

University of California, San Francisco Education Systems Advisory Committee Task Force

Report for the Chancellor on Education Technology Infrastructure

April 21, 2010

INTRODUCTION

This report builds upon the excellent work of the “Education Systems Advisory Committee Strategic Plan of 2008.” Since that report was released, progress has been made in a number of areas, not the least of which includes enhancements to the Library’s Collaborative Learning Environment (CLE). In addition, it appears that funding has now been secured for a content capture system for certain of the campus’s classrooms and lecture halls. Finally, the construction of the Teaching and Learning Center (TLC) has resumed and is on target to open in January 2011. The TLC is expected to strengthen the existing educational technology infrastructure of the campus.

What follows is a series of recommendations addressing gaps and deficiencies in our educational technology infrastructure. In addition to a list of specific projects and priorities for the next five years, the task force felt it important to highlight several principles that we believe should guide decisions regarding allocation of future funding.

Note: For the purposes of this document, educational technology includes the technology infrastructure and tools to support both our physical and virtual learning environments and to provide our students, faculty and staff with the support and development they need to employ these tools in the service of teaching and learning.

We would also use this opportunity to remind everyone that educational technology at UCSF is more than simply *desirable*. Availability of technology is a student access and equity issue. It is embedded in our UCSF Strategic Plan and is central to our shared mission, vision, and values. Moreover, we believe that if we are to retain our current position as a leader in the training and education of health care providers, researchers, and future faculty, we have no choice but to invest in infrastructure improvements and the training of faculty or risk losing our competitive edge.

From the “*Educational Systems Advisory Committee (ESAC) Strategic Plan*”

UCSF’s educational technology mission is to create exceptional learning environments through the innovative use of educational technology and information systems and services. The vision includes harnessing the power of educational innovation and information technology to advance UCSF’s role as a global leader in health sciences education. Guiding values include service, collaboration, innovation, and scholarship.

DEPENDENCIES

The educational mission of the campus is, in many ways, dependent upon projects and infrastructure decisions that are made centrally, outside the purview of campus educators. Without satisfactory progress in some of these areas, the ability of faculty to teach, and learners to learn, will continue to be suboptimal.

In short, *educational* technology infrastructure relies on essential improvements in *general* campus technology infrastructure. The projects identified in the second half of this document will continue to be hamstrung until the campus makes fundamental improvements in key elements of its foundational technology infrastructure. Classroom space constraints and fiscal classroom and classroom support issues must become a top priority at UCSF before the benefits of educational technology can be realized. To achieve our educational goals, the campus must make progress in the following areas:

- Robust, ubiquitous wired and wireless networks with regular upgrades
- Single sign-on and central identity management
- Continued support and development of VPN/email to support faculty and learners
- Modern and functional classroom space to meet evolving needs of faculty and learners

PRINCIPLES GOVERNING EDUCATIONAL TECHNOLOGY IMPROVEMENTS

The taskforce believes that certain fundamental principles underpin our efforts to fill existing educational technology gaps and are essential if this health science campus is to remain a leader in education. These principles are separate from the specific projects and priorities listed in the latter part of this document. They are, instead, a conviction about foundational elements that are necessary to support the projects and priorities that follow.

Secure Annual Funding for Educational Technology

The task force believes it is essential to have in place secure, annual funding for educational technology. The budgetary process and funding options for educational technology initiatives at present are not transparent. It is challenging and in some cases impossible to maintain important initiatives/services without an identifiable funding source, let alone make improvements and take advantage of new opportunities that would support our mission of being leaders in education. Such annual funding would not only allow for new equipment, software, and operations, but also assure critical ongoing maintenance and upgrades. One potential funding structure might be an endowment model similar to what is currently used for campus classroom support.

Consolidated Educational Technology Leadership and Governance

The second guiding principle identified by the Task Force was the need for a leader to coordinate educational technology across the campus and to oversee a governance structure. Currently, there is no central body that oversees the campus educational technology and educational information systems. It is common to have multiple groups across the campus working independently on similar issues and struggling to find solutions with limited resources.

