreadsheet Spring 2014) at the two campuses, the College provides students access to technology for both general and specialized use. Computers for general use classrooms and labs are based on the current standard when purchased. Computers in program-specific labs or classrooms have hardware and software necessary to support the instruction in that room. The

College's IT&S department works diligently to maintain these classrooms and labs with the latest software identified and approved for funding. Major updates to software in computer classrooms are performed annually ((EVIDENCE: Lab Re-imaging v0), while minor upgrades (Acrobat Reader, Flash, and other plug-ins) are performed as needed. A refresh cycle for all campus computers, including those in computer labs and classrooms is identified in the draft Strategic Technology Plan (EVIDENCE: LMC Tech Plan 2014-2017).

Smart classrooms are in high demand at both campuses. There are currently 55 smart classrooms in Pittsburg and seven smart classrooms at the Brentwood campus. Once the College approves a new technology plan in fall 2014 (EVIDENCE: LMC draft Tech Plan 2014-2017), it will serve as an implementation guide. Once funding is secured, the Smart classrooms at both campuses will be updated to newer technologies and new classrooms could include smart technology.

Administrative computers are not currently updated on a specific schedule. Software updates for programs such as the MS Office suite on administrative computers are performed based on the refresh cycle described in the draft Strategic Technology Plan (EVIDENCE: LMC Tech Plan 2014-2017) or the Technology Renovation Plan (EVIDENCE: LMC Technology Renovation Plan 012714) or as dictated by business needs. Software updates for programs such as browser add-ons are performed approximately twice per year.

Guidelines for identifying the total cost of ownership for technology used for programs is included in the draft Strategic Technology Plan (EVIDENCE: LMC Tech Plan 2014-2017). An assessment the total cost of ownership during the initial purchase of technology used in specific programs will lead to better planning as programs progress or require updates to technology to remain current.

The LMC IT&S department works with the District office of IT in an effort to maintain a secure and robust technology infrastructure. In 2014, LMC's network infrastructure and telephone system were completely updated through the District wide Infrastructure Upgrade Project (IUP) (EVIDENCE: CCCC-Final-Rpt-With Appendices District Technology Plan). The IUP has a built-in refresh cycle for the network equipment after seven years. This upgrade project included a new firewall to improve network security and protect LMC's internal computing resources from unauthorized access from off-campus and from unauthorized access of administrative resources from student computers. This project also includes the installation of software to enable monitoring of the LMC network to identify and remedy network problems more quickly.

The LMC IT&S department responds and resolves non-network technology problems such as computers, projectors, printers and smart classrooms as quickly as possible. Problems are tracked in the SysAid system (EVIDENCE: District ticketing system https://contracosta.sysaidit.com).

To ensure security, all administrative computers require a user name and password for access. Currently, user name/password combinations for access to administrative computers are created by LMC IT&S and use the LosMedanos.local domain for authentication. The process of moving all administrative computers to the District's AC.Portal domain is underway and will be completed in fall 2014. In case of either domain - LosMedanos.local or AC.Portal - each user has a unique user name and secure password as outlined in Board Policy 5030 (EVIDENCE: Governing Board Policy 5030 – Acceptable Technology Use Policy). This policy requires each

user to be responsible for the security of their username and password. Access to the Colleague system, which contains sensitive information, is only from computers located at the campus.

Students have an AC.Portal user name and password combination to securely access student resources such as InSite/WebAdvisor, LMC's wireless network, and the learning management system (Desire2Learn or D2L). Governing Board Policies 4014 (EVIDENCE: Board Policy 4014 – Distance and Correspondence Education) and 5030 (EVIDENCE: Governing Board Policy 5030 – Acceptable Technology Use Policy) require that all access to D2L be through a District-supplied user name and password. Discussions on requiring authentication for other resources such as classroom and lab computer is in process.

In 2011, a District wide task force was established to select a single LMS for all colleges in the District. The task force included members from all colleges with representation from students, faculty, classified staff, and management. Upon the recommendation of the task force, D2L was adopted as the LMS for the entire District (EVIDENCE: Learning Management System Recommendation). The colleges use Desire2Learn as the learning management system for online and hybrid classes, as well as to post supplementary information for face-to-face classes. D2L was fully implemented as the District LMS in spring 2014. Between fall 2010 and spring 2014, the College used Blackboard as the LMS and hosted it in LMC's virtual server infrastructure. This LMS was fully supported by staff at the College. Prior to fall 2010, LMC's Blackboard installation was hosted off-site and managed by LMC staff.

