ESTRELLA MOUNTAIN
COMMUNITY COLLEGE

Strategic Technology and Learning Plan 2011-2015

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STRATEGIC AND INSTITUTIONAL
PLANNING DOCUMENT
#56

EMCC Strategic Technology and Learning Plan

July 1, 2011

Introduction

At Estrella Mountain Community College, a Learning College, technology is central to student learning. Technology capabilities serve as the vehicle through which information and knowledge are shared within our internal and external environments. Included within this integration are technologies that include a mix of voice, data, video and interactive functions. The use of technology is pervasive at the college and the Strategic Technology and Learning Plan is designed to ensure that Estrella Mountain continues to provide a technological infrastructure (hardware, software, and human resources) that supports the college's many learning options and program needs over the next 3-5 years.

This document describes the technology climate at EMCC – its vision, goals, infrastructure, linkages to the academic program, and future plans. Two appendices are included. Appendix A is the latest yearly Technology Purchase Plan. Each year the IT Division lays out the specific purchases to be made that emerge from the Budget Development Steering Team, as approved by Leadership Council and Senior Leadership. In addition, this plan documents hardware to be replaced according to the latest replacement cycle, software to be purchased, and infrastructure elements to be implemented. Appendix B is the newly-minted District Strategic Technology Plan. Newly created this year, it lays out broad technology goals for District technology. In future years, specific college technology goals and projects will be aligned with this plan.

EMCC's Technology Vision

Estrella Mountain Community College provides technology that supports exceptional and creative learning experiences that prepare all learners to achieve their dreams and transform their lives.

EMCC Strategic Technology Goals

- Student Success: Provide information and instructional technology solutions that enable student success.
- Administrative Efficiency: Provide information and instructional technology solutions that promote effective and efficient organizational decision-making, communication, and operations.
- Professional Development: Facilitate a culture on ongoing professional development that fosters the effective use of information and instructional technologies.

- Collaboration: Promote a culture of collaboration within Estrella Mountain Community College to facilitate innovation, maximize the use of resources, and improve efficiencies in the use of information and instructional technologies.
- Planning and Funding: Ensure appropriate resources are identified for required information and instructional technology infrastructure and operations.
- Appropriate Technology: Ensure all facets of Estrella Mountain Community College have adequate and appropriate technology to achieve the vision, mission, and goals of the college.
- IT Services: Provide customer-centered information and instructional technology solutions and support.

EMCC Technology Backbone Infrastructure (wired, wireless)

As one of the Maricopa Community Colleges, Estrella Mountain is part of the District's Wide Area Network (WAN) and is connected directly to the District office and the Internet through a leased Cox Communications line. A secondary connection to the Scottsdale AirPark provides an alternate Internet connection and the opportunity for replicating data for failover in the event of an emergency outage.

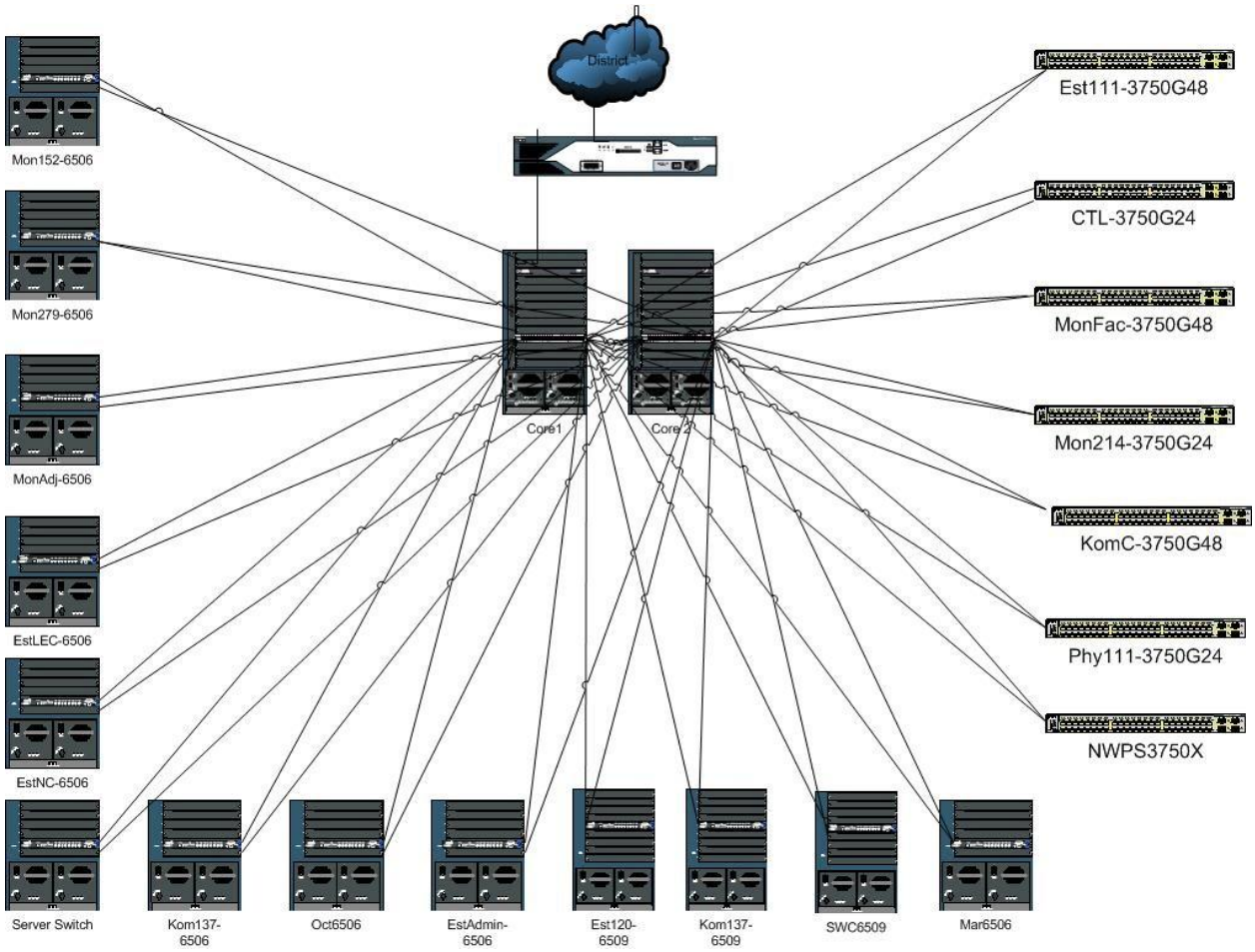
On campus, all buildings are connected through fiber optic cabling through Cisco switches located on each floor of campus buildings to the Cisco core switch located in the data center in Estrella Hall in a star configuration. Most computers on campus are connected using a 100mbs connection, with some having 1 gbs connectivity. Servers in the data center have 1 gbs connectivity.

Key servers in the data center are: Active Directory, Web, BASIS (for campus security), Exchange, Radius (for wireless authentication), Storage (for networked files), SharePoint, SQL, FileMaker Pro, WebApps, Planning, and Domain Name Server. All servers are backed up nightly to the campus Storage Area Network and then staged to tape.

A Storage Area Network (SAN) system also provides central storage for most servers, which allows for fast backup as well.

In addition to the wired network infrastructure, a comprehensive wireless LAN is available at virtually every location on campus. All student computers in most classrooms are connected to the campus network wirelessly, the only exceptions being CIS and fine arts classrooms needing faster connectivity.

A network diagram that shows the specific network architecture used for the infrastructure follows:



Current EMCC Technology Hardware Standards

- Each employee is provided either: PC with 4GB RAM, a DVD-RW, 256MB video with dual output, and 160 GB hard drive, OR iMac with 4GB RAM and 21.5" screen. The standard is exceeded when the need is demonstrated.
- Replacement of employee computers is at the 4-5 year point.
- Faculty and staff may request laptop computers in lieu of desktops if their work needs and style require this technology.
- All PC users are provided a 19" LCD monitor. Monitors are not normally replaced until they fail.
- Classroom computers generally follow the same standards. Their replacement cycle is 5-6 years.
- A sustainability goal is to purchase Electronic Product Environmental Assessment Tool (EPEAT) Silver or Gold registered products for all standard desktop and notebook / laptop computers and monitors, and for specialized computers for which EPEAT certified products are available.

Current EMCC Technology Software Computer Image

The following software is installed on all student computers. Many are also installed on staff computers as indicated. Additional software is installed as needed by faculty or staff.

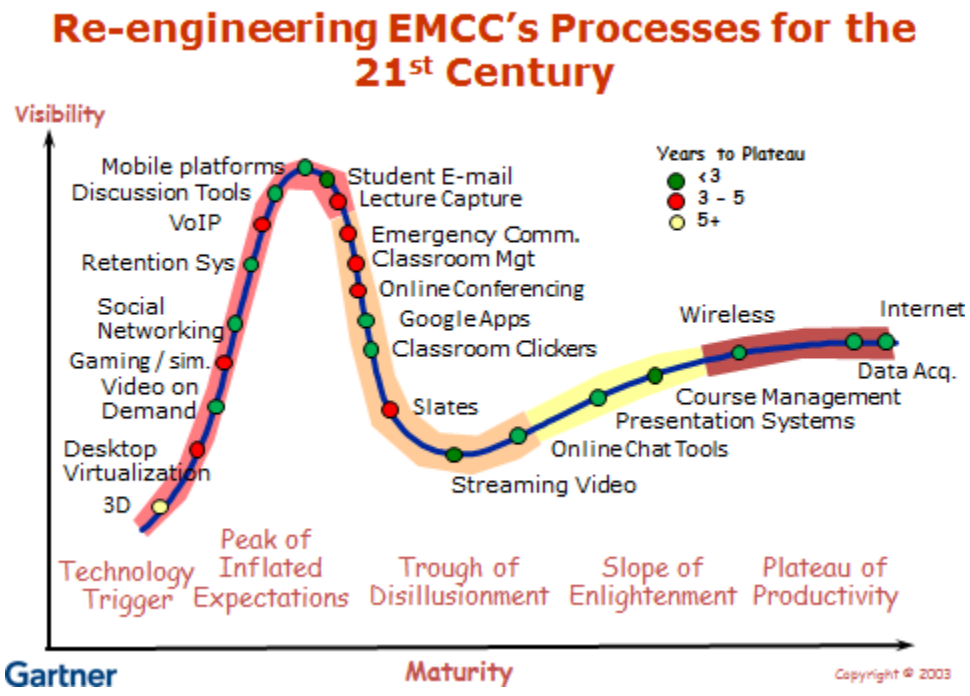
Software Title for XP/Vista/7	Version	
3DMax		
Active Inspire	?	
Adobe Acrobat 8/writer	8	*Staff*
Adobe Dreamweaver	CS4	
Adobe InDesign CS3	CIS	
Adobe PageMaker	7	
Adobe Reader	9.1	
ALEKS Plugin	3.9	*Staff*
Appv Client	4.5sp1 or 4.6	*Staff*
Audacity	1.2.6	
AutoDesk Map Guide	6.5	
CAD	CIS	
Chime	2.6 SP7	
CMAP Tools		
Creative Stuite CS4/CS5		
Ebrary Plug In	3.22	*Staff*
FileMaker Pro	11	*Staff*
Eprime		
FireFox	3.6	*Staff*
Fireworks CS3		

