



THE CAMPUS COMPUTING PROJECT

The 1999 National Survey of Information Technology in US Higher Education

The Continuing Challenge of Instructional Integration and User Support

Assisting faculty efforts “to integrate technology into instruction” remains the single most important information technology (IT) challenge confronting American colleges and universities over the next two to three years, according to new data from The Campus Computing Project. Fully two-fifths (39.0 percent) of the institutions participating in the Project’s 1999 survey identify “instructional integration” as their single most significant IT challenge, up from 33.2 percent in 1998 and 29.6 percent in Fall 1997.

“Providing adequate user support” ranks second again this year: just over one-fourth (27.5 percent) of the survey respondents identified user support as the most significant challenge for their institutions, up from 26.5 percent in 1998 and 25.0 percent in 1997. Placing third was “financing the replacement of aging hardware and software,” identified by one-seventh of the survey respondents (15.2 percent) as the single most important IT challenge for their college.

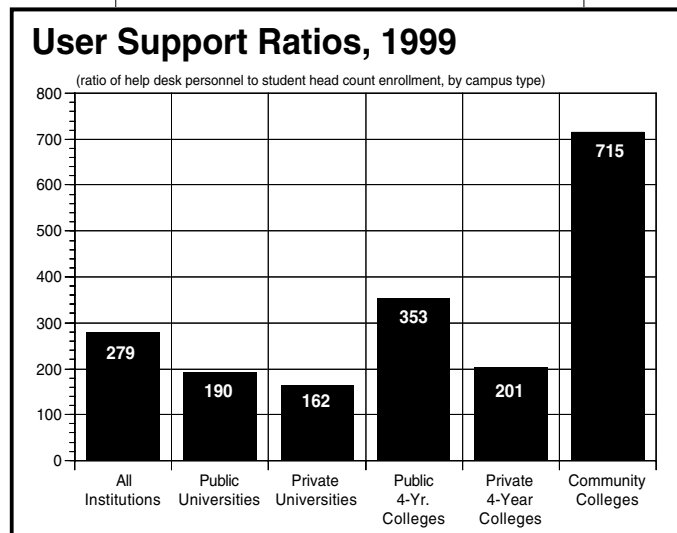
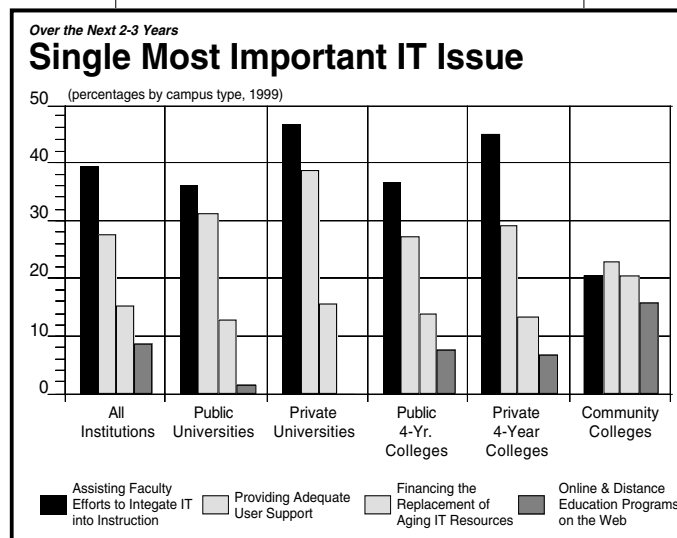
“The survey data document the growing campus

awareness that the key IT challenges in higher education involve people, not products,” says Kenneth C. Green, founder/director of The Campus Computing Project and a

visiting scholar at The Center for Educational Studies of Claremont Graduate University in Claremont, CA. “Two decades after the first desktop computers arrived on college campuses, we have

come to recognize that the campus community’s major technology challenges involve human factors – assisting students and faculty to make effective use of new technologies in ways that support teaching, learning, instruction and scholarship.” Green adds that for many institutions “user support and instructional integration are the flip side of the same coin” – complementary components of the broad challenge that involves the effective use of new technologies in teaching, learning, and scholarship.

Green observes that “despite some dire predictions on both sides of the issue, the real future of technology in higher education is not about a winner-take-all competition between high touch and high tech. Rather, what’s ahead for most faculty and most students is some kind of hybrid learning experience in which technology supplements, not supplants, both the con-



tent and the discourse that have been part of the traditional experience of going to college.”

IT Staffing and Infrastructure

Staffing concerns compound the challenge of providing adequate user support. The 1999 Campus Computing Survey data reveal that user support levels in two- and four-year colleges and universities are well below those found in organizations and corporations of similar size and technological complexity. For example, the widely accepted user support guidelines promoted by the Gartner Group, an IT industry research organization, generally recommend one IT support person for every 50-75 users. In contrast, the user support ratio at US colleges

and universities averages anywhere from some 160 student users to a single IT support person at private research universities to more than a 700:1 ratio in community colleges.