Self Evaluation

The need for new or upgraded technology equipment and software is identified and funded through program review and the resource allocation Processes.

A secure and robust technology infrastructure that requires authentication for all administrative computers, the learning management system, and CCCCD's InSite/WebAdvisor is in place. A new network firewall helps protect unauthorized access to LMC's network from outside and from unauthorized access of administrative computing resources. Network monitoring by the District office of IT enables quick resolution of network issues, and LMC's IT&S department works toward resolving other technology issues in a timely manner.

Processes to update technology, both hardware and software, are in place and the College is currently updating its technology infrastructure. A process for identifying the total cost of ownership for technology to support instruction and administrative functions has been included in the draft technology plan which has yet to be adopted and fully implemented.

Actionable Improvement Plan

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 of improvement.

Descriptive Summary

Technology planning is integrated with institutional planning through the program/unit review and planning process. Individual programs and units – including the Instructional Technology and Services unit – conduct a program review update annually and a comprehensive program/unit review every five years.

The need for new or updated technology resources is identified through this process. Program review also allows for the assessment of how well existing technology resources support instructional, student service, library and learning support service, and administrative service needs are being met. Based on program reviews, resource allocation requests are made in order to add, improve, or expand technology resources on campus. These requests are reviewed by the Shared Governance Council and are reviewed and prioritized as recommendations to the College president. Based on available funds, the proposals are funded according to College Educational Master Plan and strategic priorities. (EVIDENCE: RAP Update on 2013-14 Funding Memo to Campus Community_5-24-13).

Employee and Student satisfaction surveys also provide information to the College on the adequacy and quality of the College's technology which helps to develop College priorities and future strategic directions.

Self Evaluation

An LMC Technology Strategic Plan (EVIDENCE: LMC Tech Plan 2014-2017) is being developed by TAG to address LMC's technology goals as they relate to identified College priorities and the Educational Master Plan to support student learning, student services, library and learning support services, and the administrative use of technology. This plan will address the overarching technology needs of the College not be identified in individual program/unit reviews and planning. After the draft plan is completed, it will be reviewed by the different constituency bodies - Academic Senate, Classified Senate, LMC Associated Students, and President's Council. After incorporating input from these campus constituency groups, the plan will be submitted to the SGC for review, endorsement, and recommendation to the College president for final approval.

Previous plans do not fully address current needs and advances made in the last year alone; for example the future support and resources after the implementation of the Infrastructure Upgrade Project. The number of computers has expanded at both campuses – Pittsburg and Brentwood – making it difficult for the IT&S department to support the current demands and issues related to aging technology at the campuses.

The Employee Satisfaction Survey (Evidence) conducted in spring 2014 provided the following valuable information:

When asked whether "the maintenance of equipment in the classroom – instructional technology, audio-visual media equipment, furniture – are adequate", 53.1 percent of the faculty strongly or moderately agreed, and 44 percent of the faculty strongly or moderately disagreed.

When asked whether "computer resources for employees at LMC are adequate to enable you to carry out your job duties", 42.2 percent of the faculty, 41.7 percent of the managers, and 58.6 percent of classified staff strongly or moderately agreed, leaving a large percentage who strongly or moderately disagreed - 56.3 percent, 58.3 percent, and 41.3 percent respectively.

Finally, when asked about the adequacy of "the quality of technology (other than computers) available to employees on campus", 48.5 percent of the faculty, 61.6 percent of the managers, and 48.2 percent of classified staff strongly or moderately agreed, leaving a large percentage who strongly or moderately disagreed – 39.4 percent, 38.5 percent, and 37.9 percent respectively.

The Student Satisfaction Survey (Evidence) conducted in spring 2013 provided a more positive experience from the student perspective. When asked about "the use of technology in the classroom", 77.2 percent of the students were very satisfied or satisfied; and 80.9 percent were very satisfied or satisfied about "the availability of computers in skills labs and computer labs".

Actionable Improvement Plan

A comprehensive LMC Technology Strategic Plan, aligned with the College's Educational Master Plan, will be completed and will identify processes for technology infrastructure refresh and staffing for technology support and training. Approval of the LMC Technology Strategic Plan by campus shared governance bodies is expected by December 2014. With completion of the Plan, IT&S, Business Services, and the President's Office will work to identify resources to support the Plan.