Commitment within OAAIS to their Role in the Educational Mission of the Campus

While OAAIS serves the entire campus, there is a perceived lack of appreciation of their role in the educational mission of the campus. We would like to see OAAIS strengthen its commitment to learners and make the necessary resources available to support key technology infrastructure vital to education including email, VPN, wireless, etc.

Future Innovation

The fourth guiding principle is the importance of continuing innovation. One of the goals of the UCSF Strategic Plan is to “design novel interdisciplinary and interschool approaches in education.” The Plan further states, “As a campus devoted exclusively to health sciences, UCSF has an enormous opportunity to be at the forefront of interdisciplinary education. By working collaboratively to create interdisciplinary courses and learning experiences, UCSF and its faculty can become simultaneously innovative, effective and efficient.” This principle argues for an innovations funding mechanism of some kind, above and beyond the specific priorities identified below, to encourage and support new educational improvements.

PRIORITIES FOR EDUCATIONAL TECHNOLOGY IMPROVEMENTS (2011-2016)

Below please find what we believe to be the top educational technology improvement priorities for UCSF over the next five years, followed by estimates of the costs needed to implement these projects. These priorities are specifically not ranked in order of importance. While it may be necessary to rank them at some future point, they were all deemed by members of the committee as essential to sustain and support existing initiatives in the area of educational technology infrastructure.

Technology Help Desk for Learners

UCSF learners have limited options to assist them currently when technology-related problems arise. Technology has a central role in learning. The availability of timely support is critical. Among the most common problems are assistance with network connectivity, troubleshooting and configuring laptops for VPN, and application support for the MS Office Suite, web browsers and plug-ins, email and desktop operating systems. Because there is no central technology support for learners, they are shuffled among their school, the Library and OAAIS. Levels of service are uneven and not well coordinated. The Help Desk we propose would provide 24/7 phone support, self-service, web tutorials and FAQs to ensure that technology is not a barrier to learning. Learners, for purposes of this proposal, are defined as graduate and professional school students, postdocs, fellows and residents. The budget accounts for expected increases in call volume and normal merit increases for staff. This budget assumes that this service would begin January 1, 2011.

We are aware of discussions among campus leaders that would perhaps charge the Medical Center with providing some of these services. Should this be implemented, it is possible that it will change the nature of this specific proposal. However, we continue to believe that what we are proposing is a level of service and support much higher than what the Medical Center currently offers and we would hope that, regardless of the final outcome of these discussions, the essential services for learners be designed into and guaranteed in the form of basic service agreements.

We also feel strongly that this service, wherever it resides, should eventually be expanded to the entire campus community. Such support is no less relevant to faculty and staff. For purposes of this report only, we focus our proposal on support for “learners” with a clear recommendation that serious consideration be given to the needs of faculty and staff after the service has been tested and proven.

CLE Operations and Upgrades

The Collaborative Learning Environment (CLE) provides core functionality for UCSF professional school and graduate programs to meet current and future curriculum needs in a learner-centered environment that supports collaborative learning and knowledge creation. A 5-year roadmap outlines plans for incorporating new functions critical to UCSF education programs into the CLE. Integration of these new components, such as portfolios, curriculum management and content capture, will require

additional support and training for faculty and students. The architecture of the CLE provides a centralized service that also allows the schools and programs to customize the system around optimal teaching and learning methods. . The estimated costs reflect a continuation of one-time funding from FY 09-10 and new features to support curricular changes.

Teaching and Learning Center (TLC) Operations

The Teaching and Learning Center (TLC) is the realization of the campus' stated goal of developing exceptional educational facilities and infrastructures. The Teaching and Learning Center will provide a technology-rich environment in support of interprofessional and transdisciplinary learning programs at UCSF. The programs will focus on training future health professionals and scientists to become leaders in delivering high quality care to underserved communities.