Moreover, survey respondents across all sectors rank user support *below* other key components of the campus IT infrastructure such as data networks, telecommunications systems, and online library resources. Says Green, “these data suggest that survey respondents believe their institutions are probably performing ‘okay’, at best, in their efforts to address user support issues. Yet ‘okay’ may be barely adequate in light of exploding demand from students, faculty, staff and administrators.”

The user support data highlight another key concern among survey respondents, training and retaining IT staff. These are two critical strategic issues across all sectors of higher education. Both issues receive ratings of 6.2 on a 7 point scale (1=not important; 7=very important). Green reports “colleges find it increasingly difficult to recruit

and retain IT staff, in part because campuses may pay one-fifth to one-third below the going rate for IT people in business and industry.” He observes that “while the growth of the Internet economy has led some students to think about creat-

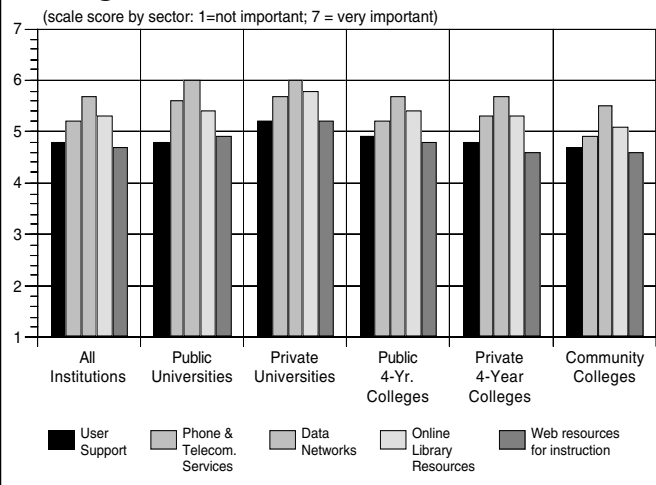
More IT in the Curriculum

Not surprisingly, the 1999 survey data reveal that more college courses are using more technology resources. Over half (53.4 percent) of all college courses make use of electronic mail, up from 44.0 percent in 1998 and 20.1 percent in 1995. Similarly, the percentage of college courses using Web resources in the syllabus rose from 10.9 in 1995 and 33.1 percent in 1998 to 38.6 percent in 1999. More than one-fourth of all college courses (28.1 percent) have a Web page, compared to 22.5 percent in 1998 and 9.2 percent in 1996. Concurrently, the 1999 Campus Computing Survey data reveal that about one-fifth of college faculty (19 percent) maintain a personal Web page, one not linked to any specific class or course.

Campus Services on the Web

This year’s survey also reveals that more institutions are providing more services via the World Wide Web: more than two-thirds (70.2 percent)

Rating the IT Infrastructure



ing new businesses on the World Wide Web, it has also led many companies – new and established, large and small – to raid college campuses for technology talent. Unfortunately, this is a costly competition that many colleges are losing.”

THE CAMPUS COMPUTING PROJECT

Begun in 1990, the Campus Computing Project focuses on the use of information technology in higher education. The project’s national studies draw on qualitative and quantitative data to help inform faculty, campus administrators, and others interested in the use of information technology in American colleges and universities.

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of the institutions in the 1999 survey provide online undergraduate applications on their Web sites, up from 55.4 percent in 1998. Three-fourths (76.9 percent) make the course catalog available online, compared to 65.2 percent last year. Library-based course reserves readings are available on the Web at one-fourth of the institutions (24.6 percent), up from 17.9 percent in 1998. And almost half (45.4 percent) of the participants in the 1999 Campus Computing Survey report that their institution currently offers one or more full college courses online via the Internet and the World Wide Web.

Electronic Commerce

However, one Web-based service that appears late arriving in higher education is electronic commerce: only 8.4 percent of the institutions participating in the 1999 Campus Computing Survey report e-commerce capacity via their campus Web sites, up from 5.1 percent in 1998. Concurrently, only 4.3 percent of colleges and universities report that they have a strategic plan for electronic commerce.

“Growing numbers of students, faculty, and consumers now routinely purchase books, music, clothing, and other goods and services via the Internet. Yet the 1999 survey data confirm that compared to other sectors of the economy, colleges have been slow to develop a capacity for electronic commerce,” states Green. “At the end of the day, e-commerce in higher education involves more than permitting prospective students to pay application fees or assisting alumni to order logo attire on the campus Web sites. Rather, e-commerce involves a

wide range of content, product, and service issues that ultimately benefit all who participate as members of the higher education community.”