ForeFront	latest	*Staff*
Freemind		
Front Page 2003	CIS	
GameMaker		
Google Earth	6	*Staff*
Internet Explorer	7-8 (Vista-7)	*Staff*
J2SE Runtime Environment	5.0 Update 4	*Staff*
Java Runtime Env SE	1.6 u20	*Staff*
Java2SDK,SE	1.6 u13	*Staff*
KeyServer Client	5	*Staff*
KP Typing		
KPT added to Photoshop CS3		
Laerdal (clinical sim Lab)		
Macromedia Flash	10.1	*Staff*
Macromedia Shockwave	11.5	*Staff*
Maple	13/14	
MathType 6	6	
MatLab MathWorks	2010A	
MicroSim Inhospital		
Microsoft Money	15	
Microsoft Office	2007/2010	*Staff*
MatchWare MindView	3	*Staff*
Microsoft Visual Studio.NET w/Sp1	2008	
Notepad ++	4.9.2	
Office Communicator 2007 r2		*Staff*

PowerDVD	8.2	*Staff*
Print Server Client	Latest	
Quark Express	6.5	
Quick Time	7.6	*Staff*
Quick Time Authorware	Latest	*Staff*
Quickbooks	2007	
Quicken	2007	
RealPlayer	10 or Real Alternative 1.75	*Staff*
Softchalk Lesson Builder 4		*Staff*
SPSS	Version 17	
SSH	Used for Programming/Scripting	
TestGen	7.5	
Turning Point		
Vernier Logger Pro	3.8	
Virtual Magnify Glass	?	
Windows SP3 & Vista SP1 or Sp2 Windows 7 x32/x64		
Xen Citrix plugin		

Technology Adoption Status

The following diagram is adapted from Gartner's Hype Cycle. It depicts technologies currently in use at EMCC along with their predicted times to maturity at our college.



Technology in the Classroom at EMCC

Technology in the classroom is faculty-driven to support the teaching and learning needs of both student and instructor. All classrooms are equipped with an instructor station, overhead projector, internet connectivity, imaged software similar to what is in the Information Commons plus any instructor specific software, and whiteboards. Each classroom is designated a technology level 1, 2, or 3.

- Level 1: instructor station, overhead projector, whiteboards, no student computer stations.
- Level 2: instructor station, overhead projector, whiteboards, one computer per small group collaboration table.
- Level 3: instructor station, overhead projector, whiteboards, one computer per for each student (32 per classroom), small group collaboration tables included.

As we continue to assess our teaching and learning practices, more classrooms are being converted to level two and three classrooms. One of the instruments used to evaluate technology at EMCC is the faculty online survey. The survey questions are framed

around CCSSE benchmarks and how technology use at EMCC supports those benchmarks. Questions also include hardware, course management system, software, and other/emerging technologies usage and needs. Working with OPIE, we developed four categories of use responses; Yes, Would Like to, No, Available to students, in order to gauge impact and need.

Plans for the Future

Based on the most recent evaluation, Fall 2010, and feedback from divisional plans and the CTL and E-Learning Advisory committees, the following technology improvement strategies were identified;

- Continue to upgrade classrooms to Level 2 and 3 classrooms
- Make sure to fund CTL acquisition when new technology is acquired for classroom/faculty use
- Investigate and plan for mobile learning and virtual collaboration spaces such as WIMBA/Elluminate
- Investigate an 'assessment course management system' to streamline reporting and duplication processes in division and strategic planning practices in order to identify strengths and gaps with assessment and strategic initiatives at the course, program and institutional levels.

E-Learning at EMCC

This section highlights the E-Learning program at EMCC, which is an integral part of the academic program and has been designed to use a specific approach to course creation, quality, and revision. The history of the program is given, along with current status and plans for the future.

E-Learning History

Eighteen members of the Estrella Mountain Community College (EMCC) took eight months (November 11, 2001 - June 2, 2002) to conduct a broad investigation into the best practices related to learning with technology. The Charge Statement from the College's Senior Leadership stated that the E-Learning Task Force shall, "consider all relevant aspects of E-Learning so that EMCC charts the right course in the rapidly expanding world of educational technology.

Members of the E-Learning Task Force presented recommendations which included a vision statement, definition, institutional goals and recommendations to the EMCC Leadership Council in May 2002. This effectively ended the formal functions of the Task Force and signaled a new era and strategic focus for teaching, learning, and technology at EMCC.

E-Learning Vision: Student success will be enhanced through a wide range of E-Learning options.

E-Learning Definition: E-Learning is an electronically supported instructional process that creates, fosters, delivers, assesses, and facilitates student-centered interactive learning anytime and anywhere.

Institutional E-Learning Goals:

1. Integrate development and support of E-Learning into every division's operation.
2. Continue to cultivate the appropriate environment and leadership for development, implementation, and continued support of a quality E-Learning framework.
3. Optimize, through the use of technology, the use of human, physical and financial resources to meet the growth demands of our service area.
4. Ensure maximum interaction among students, faculty, and staff in E-Learning formats.
5. Ensure E-Learning options articulate with the larger academic and occupational programs of the college.
6. Provide interactive experiences to enhance and extend learning through the active participation of faculty and students in the E-Learning process.

Institutional Recommendations:

1. Determine how to best organize existing college resources to meet the needs of the E-Learning programs, and recommend additional resources needed, such as faculty and staff positions.
2. Develop standards, processes, and college policies for E-Learning at EMCC.
3. Initially emphasize 'E-Learning with high in-person interaction' via the development of hybrid options and enhanced self-paced courses.
4. Clearly communicate the expectations, formats, and objectives of the E-Learning program to the student body.
5. Develop ways to track different forms of E-Learning through SIS.
6. Use pilot programs as a way to develop specific E-Learning formats.
7. Transition further development of the college E-Learning program from the E-Learning Task Force to the college leadership.

The Sloan Grant: Expanding Our Community with Blended Learning Programs

In January 2007, EMCC applied for and was granted a matching $250,000.00 Alfred P. Sloan Foundation grant to expand the E-Learning program. This initiative began a major transformation in the way in which educational programs are designed and marketed to meet the needs and work-life constraints of adult learners in the expanded service area of our College.

The E-Learning Faculty Coordinator currently "wears many hats" by serving as trainer, instructional designer, developer, and program coordinator. The Sloan grant allowed

EMCC to temporarily hire personnel necessary to develop and market a comprehensive E-Learning Program. Grant metrics included implementation and delivery of a four phase marketing plan, hiring of staff to include a programmer, graphic designer, and instructional technologist, and funds to support comprehensive online 24/7 learning student support services such as tutoring.

Sloan Budget—Two Year Overview

Category	Year 1	Year 2	Totals
Programmer II	$50,000	$50,000	$100,000
Graphic Designer	$36,000	$36,000	$72,000
Student Support Services	$30,000	$30,000	$60,000
Marketing	$9,000	$9,000	$18,000
Totals	$125,000	$125,000	$250,000

EMCC Budget Contribution—Two Year Overview

Category	Year 1	Year 2	Totals	Year 3 - Sustainability
Faculty Development	$45,000	$45,000	$90,000	$51,000
Marketing	$10,000	$10,000	$20,000	$19,000
Student Support Services	$30,000	$30,000	$60,000	$30,000
Faculty Member	$60,000	$60,000	$120,000	$60,000
Graphic Designer				$50,000
Programmer				$36,000
Totals	$145,000	$145,000	$290,000	$246,000

The Sloan grant provided needed funding to support a comprehensive E-Learning Program at EMCC. The institution has not found permanent funds to support these program components. The Sloan grant ended in 2009.

Faculty Review of the E-Learning Program

In the fall of 2007, EMCC faculty initiated a review of EMCC's E-Learning program. It had been more than five years since the establishment of the program and the review was launched to provide a means to: confirm what was working, adjust existing processes to a new college administration and the learning college model, and expand professional development activities within the E- Learning arena. Along with faculty input, student focus groups and follow-up surveys were completed to gather comprehensive inputs as to the future of E-Learning at EMCC.

Three key activities guided the formulation of the recommendations for the Future of E-Learning at EMCC. These activities included the fall 2007 stakeholders meeting, spring 2008 faculty focus group, and the spring 2008 faculty survey. The E-Learning program vision, definition and goals were reaffirmed at the spring 2008 faculty focus group. Minor changes to the definition were recommended. The revised definition is, *E-*

Learning at Estrella Mountain is an electronically supported instructional process that creates, fosters, delivers, facilitates and assesses student learning anytime and anywhere. The faculty focus group and survey overwhelmingly supported the importance of technology to enhance effective teaching and learning.

Major findings from these activities included the following:

1. Hybrid and online course development have a clear, well understood process and compensation model.
2. Accessing funding and/or support from the E-Learning program for technology integration (web enhanced) projects (traditional or online instruction) are unclear.
3. Hybrid and online course development component of E-Learning is receiving strong institutional support (funding and staffing) as well as grant funding (Sloan).
4. Faculty expressed the following as primary needs for support from the E-Learning program currently:
    a. Media support – audio, video, photo steaming, CD/DVD development and podcasting.
    b. Workshops featuring technologies for effective teaching & learning.
    c. Incorporating technology in online and classroom environments (e.g. clickers and other emerging technologies)
5. Faculty expressed primary interest in the following topics for discussion:
    a. Planning & budgeting for faculty development
    b. Effective advising and student academic success

Faculty recommendations included the following:

1. Reinstate EMCC Teaching & Learning grants to address technology integration (web enhanced) faculty projects.
2. E-Learning Coordinator will develop an EMCC Technology Enhanced Form to accompany Hybrid and Online Form and fold such requests into existing process.
3. E-Learning Coordinator will engage CTL staff and the new Webmaster to redesign the CTL service site to improve understanding and access.
4. E-Learning Coordinator, Faculty Senate President (07-08) and Dean Academic Affairs will engage Division Chairs in communicating updates/enhancements to E-Learning processes in Fall 08.
5. With the overwhelming request for faculty development and requests for workshops on effective teaching & learning, greater collaboration between the CTL Advisory Committee & E-Learning Advisory Committee is needed to take care of faculty needs.
6. Consider September CTL event to communicate the new web access, technology enhancement opportunities and upcoming EMCC Teaching & Learning grants.

Faculty identified two challenges as a result of this series of activities:

1. Divisions/discipline faculty need to be supported in the use of technology in any format; online/traditional/hybrid environment. To accomplish this, additional funding and/or resources may be needed.
2. Residential faculty, as the recognized content experts, will drive decisions regarding the development of online/hybrid courses within their disciplines.

Also, during the fall 2007 semester, three student focus groups were held to discuss the hybrid program at EMCC. Each focus group was conducted within a one-hour time frame, and all students who completed at least two hybrid courses at EMCC since fall 2005 were invited to attend these sessions. Approximately 21 students attended these sessions.