The new facility on the second floor of the Parnassus Campus Library will open in January 2011. It will enhance and repurpose Library education space through a simulation and clinical skills education center; new teaching and learning space, including technology-enhanced active-learning classrooms and computing labs; technology support for learners and instructors, and communications technology to facilitate interaction with health care providers, students, and support teams at other sites.

Three separate organizational units form the TLC – the School of Medicine's Kanbar Simulation Center; Student Academic Affairs' Classrooms, and the Library's Technology Commons. The new and expanded functions of Student Academic Affairs and the Library will require new ongoing support to operate the TLC. These funds are the incremental costs based upon expanded functions, providing students with acceptable IT support, and increased activity.

Please note that while the Teaching and Learning Center represents a major step in the right direction, it clearly does not solve the ongoing problem of inadequate classroom space and classroom support issues at UCSF.

Educational Technology Review

Last but not least, we strongly recommend that the campus commission a review by an external peer review team with expertise in instructional and classroom technologies to provide recommendations on a governance structure for educational technology at UCSF. Currently the Library stewards instructional technology in the Center for Instructional Technology and Technology Commons, and Student Academic Affairs' Educational Technology Services (SAA ETS) oversees classroom technology. School and program level instructional technology services provide valuable discipline specific expertise to integrate technology directly into the curriculum. All of these units have been called upon to fill the gaps in campus level infrastructure and services. Finally, the Education System Advisory Committee (ESAC) provides stakeholder input into instructional and classroom annual funding priorities through the Executive Vice Chancellor/Provost.

Overall this system has functioned in large part due to collaborations amongst the various groups. However this structure does not allow for streamlined resource allocation and accountability.

The objectives of this review would be to recommend a governance structure that provides a) accountability and alignment of resources; b) oversight for communication and collaboration between the instructional and classroom technology services; and c) support for innovation at the level of teaching and learning within our educational programs, assuring dedicated resources for training faculty and staff to use the technology.

In summary, the intent would be to identify how to strengthen and build upon the existing structures. We are interested in understanding whether there are more effective ways to promote and support faculty, students and staff in using technology tools to enhance teaching and learning. Additionally, the review should consider how to harness, foster and support innovation in educational technology that occurs in the schools, departments and programs and optimal strategies to build a coordinated and robust environment for faculty, learners and staff emphasizing best practices in educational strategies.

While our recommendation is for an external peer review team, it is possible that the Chancellor may believe that UCSF has expertise within, comprised of IT experts from across the five schools and affiliated departments, to perform such a review. Alternatively, there may be faculty at peer institutions that could be enticed to perform such a service.

PRIORITIES

Estimate of Costs Related to Acquiring, Upgrading, and Operating Educational Technology Infrastructure*

	FY 10-11	FY 11-12	FY 12-13	FY13-14	FY 14-15
Help Desk for Learners (Operations) <i>Appendix A</i>	\$126,000	\$182,000	\$198,000	\$215,000	\$234,000
Collaborative Learning Environment (CLE) Operations <i>Appendix B</i>	\$303,000	\$414,000	\$434,000	\$457,000	\$479,000
Teaching/Learning Center (TLC) Operations (TLC Customer Support, Kanbar Simulation Center, TLC Classrooms) <i>Appendices C, D, E, combined</i>	\$437,000	\$514,000	\$529,000	\$561,000	\$589,000
Educational Technology Consultant	\$15,000	N.A.	N.A.	N.A.	N.A.
TOTAL	\$881,000	\$1,110,000	\$1,161,000	\$1,233,000	\$1,302,000

*These priorities are specifically not ranked in order of importance. While it may be necessary to rank them at some future point, they were all deemed by members of the committee as essential to sustain and support existing initiatives in the area of educational technology infrastructure.