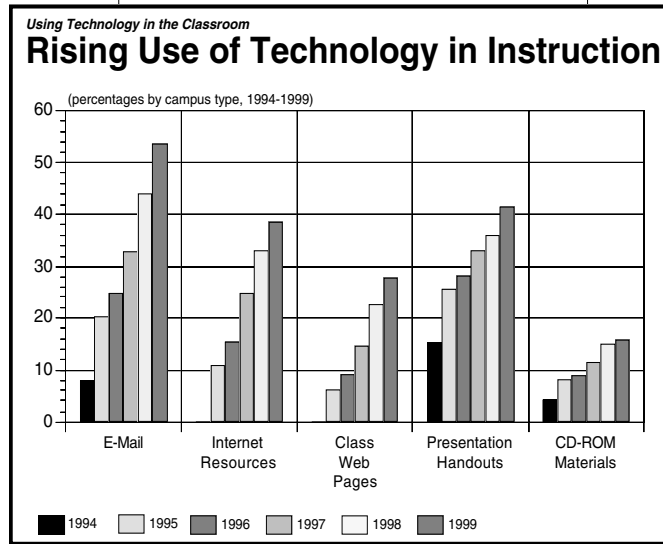
port an “acquire and retire plan” for computers and other technology products, up from 37.3 percent in 1998 and just 15.9 percent in 1990.

Green notes that “over the past decade many colleges have struggled with developing strategic and financial plans for IT. Certainly most institutions and departments are still very dependent on *budget dust*—year end money—for a significant portion of their IT spending.” He comments that while the gains over the past decade are impressive, the self-reported data may overstate the real levels of true strategic and financial planning on most college campuses. “Nonetheless,” says Green, “things are getting better as both campus officials and others off-campus recognize the importance of developing viable strategic and financial plans for information technology.”

Recognition and Reward

Most campuses have IT development programs (74.5 percent) and campus support centers (66.6 percent) to assist faculty in bringing technology resources into their courses. However, just one-seventh (13.4 percent) of colleges and universities have a formal, institutional program to recognize and reward the use of information technology as part of the faculty review process. The 1999 data show little change on these measures over the past few years.

“Campuses continue to send mixed messages to faculty about their professional engagement with information technology,” reports Green. “Recognition and reward remain essential yet widely ignored components of faculty development pro-



IT Planning

The 1999 Campus Computing Survey data suggest that more campuses are coming to terms with strategic and financial challenges presented by information technology. Fully three-

Web Site Services, by Sector

(percentages by campus type, 1999)

	Public University	Private University	Public 4-Yr. College	Private 4-Yr. College	Community College
undergraduate application	85.1	81.5	77.2	76.4	48.1
financial aid application	56.7	29.6	36.8	30.9	28.2
course catalog	88.1	85.2	86.8	71.3	70.2
course registration	61.2	48.1	40.4	17.4	19.8
degree requirements	86.6	85.2	80.7	77.0	61.1
library catalog	97.0	96.3	86.8	80.9	53.4
course reserves	43.3	59.3	27.2	27.0	5.3
academic journals	89.6	92.6	76.3	66.3	30.5
faculty/staff directory	95.5	92.6	87.7	73.6	79.4
athletic event schedule	91.0	92.6	69.3	80.3	35.9
alumni resources/services	88.1	85.2	68.4	75.8	22.9
press & media services	86.6	92.6	69.3	64.0	37.4

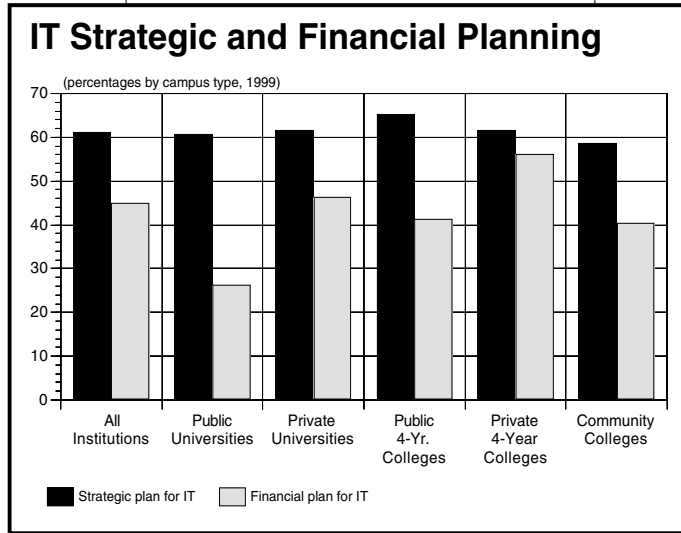
fifths of all institutions (61.0 percent) have a strategic plan for information technology, an impressive gain from the 50 percent reporting such plans in 1998. Concurrently 44.9 percent of colleges and universities now re-

grams and technology planning at most institutions: professors who invest in technology may be at risk when departments review faculty portfolios.”

Green acknowledges that many faculty feel IT may not be appropriate for their own work. However, he states that across all sectors of higher education, “the failure of academic departments and institutions to recognize and promote faculty who invest in technology for their scholarly and instructional activities sends a chilling message about the real departmental and institutional commitment

to integrate technology into instruction and scholarship.”

Begun in 1990, the Campus Computing Project is the largest continuing study of information technology in American higher education. The 1999 survey data were provided by campus officials, typically the senior technology officer, at 530 two- and four-year public and private colleges and universities across the United States. Survey participants completed the questionnaire during the summer and fall of 1999.



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