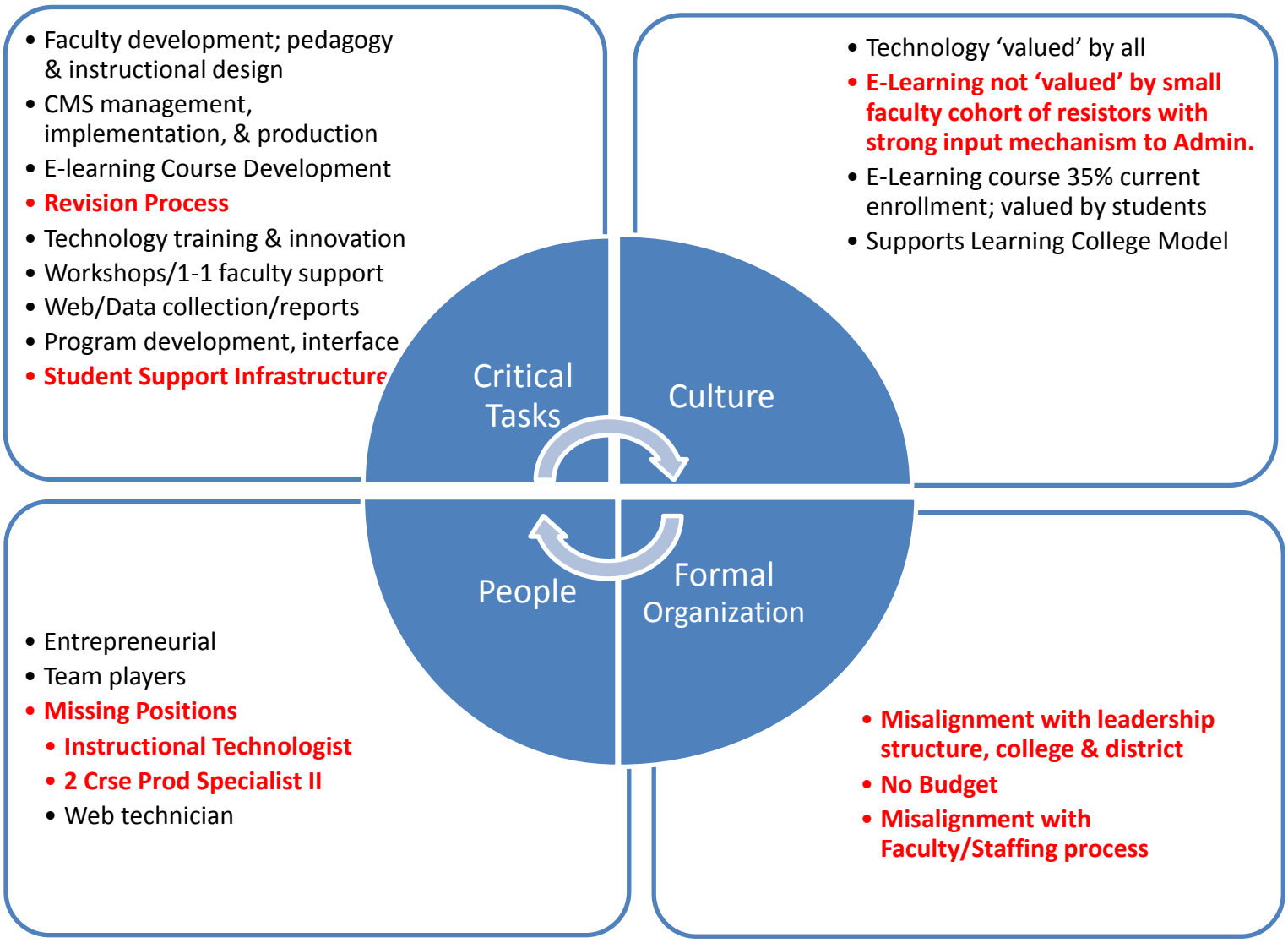
The student and faculty input, E-Learning faculty experiences, along with ongoing course and program evaluative and assessment data were used to improve E-Learning Program teaching and student experiences.

Organizational Alignment

The E-Learning Faculty Coordinator reports to the Faculty Director of the Center for Teaching and Learning (CTL). The Faculty Director of the CTL reports to one of the two Deans of Academic Affairs. E-Learning does not have a presence at any of the leadership/decision making committee levels. The Faculty Director of the CTL represents the interests and recommendations made by the E-Learning Committee and Coordinator. E-Learning does not have a designated budget. You may view the current organization chart at: http://www.estrellamountain.edu/about/organizational-chart

E-Learning Advisory Committee: The charge of the Estrella Mountain Community College E-Learning Advisory Committee is to promote quality and access to learning and services to students. The committee, comprised of faculty division representatives, both deans of Academic Affairs, Learning Support and Office of Planning and Institutional Effectiveness staff, and the E-Learning Faculty Coordinator, works collaboratively to recommend general guidelines, plans, and policies to enhance the development, delivery, management, and assessment of E-Learning courses and programs offered by EMCC.

Current E-Learning Program Congruence Model presented at the Feb. 26, 2010 E-Learning Advisory Committee Meeting (Tushman and O'Reilly, 1997, 2002)
red text denotes program gaps



Evaluation and Assessment

Instructional design, evaluation, and assessment are integral components to E-Learning course development. Our instructional philosophy is "to begin with the end in mind," with pedagogy driving technology use, rather than the reverse. Because of this approach, student learning outcomes dictate course design and learning experiences for our students. For example, we embed student services and learning support within course assignments to provide more structure and proactive support for learners.

Assessment occurs at the course and program level through the use of multiple measures, which provides a triangulation of data. Student Experience Surveys are embedded within

each course. These surveys provide rich data and document the "student voice". This program improvement data is reviewed each semester by the Coordinator and annually by the E-Learning Advisory Committee. The Student Voices: Student Experience Survey Results are posted on the E-Learning website at http://www.estrellamountain.edu/academics/distance-learning/prog-dev

One of the original recommendations of the Task Force was to develop ways to track different forms of E-Learning through the Maricopa Student Information System. The Office of Planning and Institutional Effectiveness (OPIE) annually compiles the E-Learning Enrollment and Completion Data Report which is then analyzed and used by the E-Learning Coordinator to identify opportunities for improvement, including faculty development. The reports are posted on the E-Learning website at http://www.estrellamountain.edu/academics/distance-learning/prog-dev

Instructional design principles, student success strategies, and feedback from EMCC E-Learning faculty and students were used to develop and continually improve the E-Learning course template. The instructional design of the template helps create consistent learning college norms. The template contains all MCCD-required syllabus elements, along with several assessment activities designed to re-enforce student understanding of course policies. The template contains time management and learning styles components and reflection activities, also.

Embedded within the template are the Student Experience Surveys and the Course Evaluation. The Course Evaluation was developed collaboratively by E-learning Faculty and the E-Learning Coordinator. At the completion of each semester, course evaluation data is aggregated for review by the E-learning Coordinator and then sent to the appropriate Dean, Division chair, and faculty member. This data is used for both course and program improvement.

The E-Learning template contains a Personal Web Page assignment that helps create connections between students and allows faculty to assess student writing skills during the first week of class. EMCC places a high value on teamwork and collaboration. To help students develop this skill set, a Group Contract Activity and Assessment activity has been embedded in Week 2 in the template. Students also evaluate the activity, providing instructors valuable feedback that can be used to improve the delivery of their course content.

All EMCC faculty regularly assess and document student learning at the course level; the main vehicle for this assessment is the SAAC EZ process. You may access the SAAC EZ at http://www2.estrellamountain.edu/academics/saac/index.asp

The E-Learning Learning Outcomes Assessment process is designed to promote continued excellence in teaching and learning. The web-based data driven Learning Outcomes Assessment documentation system has morphed into a faculty-driven teaching and learning reflection journal which leads to course and program improvement. The

Learning Outcomes Assessment forms may be viewed at http://www2.estrellamountain.edu/ctl/fy_outcomeAssessment.asp

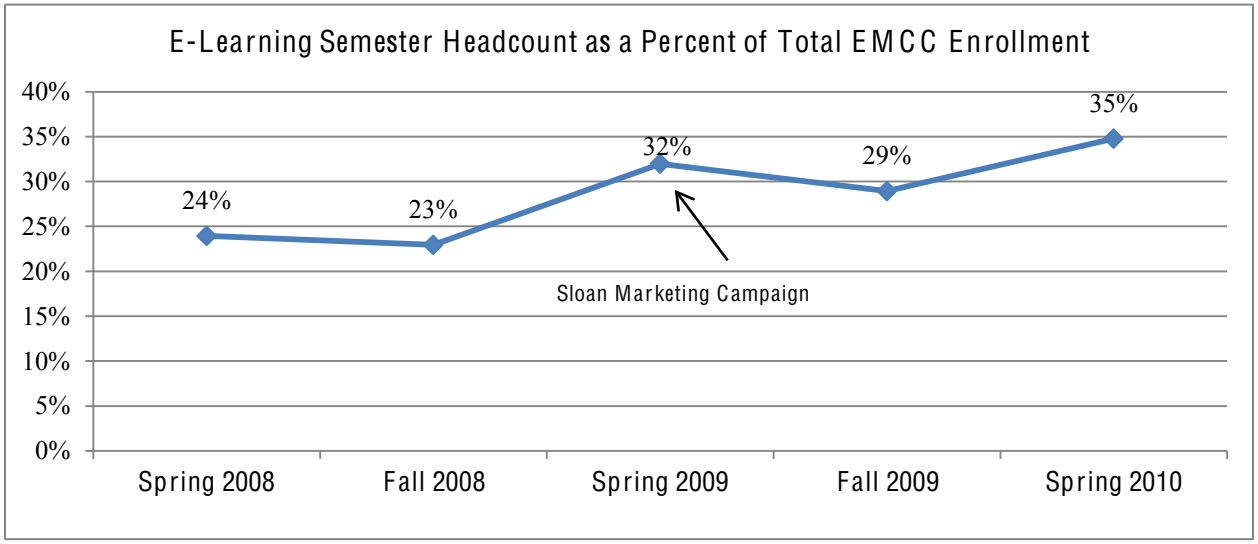
Periodically, faculty and student focus groups are conducted to identify specific course and program improvement needs. These focus groups are conducted in collaboration with the Office of Planning and Institutional Effectiveness. Additional best practices may be viewed at http://www2.estrellamountain.edu/academics/elearning/eli/emcc%20best%20practices%20revision.pdf as well as a timeline of the E-Learning benchmarks at http://www2.estrellamountain.edu/academics/elearning/hlpt/HLPTimeline.html