Appendix A

Help Desk for Learners*

		2010-11	2011-12	2012-13	2013-14	2014-15
Outsourced Help Desk						
UCSF Coordinator (includes benefits)	0.25	\$13,100	\$27,510	\$28,886	\$30,330	\$31,846
S&E (\$2500/FTE/year)		\$417	\$656	\$689	\$724	\$760
Tier 1 Support (\$10/call, 12,000 calls per year)		\$80,000	\$132,000	\$145,200	\$159,720	\$175,692
Online Tools (\$1/FTE/year)		\$4,000	\$6,600	\$7,260	\$7,986	\$8,785
Implementation of Outsourced Help Desk (vendor)		\$20,000	\$5,000	\$5,000	\$5,000	\$5,000
Consolidated Ticketing (licensing cost)		<u>\$5,000</u>	<u>\$5,500</u>	<u>\$6,050</u>	<u>\$6,655</u>	<u>\$7,321</u>
Subtotal Outsourced Help Desk		\$122,517	\$177,266	\$193,085	\$210,414	\$229,403
Peer-to-Peer Support		\$3,333	\$5,000	\$5,000	\$5,000	\$5,000
TOTAL Learner Help Desk						
		\$125,850	\$182,266	\$198,085	\$215,414	\$234,403
Incremental Cost Per Learner (6000 students)**			(\$31)	(\$33)	(\$36)	(\$40)

* Learners include students, residents, postdocs, and fellows

** The costs listed in this table are estimates based upon user volume. It is hoped that actual costs might be lower, either because initial bids may result in preferable rates or because of efficiencies of scale due to volume.

Appendix B

CLE Operations

Core CLE Budget

	<u>FY 10-11</u>		<u>FY 11-12</u>		<u>FY 12-13</u>		<u>FY 13-14</u>		<u>FY 14-15</u>	
Payroll	FTE	Amount								
Subtotal Payroll Expenditures	2.60	\$239,200	3.60	\$349,571	3.60	\$364,985	3.60	\$388,052	3.60	\$410,334
Computing / Data Processing 3rd Party Hosting		\$46,000		\$46,000		\$50,000		\$50,000		\$50,000
Training		\$4,000		\$5,000		\$5,000		\$5,000		\$5,000
Equipment		\$9,800		\$9,800		\$9,800		\$9,800		\$9,800
Other Services		<u>\$4,000</u>								
Subtotal Non-Payroll Expenditures		\$63,800		\$64,800		\$68,800		\$68,800		\$68,800
Core CLE Supplementary Funding TOTAL		<u>\$303,000</u>		<u>\$414,371</u>		<u>\$433,785</u>		<u>\$456,852</u>		<u>\$479,134</u>

Appendix C

Technology Commons Customer Service

		<u>2010-11</u> (starts 11/1/10)	<u>2011-12</u>	<u>2012-13</u>	<u>2013-14</u>	<u>2014-15</u>
Customer Service	FTE					
PA 1 (includes benefits)	1.4	\$67,033	\$118,154	\$124,062	\$130,265	\$136,778
S&E (\$2500/FTE/year)		<u>\$2,000</u>	<u>\$3,675</u>	<u>\$3,859</u>	<u>\$4,052</u>	<u>\$4,254</u>
Subtotal Increased Hours & Customer Contact		\$69,033	\$121,829	\$127,921	\$134,317	\$141,033

Appendix D

Kanbar Simulation Center Budget

		<u>FY 10-11</u>	<u>FY 11-12</u>	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>
Kanbar Personnel Expenses	FTE					
Simulation Technician	1.0	61,993	62,923	64,181	65,465	66,774
Simulation Specialist	1.0	52,000	52,780	53,836	54,912	56,011
Benefits		<u>33,888</u>	<u>35,868</u>	<u>38,946</u>	<u>39,724</u>	<u>40,518</u>
Subtotal Personnel Expenses		\$147,881	\$151,571	\$156,963	\$160,101	\$163,303
Kanbar Operational Expenses						
Computer Cycle Replacement				16,800		
Bline Server Cycle Replacement					14,000	15,500
Bline Annual Service Maintenance			<u>42,201</u>	<u>29,541</u>	<u>42,201</u>	<u>44,311</u>
Subtotal Operational Expenses			\$42,201	\$46,341	\$56,201	\$59,811
TOTAL EXPENSES		<u>\$147,881</u>	<u>\$193,772</u>	<u>\$203,304</u>	<u>\$216,302</u>	<u>\$223,114</u>

