

EXECUTIVE SUMMARY

Measures of Success (MOS) is the vehicle through which California State University informs the legislature about the progress and benefits of the Integrated Technology Strategy (ITS). This is the eighth report in the series and the sixth year describing changes from the baseline data (1999–2000). MOS reports measure progress in achieving the benefits associated with specific ITS initiatives in the following outcome categories:

- ◆ Excellence in Learning and Teaching
- ◆ Quality of the Student Experience (fully implemented; no longer reported)
- ◆ Administrative Productivity and Quality
- ◆ Personal Productivity

The four outcomes of the ITS result from the strategic application of information technologies in support of the core programs and operations of the university. These outcome areas correspond to four sets of ITS initiatives: academic, student services, administrative systems, and technology infrastructure. The MOS also discusses how technology can be used to leverage *existing* physical capacity to help meet CSU enrollment goals.

In March 1996, the CSU Board of Trustees approved the ITS framework for leveraging technology as a tool to achieve CSU academic and administrative goals. The ITS was never merely a plan; it was always a strategic framework. As such, it has continued to guide the CSU's investments in technology for almost a decade and will do so well into the foreseeable future. In 2004, all 23 CSU presidents recommitted to the goals and objectives of the ITS and agreed to maintain their collective leadership of information technology. With implementation of the infrastructure and administrative initiatives well underway, CSU leaders have made academic technology a major policy priority of the system, and as a result, a second wave of initiatives has been launched.

Institutional and individual user data are collected to inform the MOS process. Institutional data are drawn from systemwide databases and annual campus surveys. Individual data are collected through biennial telephone surveys of representative samples of CSU students, faculty, and staff. Major findings are reported below. In some instances survey mean score ratings are cited based on an 11-point scale of 0 to 10, where 10 indicates maximum importance or satisfaction. This edition of the MOS also draws on comparative data from two national surveys.

The MOS provides an overview of institutional progress in meeting the goals of the ITS and an understanding of individual user needs and attitudes concerning information technology. The report documents the growing investment in information technology as a strategic resource of the CSU.

MAJOR FINDINGS

Excellence in Learning and Teaching

The ITS academic initiatives seek to improve academic quality, increase student access, and contain costs.

Technology in the Curriculum

- According to the 2006 survey, nine out of ten faculty, across all disciplinary fields, now require students to use computers in connection with coursework. Eight of ten faculty require students to use email, up 20 percent since 2000. Required use of presentation software is up 30 percent.
- The vast majority of CSU faculty (80 percent or more) believes that information technology has a positive effect on the instructional process. Only in the area of academic fraud is the impact viewed as negative.
- Seventy-five percent of all full-time faculty said that recognition of their involvement with technology for purposes of retention, tenure or promotion (RTP) has little or no effect on decisions about such involvement. Not surprisingly, RTP considerations were of least interest to professors and lecturers, but only of marginally greater interest to associate and assistant professors. In addition, efforts of the academic department or administration to promote or restrict the use of technology also have little motivating effect.
- CSU and the Educational Testing Service (ETS) developed a tool for assessing entering students' information and technology literacy, which can be used for integrating information literacy into first-year experience

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programs. In 2005-2006 eighteen grants were awarded to CSU campus faculty and librarians to explore the use of this tool.

Instructional Resource Sharing

- Since it became operational in 1997, the number and variety of information resources made available through the Electronic Core Collection (ECC) have grown from four resources to a collection that in 2005-2006 comprised over 20 databases and more than 25,000 full text titles.
- Since the FY 1999-2000 report, the cost per usage for the ECC databases examined in this study has declined overall by more than half. The amount of annual cost avoidance has remained stable at between one-third and one-half million dollars annually. For FY 2005-2006, the cost avoidance attributable to the ECC program is estimated to be about one third higher than last year, just over \$900,000.
- Individual memberships in the MERLOT user community increased to more than 36,000 in 2005-06, a 38 percent gain over the previous year.
- The IMAGE project of the Center for Distributed Learning (CDL) has grown to provide electronic access to over 54,000 images of art, architecture, science, technology, and culture from around the globe. Over 530 portfolios of images with accompanying data enhance access to, and the instructional value of, visual resources in fields such as geography, science and technology, history, music, dance, and commerce.
- In 1999–2000, only five campuses had a center for instructional technology development. In 2005-06, 21 campuses had at least one such center and thirteen campuses had both a campus-wide center and one or more divisional centers.

Administrative Productivity and Quality

The purpose of the administrative initiatives is to increase the accessibility and utility of major administrative information systems to students, faculty, and staff, while improving the efficiency and quality of administrative services. To achieve this, the goal of the Common Management Systems (CMS) is to have all campuses and the Chancellor's Office use common Oracle/PeopleSoft applications in full production mode, supported by a consolidated data center, by 2007.

Common Management Systems Implementation

- By the end of FY 2005-06, 21 campuses had implemented the CMS/PeopleSoft finance software; 22 had implemented the human resources application; and 10 had implemented the student administration system.
- Analysis of staff survey data showed that legacy system users were always more satisfied than CMS users, but not all differences were statistically significant.

Administrative System Data Center Consolidation

- In 2005-06, an estimated cost avoidance of \$14.17 million was realized; the total realized in 2004-05 was \$13.83 million.

Personal Productivity

The information technology infrastructure initiatives seek to provide to each campus a baseline quantity and quality of computing and network resources to enhance the personal productivity of individual students, faculty, and staff.