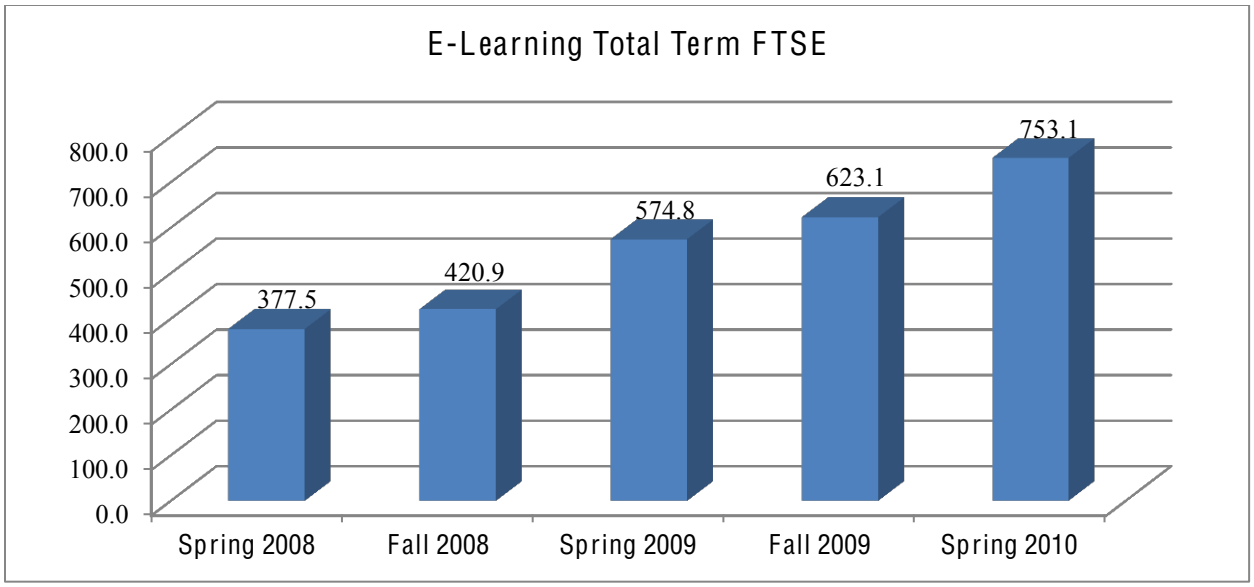
The E-Learning Course Revision process is not in place and has been under review for several years. Consensus has not yet been reached between faculty and administration, primarily with regard to compensation. This is the primary focus of the E-learning Advisory Committee during spring 2011. This continues to be a challenge for EMCC.

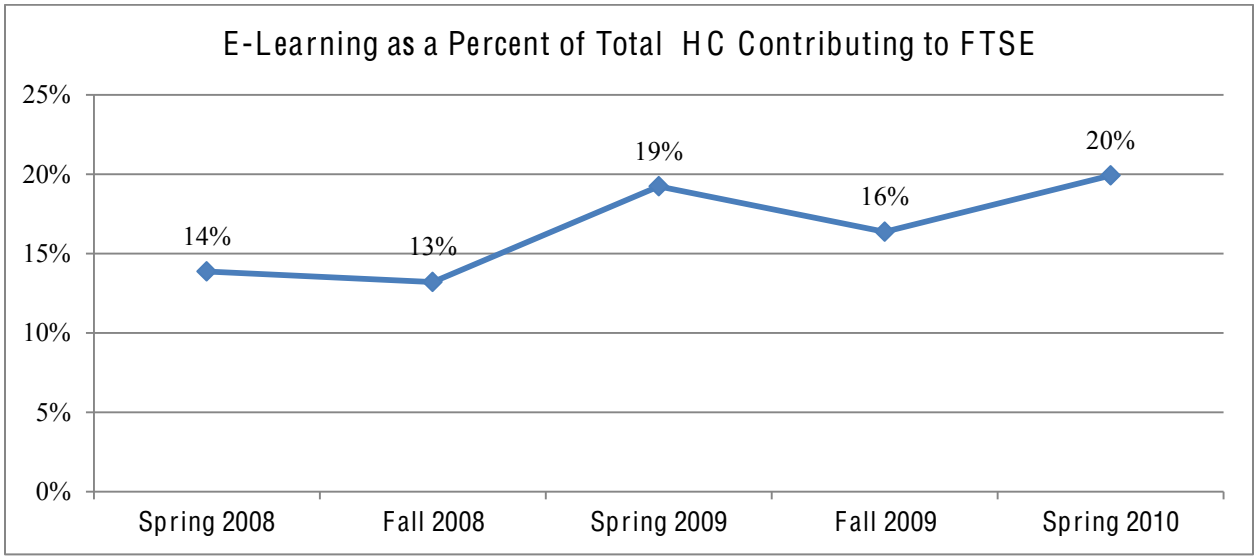
E-Learning Numbers

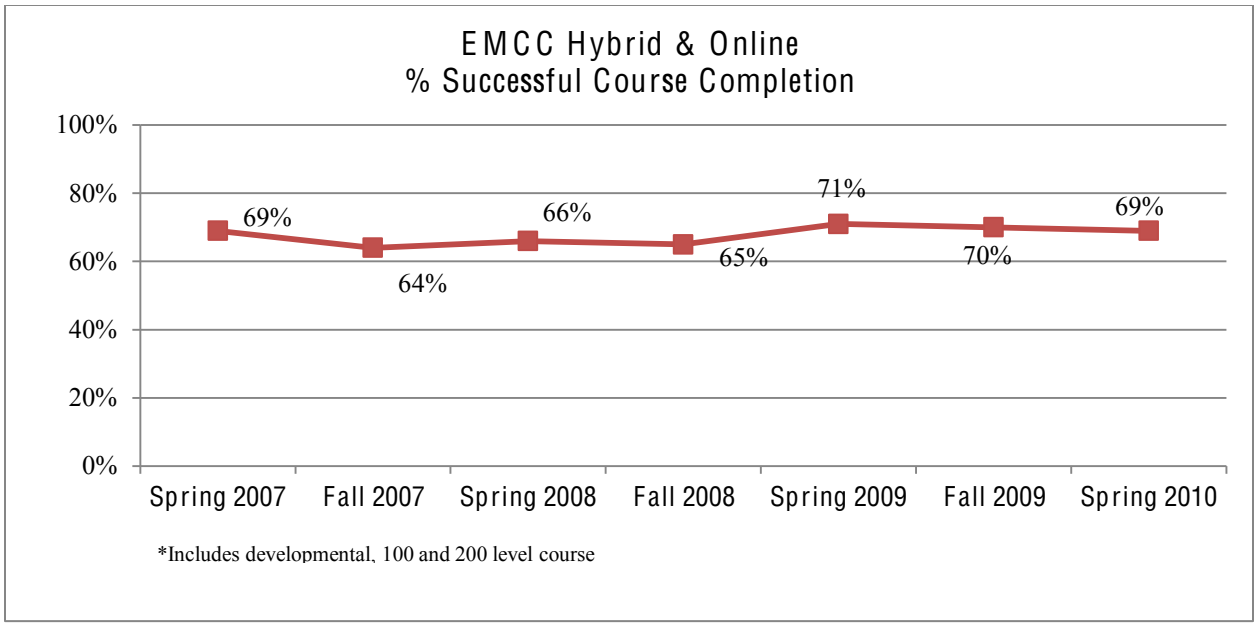
- The E-Learning course bank is comprised of approximately 203 hybrid and online courses which support the Arizona General Education Curriculum, certificate and occupational degree programs (as of spring 2009).
- E-Learning courses by division break out as follows:
  - Occupational Education 32%
  - Instructional Computing 27%
  - Arts, Composition, and Literature 18%
  - Behavioral Sciences and Cultural Studies 12%
  - Developmental Education 5%
  - Science 3%
  - Counseling 1%
  - Fitness 1%
  - Math, Physics, and Engineering 1%
  - Nursing 1%
- The average cost to develop a 3 credit course over the past 10 years is $2,065.00.
- In spring 2010, E-Learning courses (hybrid and online) represent 35% of the total student population.
- E-Learning FTSE has increased slightly (31%) from spring 2009 to spring 2010. The E-Learning program contributed 658 FTSE for spring 2010 compared to 491 FTSE in spring 2009.
- The percentage of total student Head Count contributing to FTSE, generated by E-Learning courses, increased from 19% to 20% from spring 2009 to spring 2010.
- Overall successful course completion rate for E-Learning courses (Hybrid & Online) has remained in the 70% range since spring 2008.

- Students enrolled in developmental courses during spring 2010 indicated the lowest successful completion rates over the past four years (47%). Overall, steady successful completion rates were maintained during spring 2010 for students enrolled in 100-level hybrid (66%) and 200-level courses (77%).
- Campus-wide, courses that meet less than 10 weeks have higher successful completion rates than those meeting 10 or more weeks. However, not all courses are offered in the same modality.
- The number of E-Learning (Hybrid & Online) courses offered each semester continues to increase. Between spring 2009 and spring 2010, E-Learning courses offered increased by 24%. The percent of offered courses that made enrollment also increased over this same period - spring 2009 (67%), spring 2010 (72%).
- The number of Hybrid & Online courses (i.e., ENG 101, CIS 105) which "made" enrollment increased from 130 in spring 2009 to 153 in spring 2010. The number of Hybrid & Online course sections "offered and made" also increased from 208 in spring 2009 to 254 in spring 2010.
- The expansion of hybrid and online learning, (through reduction of classroom space needs), contributed to increases in full-time student equivalent (FTSE). Hybrid and online course FTSE increase of 31% from spring 2009 to spring 2010 allowed the college to generate higher overall growth rates. The college managed to generate more than 26% college wide increase in total FTSE in 2009-2010, without expanding physical classroom facilities over this time period.




E-Learning Total Term FTSE
800.0
700.0
600.0
500.0
400.0
300.0
200.0
100.0
0.0
377.5
420.9
574.8
623.1
753.1
Spring 2008
Fall 2008
Spring 2009
Fall 2009
Spring 2010


E-Learning as a Percent of Total HC Contributing to FTSE
25%
20%
15%
10%
5%
0%
14%
13%
19%
16%
20%
Spring 2008
Fall 2008
Spring 2009
Fall 2009
Spring 2010



Managed Growth/Facilities Savings

An analysis of classroom space savings created by EMCC's E-Learning Program was completed as a metric of the Sloan grant.

Without the expansion of hybrid and online learning at the college, classroom space limitations would have resulted in smaller full-time student equivalent (FTSE) increases. The unprecedented 53% FTSE increase from spring 2008 to spring 2009 for enrollment in hybrid and online courses allowed the college to generate higher overall growth rates. Over this time period EMCC has not expanded its classroom facilities and still managed to generate more than a 10% college wide increase in total FTSE in 2008-2009 and a projected 20% increase for 2009-2010.

Assumption: A typical classroom accommodates five sections per day.

Online Sections – 127 active for spring 2009 → 100% physical classroom space saved.

127/5 = 25.4 classrooms are saved.

For a MWF schedule, that would be a net of 8.4 classrooms per day, and for a TR schedule that would be a net of 12.7 classrooms per day.

Hybrid Sections - 98 active for spring 2009 → 50% physical classroom space saved

98/2 = 49/5 = 9.8 classrooms are saved

For a MWF schedule, that would be a net of 3.3 classrooms per day, and for a TR schedule that would be a net of 4.9 classrooms per day.

The E-Learning Program is saving a total number of classrooms in the spring of 2009: For a MWF schedule, 11.7 classrooms per day and for a TR schedule, and 17.6 classrooms per day.

How much does it cost to construct 11 – 18 classrooms?

How much does it cost to maintain 11 – 18 classrooms per year?