Appendix E

Library Classroom Budget

**Student Academic Affairs
Educational Technology Services
Library Classroom Operations Budget – 2-26-10**

		<u>FY 10-11</u>	<u>FY 11-12</u>	<u>FY 12-13</u>	<u>FY 13-14</u>	<u>FY 14-15</u>
Personnel Expenses	FTE					
Television Engineer	1.0	\$56,232	\$28,936			
Television Engineer	1.0	\$56,232	\$87,300	\$90,356	\$93,518	\$96,791
Television Technician	1.0	\$33,312	\$51,717	\$53,527	\$55,400	\$57,339
Benefits		<u>\$42,275</u>	<u>\$53,745</u>	<u>\$50,359</u>	<u>\$56,589</u>	<u>\$58,570</u>
Total Personnel Expenses		<u>\$188,051</u>	<u>\$221,698</u>	<u>\$194,242</u>	<u>\$205,508</u>	<u>\$212,700</u>
 Other Personnel-Related Expenses						
Communication		\$1,440	\$1,730	\$1,528	\$1,574	\$1,621
Computer equipment (5-year replacement cycle)		\$12,000				\$8,000
Printers		\$900				
Furniture		\$9,000				
Network Charge		\$840	\$980	\$840	\$840	\$840
Toolkits		\$4,000				
Carts		\$3,000				
GAEL		\$641	\$739	\$633	\$655	\$678
Supplies & Expenses		<u>\$1,400</u>	<u>\$1,633</u>	<u>\$1,485</u>	<u>\$1,530</u>	<u>\$1,576</u>
Total Other Personnel-Related Expenses		<u>\$33,221</u>	<u>\$5,083</u>	<u>\$4,486</u>	<u>\$4,599</u>	<u>\$12,715</u>
 Operations Expenses						
Spare Projector		TBD	TBD	TBD	TBD	TBD
Equipment Replacement (5-year cycle)		<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total Operations Expenses		<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
 TOTAL EXPENSES		 <u>\$221,272</u>	 <u>\$226,781</u>	 <u>\$198,728</u>	 <u>\$210,106</u>	 <u>\$225,415</u>

NOTES

The library classrooms are scheduled to be completed in November 2010.

The staffing plan calls for 2.0 television engineer FTE in the first year (November 2010 – October 2011) and 1.0 television engineer FTE in the second year and beyond.

The staffing plan also calls for 1.0 television technician FTE for the first year (beginning November 2010) and beyond.

Furniture costs can be excluded if the project will provide furniture.

Salaries increase 3.5% per year for merit pay.

Costs increase 3.0% per year for inflation.

Appendix F

Committee Membership

The co-chairs of the ESAC, Dr. Susan Promes of Emergency Medicine and Jeff Kilmer from the School of Nursing would again like to acknowledge the dedication and hard work of the committee members who helped created this report for the Chancellor, as well as the exceptional support from staff Judith Evind.

- David Avrin, Radiology
- Opinder Bawa, SOM
- William Bird, SOD
- Doug Carlson, SAA
- Joseph Castro, SAA
- Ann Dobson, Library
- Gwen Essex, SOD
- Chris Garrett, SON
- Mehran Hossaini, SOD
- David Irby, SOM
- Jonathan Johnson, Graduate Division
- Mini Kahlon, CTSI
- Dan Lowenstein, Neurology
- Susan Masters, SOP
- Chandler Mayfield, SOM
- Dorothy Perry, SOD
- Gail Persily, Library
- Heidi Schmidt, OAAIS
- Kevin Souza, SOM
- Michael Winter, SOP

- David Teitel, Pediatric Cardiology, *ex officio*