Workstation Environment

- In the baseline year, 1999/2000, nine campuses reported that at least half of their workstations were below currency standards for both hardware and software. In 2005-2006, nine campuses reported that three quarters or more of their workstations were at standard, and the number of campuses reporting that half of their workstations were below currency standards dropped to four.
- Seven campuses met the baseline standard for workstation hardware for both faculty and staff. On five campuses workstation quality falls far short of the ITS target environment for both user groups. Student workstation quality (for hardware and software) was at baseline level on about half of the campuses.
- Faculty, staff and students have generally expressed a rather high level of satisfaction with the workstation hardware and software available to them. All three groups have given ratings between 7.5 and 8.5 on the zero-to-ten scale in surveys administered since 2000.

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- Over two-thirds of all classrooms in the CSU are now equipped with broadband connectivity and can support the use of multimedia instructional resources. Campuses spent a combined total of \$8.1 million in 2005-06 to support the creation, updating and operation of “smart” classrooms.

Network Connectivity

- In 2001–02, only three campuses were able to provide high-speed network connectivity as defined in the CSU baseline technology infrastructure standards. At the end of FY 2005-06, 17 campuses were doing so, a gain attributable largely to the campus backbone network improvements funded through the Technology Infrastructure Initiative (TII).
- Seventeen campuses have adopted security provisions for wireless networks, and about half of the campuses have migrated to the faster 802.11g wireless standard.
- Satisfaction with on-campus network connectivity has remained generally high (mean score above 7.5 on the zero-to-ten scale) for faculty, staff and students since systematic surveys began in 2000.
- The average number of staff positions to support information security is 1.6. Total spending for information security in 2005-06 totaled over \$2 million. This represents an average per campus expenditure of \$103,291.
- According to the Campus Computing Survey, 91 percent of CSU institutions have completed a strategic plan for IT disaster recovery versus 74 percent for comparison institutions. Fully one-third of non-faculty employees said that they could do “almost all” of their work from home, including 30 percent of the clerical staff and 25 percent of the technical staff. Among all staff, three-fourths said they could do “almost all” or “some”. Only 12 percent said they could do “none” of their work away from campus, and significantly fewer MPP class employees said they could do none of their work at home.

Training and Support

- All campuses continue to provide at least 40 hours per week access to call-center support for faculty, staff and students. Two campuses make call center support accessible 24/7.
- CMS/PeopleSoft applications absorbed an average 55 percent of resources for staff training, and a third of the training budget for IT professionals.
- In 2005-06, learning management system training used 34 percent of funds budgeted for faculty training, ten percent of IT staff training funds, and just under five percent of student training funds.

Baseline IT Infrastructure Capability

- In 2001-02, no campus met the standards for the campus physical telecommunications infrastructure, and only three campuses had baseline network connectivity. As of June 30, 2006, 12 campuses were at baseline (i.e., 90 percent or higher) for telecommunications infrastructure, and three were above 75 percent of baseline. At the other extreme, the number of campuses with less than 25 percent of standards-compliant outlets fell from 15 to three.

Master Plan

One goal of ITS investment in distance and distributed (online) learning technologies is to accommodate additional enrollment without corresponding increases in building construction.

- Aggregate enrollment in distributed learning modes (i.e., off-campus face-to-face, synchronous, and online instruction) in academic year 2005-2006 totaled 11,361 FTES, an amount that is equivalent to 3.6 percent of total main-campus FTES for the system, and that exceeds the individual FTE enrollments of ten CSU campuses
- CSU faculty have assigned a very low priority to online instruction since the technology survey was instituted in 2000. This question has received the lowest mean score rating of any item in all four survey administrations. By contrast, students have consistently rated this item among the highest in importance in the student surveys.
- The increased workload associated with teaching online is perceived as an obstacle to faculty engagement in online teaching. A third of the survey respondents said that workload demands make it “less likely” they would teach online and fifteen percent, workload demands made it “much less likely”. Thirty-seven percent said workload issues had “no effect” on their willingness to provide such instruction. Only one out of ten perceives workload to be a positive factor.
- Faculty views are evenly split on the importance of special funding to adapt regular courses to an online environment. For one in five respondents, absence of such funding makes it “less likely” or “much less likely” that

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they will teach online. One in four said funding availability is not a barrier. For most (55 percent), funding appears to play no role.

- According to an Academic Affairs survey completed in June 2006, 15 CSU campuses offer 44 online degree programs, two-thirds of which are self-supporting.
- CSU has created and deployed four online learning tools that are being used to help improve secondary students' preparation for college in mathematics, reading and writing. In the first year of implementation, visits to the Math and English Success websites—two of the four tools—have doubled and tripled respectively. For math, visits grew from 4000 in the first month to almost 10,000 a year later; visits to English rose from 1000 to 3000.

Conclusion

The Measures of Success initiative has cultivated a "culture of evidence" in how information technology is perceived and managed in the CSU. Equally important, the initiatives within the Integrated Technology Strategy have nurtured and facilitated an unprecedented "culture of collaboration" among CSU campuses in networking and infrastructure buildout, administrative information systems, library resource sharing, learning management systems, and the recent round of academic technology initiatives. CSU campuses have begun to adopt a greater system and statewide perspective as a result of the ITS.

At least two things have played a prominent role in breaking down institutional barriers to collaboration and cooperation, one technical and the other policy-related. By their very nature, telecommunications networks require a high degree of inter-institutional collaboration and integration in setting technical standards and in building the infrastructure. The CSU is part of one of the most robust statewide networks in American higher education, and that has fostered an integrated approach to many things that require the use of information technology. The policy component to campus cooperation has revolved around the concept of "baseline," the goal of insuring a minimum level of IT resources and capabilities across all campuses. A systemwide commitment to baseline standards and capabilities does not prevent a campus from "doing its own thing" or "going its own way," but it does provide a synergistic set of tools and resources for getting there.