Cost provided by R. Mauldin: $300/sq. ft. new construction (one-time), $6.40/sq. ft. maintenance (annual); average classroom size is 1,000 sq. ft.

11 x 1,000 x $300 = $3.3 million; 18 x 1,000 x $300 = $5.4 million in construction

11 x 1000 x $6.40 = $70,400; 18 x 1,000 x $6.40 = $115,200 in annual maintenance

Plans for Future

1. Organizational alignment of the CTL and E-Learning needs to be revisited in order to reflect breadth and depth of organizational responsibilities and impact.
2. EMCC needs to consider the development of a cost structure that will inform its future direction and development of E-Learning courses and programs. A formula similar to the current on-campus facilities formula should be calculated for the cost of distance courses and hybrid courses. Instead of seats and lighting, we need to consider bandwidth, development and production costs, faculty development and services, and technology support.
3. A course revision process, including quality control mechanisms, needs to be developed in order to ensure optimal teaching and learning experiences for students and faculty.
4. Work with E-Learning Advisory committee to shift E-Learning faculty development philosophy and processes from 'strongly recommend' to 'required' in order to support student learning and optimize faculty development processes which support the Learning College principles.

Technology Finances at EMCC and Life After the Bond

Funds used for technology at EMCC come from two sources. The college receives $928,000 each year in capital dollars from the 2004 bond program. These funds are used to purchase all hardware needed by EMCC and the initial purchase of all software. Operational dollars are used for all other technology needs, including software maintenance after the initial purchase. During the 2004-2014 bond program, these funds have been adequate to meet the needs of the college.

The college faces a large challenge in 2014 with the end of the bond program. Given the uncertain current economic situation, it seems uncertain that a new bond program will immediately follow this one. Thus, the college must plan for some period of time without the bond capital dollars to fund technology purchases. We attempt to carry forward approximately $200,000 in unspent bond capital each year to create a "savings account" for the life without the bond period. Thus far, we have been successful and carried $1.675 million forward into FY 2010-11. This represents 6 bond increments, so we have exceeded the goal so far. However, technology replacement needs threaten to overwhelm us as our use of technology has increased each year. In an attempt to counteract this trend, we are developing several potential approaches to conserving funds. We have piloted netbooks and refurbished laptops to reduce our per-unit cost and are investigating the use of desktop virtualization to shift the burden of computing from the desktop to large servers. This would significantly extend the life of endpoint hardware and extend the replacement cycle as well.

Five Year Technology Outlook (what's coming on the horizon, what stakeholders have asked for)

- Tablets –currently piloting the use of iPads to determine educational value
- 16x10 projection – future purchases of projectors will include this option
- Emergency communications outside – using outdoor-rated intercoms
- Full replication to AirPark – for business continuity following major disaster
- Video server and repository – to replace current use of Vimeo service
- Unified Communications – pending District move to Google Mail and Apps
- Portal – My.maricopa to be expanded by District. Also will look at iGoogle .
- More sophisticated network monitoring tools – to monitor and shape network traffic
- Identity management – pending completion of district CIMS project.
- Educational applications for portable devices (in infancy now) – such as apps for cell phone. EMCC Mobile is example.
- Explore ways to conserve limited funds while maintaining service – refurbished laptops, extend use life, virtualization.
- Full VoIP conversion – completion in Summer 2011.
- Equip Buckeye Center, Estrella Hall Expansion and Remodel, Performing Arts Center – these projects are projected for late 2011, 2014, and 2014 respectively.
- Virtualization – this project, anticipated to be a District-wide solution, will enable access to campus software by students and staff from anywhere and on any device.
- Web site enhancement – this ongoing project will greatly enhance real-time information available on the site, such as computer availability and study room availability.

- Personally owned devices – the campus will become friendlier to personally-owned devices, allowing access to all campus services with full security, providing spaces to use personal technology and connect them to large monitors and printers, and providing convenient electrical connectivity for personally-owned devices.
- Locally-developed early-alert application – to assist in identifying and notifying students of need for tutoring or remediation
- Fully align this plan with the new District Strategic Technology Plan (Appendix B) - to show how specific college IT plans support the goals stated in the District plan.

Technology Purchase Plan

July 2011 – June 2012

July 1, 2011

1. Current Policies

a. Replacement of employee and classroom computers is moving toward the 5 year point, unless it is deemed that a particular model of computer can serve its intended purpose beyond the 5 year point. Note that this change is possible due to improved technology.
b. Monitors are normally not replaced until they fail in order to conserve funds.
c. The college monitor standard is 19" flat panel, unless a different need has been justified.
d. When computers are replaced, they are generally not cascaded because it causes double work for IT staff.
e. The current computer standard is a PC with 4 GB RAM, no floppy, , a DVD/-RW, 256MB video with dual output, and an 250 GB hard drive. The Macintosh standard is a 21.5" iMac with 4 GB RAM. The standard is exceeded when the need is demonstrated.
f. Faculty and staff may request laptop computers in lieu of desktops. The procedure is to discuss the need with the Director, Information Technology. If the need is validated, the request will be satisfied if possible within the existing budgetary environment and as long as the employee agrees to be fiscally responsible for the equipment when it is out of the office.
g. A budgetary goal is to attempt to roll over approximately $200,000 – $300,000 from ITEC funds each year. The reason is to build a post-bond technology fund for use in the interim between expiration of the 2004 bond issue and the passage of a new one.
h. A sustainability goal is to purchase Electronic Product Environmental Assessment Tool (EPEAT) Silver or Gold registered products for all standard desktop and notebook / laptop computers and monitors, and for specialized computers for which EPEAT certified products are available.

2. Summary From 2010-2011

a. This year we replaced existing 4+ year computers for mainly staff members (replacing Dell GX 520's with 780's). In order to satisfy student demand, some GX 520's were placed in the Information Commons to help with overflow and busy times during the semester for basic internet access.
b. Many users have benefited from having dual monitors at their workstations. This is generally being approved and continues to be funded by the requesting department.
c. We experimented with Netbooks as a potential laptop replacement during the 10-11 year. They offered a 3-1 cost advantage and had the potential of saving the campus a large amount of money. Initial testing with a student image had been positive after running a pilot in MON 284 during Summer I and II of 2010
Additionally, 24 net books were placed in the CTL as well as in 32 in OCT 102. The general consensus showed that even though the net books performed well, there were concerns about the smaller screen size, especially when used in a training environment such as the CTL. For that reason, we decided that Netbooks are not a viable option for EMCC.

d. Another pilot was conducted in OCT 107 during the fall of 2010. We purchased 30 Dell D630's – which were refurbished and carried a 3 year warranty. The cost savings was almost half of the cost of a new Dell laptop. To date, no concerns or issues have arisen and the customer service for warranty work has been acceptable. Therefore, we have decided to expand the use of refurbished laptops in FY 2011-12. In larger quantities, the cost is less than 1/3 the cost of new laptops.

e. In general, the move toward less expensive hardware is in anticipation of a District-wide virtualization project (similar to mySCC) that will enable access to campus applications using older and lower specification machines. We anticipate this project to be implemented in the 1-2 year timeframe. We are currently participating in a District committee working on that project, which was a recommendation of one of the 21st Century committees.

f. Montezuma 157 computers were replaced with 21 new iMacs. This upgrade has enhanced all of the Art Classes taught in that room.

3. Projected Computer Equipment Additions and Replacements

a. Last year, a large amount of Dell GX520s had reached the 4 year point, but they continued to be usable in most student areas and thus a number of them were not replaced during the 10-11 year, thus getting an additional year of use with minimal reported problems. These machines are now showing performance issues and warrant replacement.

b. The successful pilot of purchasing refurbished laptops prompted an Invitation for Bid that was approved in May of this year to purchase additional refurbished laptops to replace laptops in Octotillo and Montezuma Halls during the 11-12 year.

c. With the Fall 11 opening of the new Buckeye Site, laptops, desktops, projectors, IP phones, and a switch will be purchased and utilized for this purpose.

d. Mac Laptops in Montezuma Hall are being preserved for an additional year if possible with the exception of MON 103, where PC laptops may be ordered in place of the 5 year old Mac laptops.

Computers projected for additions or replacements this year are:

Building	Room	Current Laptop	Current Computers	Refurb D630 Laptops	New Desktop GX 790
MON Hall	145, 274, 275, 284,	D610		105	
MON	CTL	NetBook		8 +move 16 from OCT 119	
EST Hall	249		P690		21
EST Hall	251		P690		21 Mac Mini
OCT Hall	Classrooms	D610		427	
Buckeye	Classrooms/Testing/Staff	-		144	26 w/monitor
All	Campus/Misc Areas	GX520	115		115
MON 102, 103,111,125126,128,130	Classrooms / Labs	Macbooks	24 Macs (MON 103 only)	24	
MON Instructor iMacs	Classrooms/Labs (Did not replace last year)	iMacs	11		
Faculty/Staff Mac Replacement	Offices	iMac	3		
IT Staff	Office	iMac	5		
	(Did not replace last year)				
TOTALS					

ITEC Costs:	136 PC desktops (without Monitors)	@ $1000 = $136,000
	26 PC Desktops (with Monitors)	@ $1200 = $31,200
	19 iMac desktops	@ $1700 = $ 42,500
	21 Mac Mini	@ $900 = $18,900
	708 PC laptops	@ $329 = $232,932
Total:	Computer equipment additions/deletions	$461,532

4. Infrastructure Replacements
    a. Server replacements $75,000
    b. Switch replacements $120,000
    c. Projector replacements $36,000
    d. Printer replacements $20,000
    e. Phone replacements $7,000
    f. Security Card Readers (VDV Closets) $35,000

5. Projected Software Licenses (to be purchased with Fund 1 funds)
    a. Microsoft Campus Agreement - $20,000
    b. Maple $10,000
    c. ArcServe - $5,000
    d. Print Manager - $600
    e. SPSS Renewal - $6,000
    f. Cisco Switch SmartNet renewals - $50,000
    g. KeyServer upgrade Maint – $7,000
    h. Axis TV Maintenance - $2,500
    i. Adobe Acrobat Professional X - $5000
    j. Contingency - $25,000

6. BDST-Approved Expenditures
    There were no BDST-approved projects to be funded with ITEC funds.

7. Other Potential Expenditures
    a. IP Intercom extension to outside areas – cost unknown at this time
    b. Lecterns for Community Room, Plaza Gallery, and Komatke Conference Center - $1,800
    c. A/C for 12 switch rooms - $9,000
    d. Etherscope network analyzer - $12,000

8. Financial Summary
    a. Available Funds
        i. Technology bond funds remaining from last year (from 1st seven bond allocations) - $1,962,559
        ii. New uncommitted technology bond funds earmarked for technology replacement - $928,000

iii. Total available as of 7/1/11 - $2,890,559

b. Projected ITEC bond spending from this plan
   i. Computer Equipment Additions / Replacements - $461,532
   ii. Infrastructure Replacements - $293,000
   iii. BDST-approved Expenditures - none
   iv. Other Potential Expenditures - $22,800
   v. Contingency - $100,000
   vi. Total - $877,332

c. Projected ITEC bond fund carryover to FY 12-13 - $2,013,227

d. Projected Fund 1 spending from this plan
   Software Licenses - $131,100 (include contingency)

e. Projected Skill Center Computer Replacements
   None – all out of date computers were replace in FY 10-11

Appendix B

DISTRICT-WIDE INFORMATION AND INSTRUCTIONAL TECHNOLOGY STRATEGIC PLAN 2011-2016

February 1, 2011

WE LEVERAGE THE POWER OF TECHNOLOGY TO ENABLE SUCCESS 1

Maricopa Community Colleges
Information and Instructional Technology Strategic Plan
2011-2016
Table of Contents

Maricopa Community Colleges
District-Wide Information and Instructional Technology Strategic Plan
2011-16
Executive Summary

The 2011-2016 District-Wide Information and Instructional Technology Strategic Plan for the Maricopa Community Colleges was developed by a cross-functional team of representatives of all colleges and all divisions at the district office. The planning approach utilized included:

- development of planning assumptions
- identification of driving and restraining forces
- identification of the implications of both planning assumptions and driving/restraining forces
- development of a "future state" vision of how the use of information and instructional technology should add value in support of the Maricopa vision, mission, values, and strategic directions
- development of goals and strategies
- discussion of potential performance measurements

The vision statement for the use of information and instructional technology within Maricopa that was developed by the planning team is as follows:

We Leverage the Power of Technology to Enable Success.

To help Maricopa achieve this vision, the planning team developed the following seven goals, along with potential strategies for achieving each of the goals:

Goal #1: Student Success: Provide information and instructional technology solutions that enable student success.
Goal #2: Administrative Efficiency: Provide information and instructional technology solutions that promote effective and efficient organizational decision-making, communication and operations.
Goal #3: Professional Development: Facilitate a culture of ongoing professional development that fosters the effective use of information and instructional technologies.
Goal #4: Innovation and Collaboration: Promote a culture of innovation and collaboration within the Maricopa Community Colleges to facilitate creative uses of technology, maximize the use of shared resources, and improve efficiencies in the use of information and instructional technologies
Goal #5: Planning and Funding: Ensure appropriate resources are available for required information and instructional technology infrastructure and operations. 4
Goal #6: Appropriate Technology: Ensure all facets of the organization have adequate and appropriate technology to achieve the vision, mission, and strategic directions of the Maricopa Community Colleges.
Goal #7: Information and Instructional Technology Services: Provide customer-centered information and instructional technology solutions and support. 5

Maricopa Community Colleges
District-Wide Information and Instructional Technology Strategic Plan
2011-2016

I. Context for Information and Instructional Technology Strategic Planning at the Maricopa Community Colleges

In 2009, the Maricopa Community Colleges enlisted the assistance of the firm of Alvarez and Marsal to identify ways in which the district could become both more efficient and more effective in meeting its mission. In response to the Alvarez and Marsal report, the 21st Century Maricopa effort began in the Spring of 2010 and several significant recommendations related to the use of information and instructional technology were identified for action, including the recommendations to establish a new IT organizational structure and information technology governance, and to standardize the process and timing of college and district-wide IT strategic planning.
As a result, a cross-functional team representative of all colleges and all divisions at the district office was convened in the summer of 2010. The IT Governance, Planning and Organization team was given the charge to:

Establish guiding principles for the organization of information technology within Maricopa (Appendix A);

Determine the process and timeline for implementing a new IT Service Delivery Model (Appendix B);

Address the College and District CIO reporting structure (Appendix C);

Develop and recommend a shared governance structure and process for district-wide IT decision-making (Appendix D);

Determine the process and timeline for district-wide IT planning; and

Develop a district-wide IT strategic vision, goals and strategies.

This team met weekly during the Fall Semester and has completed its charge including the development of this strategic plan for information and instructional technology.

II. The Strategic Planning Process

The purpose of information technology strategic planning is to align the institution's use of technology and technology support with the institution's goals and priorities, thus creating a strategic alliance between the providers of information and instructional technology solutions and services and the institution as a whole. (Appendix E identifies how this Information and Instructional Technology Strategic Plan aligns with the Maricopa vision, mission, 6 and strategic directions.) This is a long-range planning process that clarifies what the organization is, what it wants to be and how, specifically, it can successfully make the transition. The specific planning process used for the development of this strategic plan is a modification of the organizational transition methodology described in *Organizational Transitions, 2nd Edition* (1987), by Beckhard and Harris. This methodology is based upon the principle that:

". . . a core dilemma for executives and leaders is how to maintain stability in their organizations and, at the same time, provide creative adaptation to outside forces; stimulate innovation; and change assumptions, technology, working methods, roles and responsibilities, and the culture of the organization itself." (*Organizational Transitions,* p. 1)
The planning approach, adapted for the Maricopa Community Colleges from the methodology of Beckhard and Harris included the following steps:

Development of planning assumptions that detail the environment in which the Maricopa Community Colleges currently exist. (Appendix F)

Identification of driving and restraining forces currently impacting the Maricopa Community Colleges. (Appendix G)

Identification of the implications of both the planning assumptions as well as the driving/restraining forces. (Appendix H)

Development of a "future state" vision of how the use of information and instructional technology in the broadest definition, should add value in support of the Maricopa vision, mission, values, and strategic directions.

Development of goals and strategies to enable the Maricopa Community Colleges to move forward toward the desired "future state."

Discussion of potential performance measurements that may be used to measure the degree to which the Maricopa Community Colleges are successful in achieving the information and instructional technology strategic goals (Appendix I).

Identification of recommended "next steps" for further district-wide discussion of the plan resulting in completion of a consolidated district-wide plan for the period of 2011-2016 by the end of Spring Semester 2011.

Appendix J contains a glossary of terms that will help clarify the approach undertaken to create this Information and Instructional Technology Strategic Plan.

III. The Maricopa Community Colleges 2020 Vision for Information and Instructional Technology

The Maricopa Community Colleges envision a future in the year 2020 when students identify Maricopa as their first choice for achieving their learning goals, due largely to the ways in which Maricopa treats students as individuals, providing a high quality, diverse environment where students can learn any place, any time and in any way that best suits their needs. The district has implemented creative and innovative technology solutions to help students manage the cost of their education, while expanding the ways in which students receive services and instruction. Maricopa's single sign-on portal gives students access to a broad range of information and helps them track their own progress toward individual learning and professional goals while they are students at Maricopa and as they enter the workforce. Students love how technology at Maricopa adapts to their needs rather than the students having to adapt to the technology.

In this future state, faculty have broad access to the types of technology and information that make them successful teachers and coaches for their students. The use of Open Educational Resources has expanded the type of tools that faculty can use to engage learners in a wide variety of learning activities. There is also extensive collaboration among faculty across the district in the development of learning applications, tools and best practices designed to enhance student achievement and success. Because the district has established a clear mechanism for information and instructional technology governance, faculty can experiment with new technology in pilot projects where it is clear how the pilot can be expanded and operationalized district-wide if successful. Both adjunct and full-time faculty have access to the high quality instructional design and technology support needed to utilize technology to engage students and enhance teaching and learning.

Similarly, staff and administrators fully use technology to efficiently conduct the business of the district. All administrative systems are fully integrated and business processes have been redesigned to leverage the functionality the systems bring to achieve efficiencies and economies of scale. The data contained within the systems is routinely mined and used for making data-informed decisions and for measuring the performance of the district against agreed upon goals. Staff and administrators are encouraged to optimize their technical expertise and to gain new skills through ongoing training opportunities.

The communities served by the Maricopa Community Colleges have strong confidence that the district is the most efficient and effective higher education alternative in the state and understand the value that MCCCD brings to Maricopa County. The Maricopa Community Colleges are seen as the primary educational and training choice for Maricopa citizens and are recognized locally, regionally and nationally for achievements in student success and the effective and innovative use of information and instructional technology. 8

Because of the picture that has been painted of this "future state," our Information and Instructional Technology Vision Statement is:

We Leverage the Power of Technology to Enable Success

IV. The Maricopa Community Colleges Information and Instructional Technology Goals and Strategies

To help Maricopa achieve the vision of leveraging the power of technology enable success, the 21st Century Maricopa IT Governance, Planning and Organization team developed seven Information and Instructional Technology Strategic Goals for 2011-2016 based on the planning assumptions, and driving/restraining forces. The goal statements are intended to be long-term major targets or end results related to the growth and success of the Maricopa Community Colleges. The strategies are the activities designed to achieve the long-term goals. These goals and strategies are in alignment with the Maricopa Community Colleges vision, mission, values, and strategic directions (Appendix E).
Goal #1: Student Success: Provide information and instructional technology solutions that enable student success.

1.1 Create a district-wide dialogue on technology and student engagement.
1.2 Create engaging, relevant and personalized learning experiences for all learners.
1.3 Establish and implement appropriate and consistent methods of measuring the effectiveness of technology in the teaching and learning process.

1.4 Support the development and use of Open Educational Resources (OER) to promote innovative and creative opportunities for all learners.
1.5 Develop and implement methods to identify student needs related to the use of technology in the curriculum and in student support areas.
1.6 Implement technology solutions that enable faculty and administrators to track student progress and provide timely intervention to improve learning, retention and completion.

Goal #2: Administrative Efficiency: Provide information and instructional technology solutions that promote effective and efficient organizational decision-making, communication and operations.

2.1 Implement technology solutions to measure institutional performance against agreed upon goals and use assessment data for continuous improvement. 9
2.2 Redesign processes and organizational structures to take advantage of technology solutions to make more efficient use of resources.
2.3 Establish a district-wide unified communication framework that facilitates secure and convenient access to information and services for all stakeholders.
2.4 Provide information technology solutions that support the current and evolving business needs of the Maricopa Community Colleges.

Goal #3: Professional Development: Facilitate a culture of ongoing professional development that fosters the effective use of information and instructional technologies.
3.1 Leverage technology to create and support communities of practice that provide learning and collaboration opportunities within and across institutions.
3.2 Incorporate and maintain up-to-date technology competencies within all job descriptions and hiring materials, ensuring that there are appropriate processes for assessing employee technology competencies as part of the hiring and performance evaluation processes.
3.3 Establish IT job “families” and promote career paths-based IT professional development and training plans aligned with existing IT jobs and job descriptions.
3.4 Provide sufficient support for residential and adjunct faculty as well as staff to effectively learn and use information and instructional technology.

Goal #4: Innovation and Collaboration: Promote a culture of innovation and collaboration within the Maricopa Community Colleges to facilitate creative uses of technology, maximize the use of shared resources, and improve efficiencies in the use of information and instructional technologies.
4.1 Establish an appropriate district-wide Information and Instructional Technology Governance structure and accompanying processes for prioritization, decision-making, and resource allocation.
4.2 Promote and reward innovation and collaboration.
4.3 Provide ongoing communication regarding the use of information and instructional technology throughout the Maricopa Community Colleges.

Goal #5: Planning and Funding: Ensure appropriate resources are available for required information and instructional technology infrastructure and operations.
5.1 Employ ongoing planning processes to responsibly allocate resources for the acquisition and use of information and instructional technology.
5.2 Develop new models for funding operational and capital spending for information and instructional technologies that are aligned with planning processes. 10

5.3 Develop and implement effective practices for ongoing and regular assessment of IT systems, services and projects, including incorporation of Total Cost of Ownership and Return on Investment concepts.
Goal #6: Appropriate Technology: Ensure all facets of the organization have adequate and appropriate technology to achieve the vision, mission, and strategic directions of the Maricopa Community Colleges.
6.1 Develop and fund a coordinated plan that establishes baseline standards for district/college hardware and software systems.
6.2 Review, update and upgrade district-wide IT infrastructure on an ongoing and scheduled basis.
6.3 Establish an ongoing and formal process for evaluation of new technologies and analysis of their application to the Maricopa Community Colleges.

Goal #7: Information and Instructional Technology Services: Provide customer-centered information and instructional technology solutions and support.
7.1 Establish and implement a process and tools that foster and support customer-centered service delivery.
7.2 Establish and implement a consistent district-wide project management process and systems with feedback loops to gather and disseminate information about project status.
7.3 Establish a district-wide framework for identifying, planning, delivering and supporting information and instructional technology infrastructure and services.

V. Recommended Next Steps and Critical Success Factors

The development of this Information and Instructional Technology Strategic Plan for 2011-2016 was only the first step in what must continue to be a collaborative process toward development of a shared vision of how technology can bring value to the Maricopa Community Colleges and toward the establishment of a consolidated, district-wide Information and Instructional Technology Strategic Plan that includes district-wide, college-specific, and district office-specific activities and initiatives for 2011-2016 aligned with district-wide vision, mission, and strategic directions. To enable continuation of the planning process that has been started and to ensure the completion of the consolidated plan, the IT Governance, Planning and Organization team recommends the following next steps:

January 2011: Communication of the plan and the team's other deliverables with the Chancellor's Executive Council to elicit confirmation and support. 11

February 2011: Communication of the plan and the team's other deliverables with the colleges and the district office divisions.
Feb. – March: Alignment of college, district-wide and district office-specific initiatives designed to execute against the identified information and instructional technology strategies in this plan.

April-May: Consolidation of college, district-wide and district office-specific activities and initiatives into a district-wide 2011-2012 Action Plan that aligns with the Information and Instructional Technology Strategic Plan for 2011-2016.

May 2011: Publication of consolidated strategic and action plan.
The planning team has identified the following Critical Success Factors:

Each college president and vice chancellor must provide leadership and support for the planning process within his/her college or division.

A 24-month planning calendar should be developed (Appendix K) to ensure ongoing planning activities and true synchronization of information and instructional technology strategic planning with overall Maricopa strategic, operational and budget planning.

Leadership for the next phase of the information and instructional technology strategic planning activity should work with the appropriate college groups currently mandated with technology planning to minimize duplication of effort and confusion at the colleges.

There must be one person at each college who is specifically identified and tasked with ownership of reconciling the college's information and instructional technology planning with this strategic planning effort.

We must establish a standardized and consistent set of messages and tools for communicating the strategic planning effort to date, describing the next steps to be taken, and collecting information from the colleges and district office divisions to be included in a final consolidated plan.

Individuals who participated in the IT Governance, Planning and Organization team should assume an active role in the next phase of the planning process, assisting with plan reconciliation and communication activities at their colleges and/or their district office divisions. 12

Appendix A
IT Organizational Principles
Approved by the IT Governance, Planning and Organization Team
September 16, 2010

If Maricopa is to be truly successful in achieving its information and instructional technology vision and accomplishing its IT strategic objectives, it is not sufficient to do things right; Maricopa must do the right things. In their book *Paradigm Shift: The New Promise of Information Technology,* Don Tapscott and Art Caston state that a useful technique for making certain that individuals responsible for information technology within the organization are "doing the right thing" is to establish a set of guiding principles, with "principles" being defined as "simple, direct statements that describe what is determined to be good practice. . . " (*Paradigm Shift,* p.204) The Maricopa IT Governance, Planning and Organization team has crafted the following seven IT Organizational Principles to help ensure that everyone involved in the delivery of information and instructional technology solutions, as well as those served by information and instructional technology within MCCCD share a common understanding of the role and mission of information and instructional technology in achieving Maricopa's future:

Information Technology

Facilitates strategic usage of technology to enhance teaching and learning

Delivers technology to support efficient, effective, and secure operations across the district

Collaborates with internal and external customers to understand and respond to their needs

Plans in a responsible manner which includes effective use of resources and specific performance measures

Makes decisions that are

- Clear and concise
- Aligned with our strategic plans
- Reflective of broad participation and accountability
- Defined by a shared governance structure

Adapts to meet the evolving needs of the District

Balances innovation with operational activities to meet the changing needs of our customers 13

Appendix B
Recommended Process for Implementing New IT Services Delivery Model
Approved by the IT Governance, Planning and Organization Team
September 23, 2010

A key recommendation of the Alvarez and Marsal consulting report was that Maricopa should establish a new IT Service Delivery Model that would leverage the resources of the district to deliver information and instructional technology services more efficiently and effectively. Building upon the work of the 21st Century Maricopa IT Services Delivery Model team, the IT Governance, Planning and Organization team developed an agreed upon process to assess the best ways for IT-related services to be delivered within the District, taking into account the logistics of both current and potential delivery models, mechanisms that should be used to measure delivery improvement, the degree of change required in the modification of the service delivery approach, and the financial, operational and strategic impacts of service delivery model change. The Recommended Process for Implementing New IT Services Delivery Models is provided on the following page. 14 15

NOTES:

1. Future Service Delivery

Step two will need to be completed for each delivery option. For example, centralized/hosted and centralized/outsourced.

2. Value

Value is directly measured through the combination of Utility and Warranty. For example, an email system is designed to allow users to communicate and track communications electronically (Utility), but if it only allows for extremely limited storage per user (Warranty) it is not providing sufficient Value.

3. Utility

Utility is the measure of the services "fit for purpose." (Focus is on what a customer receives through the service.) It is the functionality offered by a product or service from the customer's perspective and is put into operation by achieving specific results or by preventing specific risks and costs. Two simple questions to ask when reviewing Utility are:

Is the needed performance supported?

Are unnecessary constraints removed?

4. Warranty

Warranty is the measure of the services "fit for use." (Focus is on how the service is delivered.) It is the promise or guarantee that a service will meet its agreed upon requirements and is put into operation by ensuring sufficient availability, continuity and security. Four simple questions to ask when reviewing Warranty are:

Is the service available enough?

Is there enough capacity?

Is the service continuous enough?

Is the service secure enough?

5. Measurable Improvement

Step three will need to be completed for each delivery option. For example, centralized/hosted and centralized/outsourced.

6. Efficiency Analysis

Efficiency focuses primarily on optimizing the delivery of the services through cost reductions and/or leveraging economies of scale. (Focus is on service optimization.)
7. Effectiveness Analysis 16

Effectiveness focuses on meeting the end-user needs and is a measure of the service achieving its agreed upon objectives, given what is possible and available. (Focus is on user needs and experience.)

8. Hand Over to Implementation Team

Process should include the following:

Change management

Project management

Service Level Agreements

Branding/marketing 17

Appendix C
Recommended College and District CIO Reporting Structure
Approved by the IT Governance, Planning and Organization Team
September 23, 2010

Background:

The Alvarez and Marsal consulting report included three specific recommendations regarding the role and reporting structure of college IT leaders. These recommendations were:

1. Highest level college IT leaders to have solid-line reporting to district-level CIO – this structure allows for district-level accountability of college IT personnel, better collaboration across colleges, better alignment of IT goals, objectives and priorities, and faster decision-making.

2. Highest level college IT leaders to have dotted-line reporting to college VP of Administrative Services – this introduces a dual accountability for college IT leaders to college level stakeholders.

3. All highest level college IT leaders to have same positions and corresponding roles and responsibilities.

Team Recommendation:

The 21st Century Maricopa IT Governance, Planning and Organization team discussed the above consultant recommendations and concluded that, while there should definitely be a higher level of collaboration across the district along with better alignment of IT goals, objectives and priorities, the team does not believe it is in the best interest of the district or the colleges to have the highest level college IT leaders report in a solid-line relationship to the District Vice Chancellor for Information Technology. Instead, the team makes the following recommendations:

1. The highest level college IT leaders should have a direct reporting relationship to the President of each college and sit on the Executive Team of each college. This will allow for better alignment of IT initiatives with college goals and strategies, and enable information technology to be used in a more transformational manner at the colleges in support of teaching and learning.

2. The highest level college IT leaders and IT management at the district office should be accountable for ensuring increased collaboration across the district.

3. The highest level college IT leaders must provide the appropriate coordination, facilitation and oversight of IT initiatives at the college level to ensure improved use of resources, increased efficiencies, and alignment of IT initiatives with college goals and strategies.

4. The District Vice Chancellor for IT must provide the appropriate coordination, facilitation and oversight for collaboration across the district to ensure improved use of resources, increased efficiencies, reduction in duplication of effort, alignment of IT initiatives with district-wide goals and strategies, and improved synergies among the colleges and the district office.

5. The shared governance model for information technology developed by the IT Governance, Planning and Organization team should be viewed as an additional mechanism to better ensure improved decision-making, increased efficiencies, and better communication across the district.

Rationale:
The rationale for the Alvarez and Marsal recommendations was grounded in the consultant's observations that there was inconsistency, lack of communication, duplication of effort and sub-optimization of resources and attributed these factors to the decentralized IT organizational structure. While a decentralized organizational structure does come with certain downsides, the team felt that the larger issue was a lack of agreed upon shared governance and the processes that come with such governance. The team's recommendation is based on the following rationale:

The Maricopa County Community College District is composed of ten separately accredited institutions and a District Support Services Center. The health of each college rests with the President of that institution; the health of the entire district rests with the Chancellor. This layering of responsibility should also manifest itself in the way in which information technology is organized.

The primary role of the District Office and, therefore, the District-level Vice Chancellor for Information Technology is to provide leadership and management of shared services where there are definite efficiencies that come from a centralized service delivery model, and to identify where/when standardization is necessary in the delivery of IT services.

The role of the college IT leader is critical in helping the college identify ways in which information technology can better be used to transform and support teaching and learning.

Because of the critical nature of information technology in today's environment, the college IT leader must be seen as a senior member of the college administration and actively participate in the highest level strategy discussions at the college. The college IT leader must also be able to represent the college at district-wide IT meetings in such a manner that he/she can commit the institution to district-wide initiatives and efforts without prolonging decision-making through multiple layers of administration.

The critical success factors for this approach to the organization of information technology are: (1) improved communication, (2) increased collaboration, (3) shared governance and decision-making, and (4) coordinated planning aligned with district-wide and college goals and strategies. 19

Appendix D
Recommended Information and Instructional Technology Governance Model
Approved by the IT Governance, Planning and Organization Team
October 28, 2010
Executive Summary

The 21st Century Maricopa IT Governance, Planning and Organization team studied the use of IT governance in both private and public sectors and discussed the role that IT governance needs to play within the Maricopa County Community College District, given the district's organizational structure and culture. The team recommends the establishment of a new District-wide Information and Instructional Technology Governance Structure and mechanisms with the goal of ensuring consistency, collaboration, and effective use of IT resources throughout Maricopa. The recommendation is based on the following underlying assumptions:

IT decision-making, prioritization and investment will be aligned with the district-wide and college strategic and operational plans and IT organizational principles.

Not every idea generated will be processed through the entire decision-making structure.

There will be an identified, representative Alliance Group established for each major enterprise-wide system and for key district-wide initiatives. These Alliance Groups will have written charters with specific responsibilities and areas of accountability. Each Alliance Group will have a dedicated IT liaison person assigned by the Vice Chancellor for IT to participate in discussions and to ensure communication across IT regarding upcoming and pending initiatives.

The current IT leaders group will be reconstituted as the IT Leadership Council with a written charter and specific responsibilities and areas of accountability. Membership shall include the highest level college IT leaders, the Vice Chancellor for Information Technology and his/her direct reports at the discretion of the Vice Chancellor for Information Technology.

All requests to be addressed by the District-wide Information and Instructional Technology Governance Structure will be submitted and prioritized through the Alliance Groups and/or the IT Leadership Council.

An approval process with targeted timelines for each step of the process will be developed and adhered to by all components of the governance structure to ensure timeliness of decision-making.

The current Information Technology Council (ITC) will evolve into the District-wide Information and Instructional Technology Governance Council.

Specific processes with templates, timelines etc., will be developed and used for consistent capture of important information to aid the decision-making process.

The IT Services Delivery Model process will be engaged, as needed, during the Business Need Identification process. 20

Prioritization of initiatives will be considered separately from funding source or strategy.

Funding source will not dictate delivery model (e.g., centralized or decentralized delivery).
All projects/initiatives must pass through the standards and strategy review process regardless of funding source.

Once the governance structure and accompanying processes have been established, all requests moving through the system should be processed in accordance with the new structure.

Recommendation

Based on a review of the literature, specifically *IT Governance, How Top Performers Manage IT Decision Rights for Superior Results* by Peter Weill and Jeanne Ross, discussions of Maricopa's organization and culture, and review of what types of governance appear to work best within Maricopa, the IT Governance, Planning and Organization team recommends the following:

1. Establishment of a District-wide Information and Instructional Technology Governance Council (to replace the current Information Technology Council), whose purpose shall be development of information and instructional technology strategic directions, planning prioritization, investment recommendations, and funding strategies. This Council should have the following membership representation:

Vice Chancellor for IT – Permanent Council Co-Chair

College President (1) – Council Co-Chair

One (1) representative from each of the following:

- Division of Business Services
- Division of Student and Academic Affairs
- Division of Human Resources
- VP of Academic Affairs Council
- VP of Student Affairs Council
- VP of Administrative Services Council

Two (2) college representatives from the IT Leadership Council

Five (5) faculty members, a minimum of 1 of whom will be a representative from the Collaborative Learning Innovations Committee. Every effort should be made to ensure representation from faculty involved in instructional design and training, as well as service faculty.

2. The Vice Chancellor for Information Technology serves as the sole permanent member of the Council. The Chancellor or his/her designee should appoint all other members to the Council. Members shall serve a term of three years from the date of appointment and may be reappointed for one additional consecutive term. The Vice Chancellor for IT will establish term rotations to ensure

the efficient operation of the Council. As a new council, it may be necessary for initial terms to vary from the three-year term to achieve staggered terms. 21
3. The Vice Chancellor for IT will solicit nominations from the various divisions, councils and committee groups from which council membership is to be drawn. Each division/council/committee will identify a number double that of its representation on the council for consideration by the Chancellor. This ensures the most representative group addressing all interests of Maricopa and that each college will be represented on the Council. The selection of the Chancellor or his/her designee is final.

4. The District-wide Information and Instructional Technology Governance Council will not involve itself in the daily management of information or instructional technology either at the district or the college level.

5. The District-wide Information and Instructional Technology Governance Council will be a voting group with a quorum of 10 members required to be present for any vote and a simple majority of those present required for passage of any action item.

6. The District-wide Information and Instructional Technology Governance Council shall have responsibility for oversight decisions regarding all Bond funding for information and instructional technology.

7. The current IT leaders group should be reconstituted as the IT Leadership Council (ITLC) with a written charter and specific responsibilities and areas of accountability. Membership shall include the highest level college IT leaders, the Vice Chancellor for Information Technology, and his/her direct reports at the discretion of the Vice Chancellor for Information Technology.

8. The IT Leadership Council will be a voting group with a quorum of 7 college IT representatives required for any vote and a simple majority of those present required for passage of any action item. The Vice Chancellor for IT will identify one of his/her direct reports as a voting member of the IT Leadership Council. All other direct reports may be considered as ex-officio members of the ITLC and will not participate in voting. Any ex-officio members will be designated at the discretion of the Vice Chancellor for IT.

9. Once the new Information and Instructional Technology Governance Structure has been approved by appropriate parties within the district, the Vice Chancellor for IT, along with appropriate college and district office leadership will initiate a review of all current Alliance Groups to ensure that membership includes the representation necessary for these groups to function in their new capacity as part of the governance process.

10. Alliance Groups will be voting groups with a quorum of 75% of membership required for any vote and a simple majority of those present required for passage of any action item.

11. The Vice Chancellor for IT will have ultimate responsibility for determining when and how initiatives recommended by Alliance Groups and/or the ITLC move forward to the District-wide Information and Instructional Technology Governance Council. The Vice Chancellor for IT will provide a formal, written rationale for his/her decision-making process in this area.

12. By organizational authority, any CEC member may raise an issue to the CEC level for the following reasons, included but not limited to the financial health of the district, structural shifts, accreditation issues or policy issues. 22
13. Requests/initiatives will be processed through the District-wide Information and Instructional Technology Governance Council according to the following diagram. 23 24

Appendix E

Matrix Indicating Alignment of Information and Instructional Technology Goals/Strategies with Maricopa Vision, Mission, Values and Strategic Directions

The Information and Instructional Technology Strategic Plan will be an effective tool for directing the use and acquisition of information and instructional technology within Maricopa only if it is aligned with the overall strategic planning efforts and directions of the colleges and the district. The following matrix clearly demonstrates how this strategic plan aligns with the Maricopa Community Colleges vision, mission, and strategic directions.

Information and Instructional Technology Goal	Maricopa Vision		Maricopa Mission		Maricopa Strategic Directions	
Student Success	Stakeholder Access	Opportunities for Students	Collaboration and Partnerships	Revenue & Cost Effectiveness	Quality Workforce	Value to the Community
Provide information and instructional technology solutions that enable student success	X	X	X	X	X	X
Provide information and instructional technology solutions that promote effective and efficient organizational decision-making, communication and operations	X	X	X	X	X	X
Facilitate a culture of ongoing professional development that fosters the effective use of information and instructional technologies	X	X				
Promote a culture of innovation and collaboration within the Maricopa	X	X	X	X	X	X

ESTRELLA MOUNTAIN COMMUNITY COLLEGE

STRATEGIC AND INSTITUTIONAL PLANNING DOCUMENTS

DOCUMENT NUMBER	TITLE	DATE
No. 1	Planning Directions: A Conceptual Framework for Planning	August, 1989
No. 2	West Valley Community Education Needs Assessment	September, 1990
No. 3	Assessment of Business Programs and Computer Facilities	October, 1989
No. 4	Conceptual Phase Proposal: New Site for College Facilities	October, 1989
No. 5	Proposed Physical Education Report	November, 1989
No. 6	Strategic Planning Fact Book	March, 1990
No. 7	Report of the Teaching for Learning Subcommittees	April, 1990
No. 8	Child Care Options	May, 1990
No. 9	Master Plan Report	June, 1990
No. 10	PALS Lab Proposal	July, 1990
No. 11	Project C.Y.C. Final Report	July, 1990
No. 12	Community Planning Process	August, 1990
No. 13	Project CBLC Final Report	September, 1991
No. 14	Establishing a Community Based Literacy Program: Dreams, Realities, And Future Directions	November, 1991
No. 15	Adult Literacy Planning Committee Report	December, 1991
No. 16	Capital Planning for the Twenty-First Century	March, 1992
No. 17	Blueprints for Planning	November, 1996
No. 18	College Plans 1996: Strategic Plan, Student Academic Achievement Plan, and Institutional Effectiveness	November, 1996
No. 19	Environmental Scan and Fact Book 1997	January, 1997
No. 20	Environmental Scan and Fact Book 1999	June, 1999
No. 21a	Environmental Scan and Fact Book 2000	August, 2000
No. 21b	Strategic Plan 1999-2002	October, 2000
No. 22	Environmental Scan and Fact Book 2001	August, 2001
No. 23	Child Care Options ’99	August, 1999
No. 24	Plan for Institutional Effectiveness 1999-2002	August, 1999
No. 25	Strategic Plan 2001-2004 (Update)	September, 2001
No. 26	Student Success Plan 2001-2005	June, 2001
No. 27	Student Academic Achievement Plan 2001-2011 (Update)	November, 2001
No. 28	Financial Resources Plan 2001-2004	December, 2001
No. 29	Academic Plan 2001-2006	January, 2002
No. 30	Information Technology Plan 2002-2006	February, 2002
No. 31	Environmental Scan & Fact Book 2002-2003	August, 2002
No. 32	Strategic Plan 2002-2005	November 2002
No. 33	Environmental Scan & Fact Book 2003-2004	August, 2003
No. 34	Strategic Plan 2003-2006 (Update)	October, 2003
No. 35	Instructional Programs Plan 2003-2008	February, 2004
No. 36	Academic Achievement Pan 2004	May, 2004
No. 37	EMCC Master Plan Update	May, 2004
No. 38	Environmental Scan and Fact Book 2004-2005	August 2004
No. 39	Strategic Plan 2004-2007 (Update)	October, 2004

No. 40	Environmental Scan and Fact Book 2005-2006	August 2005
No. 41	Strategic Plan 2005-2008 (Update)	September, 2005
No. 42	Environmental Scan & Fact Book 2006-2007	August 2006
No. 43	Strategic Plan 2006-2009 (Update)	October 2006
No. 44	Environmental Scan & Fact Book 2007-2008	August 2007
No. 45	Environmental Scan 2008-2009	August 2008
No. 46	EMCC Fact Book 2008-2009	August 2008
No. 47	Strategic Plan – Building a Learning College 2008-2011	September 2008
No. 48	Environmental Scan 2009-2010	August 2008
No. 49	EMCC Fact Book 2009-2010	August 2008
No. 50	Strategic Plan 2009-2010	August 2008
No. 51	Environmental Scan 2010-2011	August 2010
No. 52	EMCC Fact Book 2010-2011	August 2010
No. 53	Strategic Plan 2010-2014 Update	September 2010
No. 54	Enrollment Management Plan	October 2010?
No. 55	Strategic Plan 2011-2015 Update	April 2011
No. 56	Strategic Technology and Learning Plan 2011-2015	July 2011
No. 57	Instructional Plan 2011-2020	July 2011
No. 58	Student Academic Achievement Plan 2011-2020	August 2011
No. 59	Environmental Scan 2011-12	August 2011