THE CAMPUS COMPUTING PROJECT

The 1996 National Survey of Information Technology in Higher Education

Instructional Integration and User Support Present Continuing Technology Challenges

Instructional integration and user support are the two most important information technology issues confronting American colleges and universities over the next two-three years, according to the 1996 Campus Computing Survey, a national study of the use of information technology in higher education.

Just over one-fourth (27.3 percent) of the 660 institutional respondents to the 1996 Campus Computing Survey identify "assisting faculty integrate technology into instruction" as the "single most important" information technology issue at their institution in the coming years. Another fourth (24.1 percent) report that "providing adequate user support" is the top technology challenge confronting their campus. Still important but less frequently cited technology issues include "enhancing/expanding the campus network" (17.6 percent) and "financing the replacement of aging hardware and software" (17.4 percent).

"In virtually all sectors of the economy—schools, colleges, homes, and the workplace — computers and information technology have made the transition from the unique to the ubiquitous.

Consequently, colleges confront growing expectations from students across all disciplines that technology will be part of the learning and instructional experience," says Kenneth C. Green, director of the study and a

Over the Next 2-3 Years
Single Most Important Technology Issue
(percentages, by campus type)

Legend:
- Assisting Faculty Integrate IT into Instruction
- Providing Adequate User Support
- Expanding/Enhancing the Campus Network
- Financing the Replacement of Aging IT Resources

Strategic and Financial Planning
(percentage of campuses reporting a strategic or financial plan for technology, by campus type)

Legend:
- Strategic Plan for the Use of Information Technology
- Financial Plan to Replace Aging Equipment & Software

visiting scholar at the Claremont Graduate School in Claremont, California. "Moreover, infrastructure fosters innovation; beyond hardware, software, and computer networks, user support is also a core element of the campus technology infrastructure. Given rising demand for and expectations about technology, it is not surprising that this year's survey respondents identify the closely linked issues of instructional integration and user support as the key technology challenges confronting their institutions."
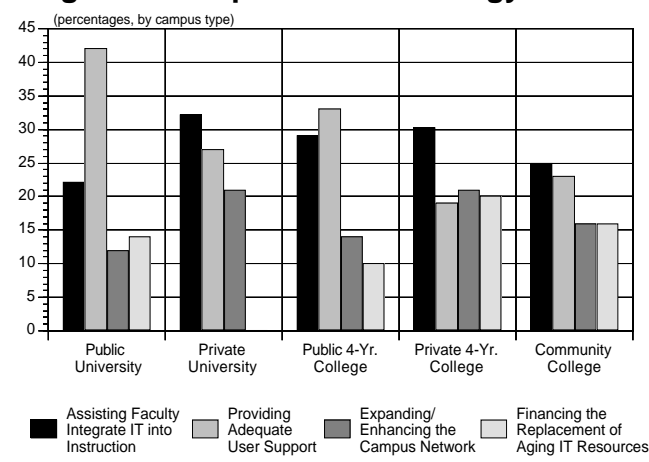
Strategic Planning

The 1996 survey also reveals that less than half (43.4 percent) of American colleges and universities have a strategic plan that describes institutional goals, objectives, or implementation priorities for the role of information technology (IT) in instruction and scholarship. As noted in past survey reports, few American colleges and universities have a financial plan to address the continuing problem of "acquiring and retiring" computing and IT resources.
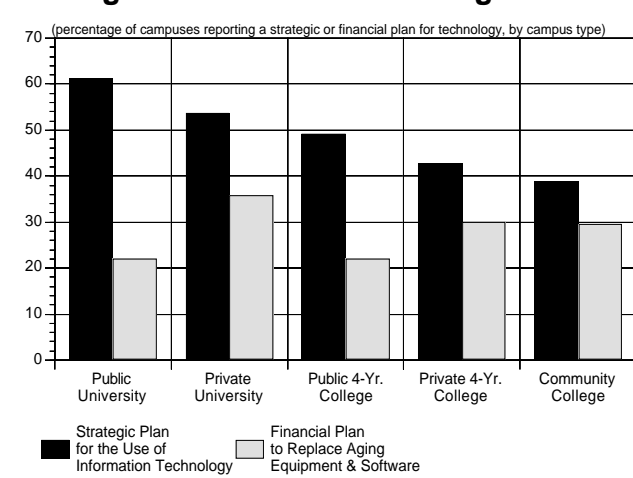
As of fall 1996, just over one-fourth (28.1 percent) of the nation's colleges report a budget model for am-

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ortizing and routinely replacing computers and software, up slightly from 22.0 percent in 1995 and 15.9 percent in 1990. But even with these recent gains, the 1996 data indicate that the vast majority of colleges and universities (71.9 percent) continue to fund most of their equipment purchases and software upgrades with one-time budget allocations or special appropriations.

"More than a decade into what some have called the 'computer revolution' in higher education, it is very clear that most campuses are still operating without a strategic or financial plan for information technology," states Green. "The survey data reflect the continuing problems colleges and universities have in developing viable plans to address their escalating technology needs. Rather than plan for the routine turnover of aging technology, the budget models employed by most campuses force institutional officials to find money rather than reserve funds."

Yet Green expects the number of campuses with strategic and financial plans to increase significantly over the next three years: "External groups will push campuses to develop a strategic plan for technology: trustees, regional accrediting associations, and professional associations will require campus officials to explain their vision for information technology in the context of institutional mission and clientele. As part of the strategic plan, campuses will also have to develop detailed financial plans that provide for the timely replacement of technology resources that are increasingly important to students, faculty, and administrators."
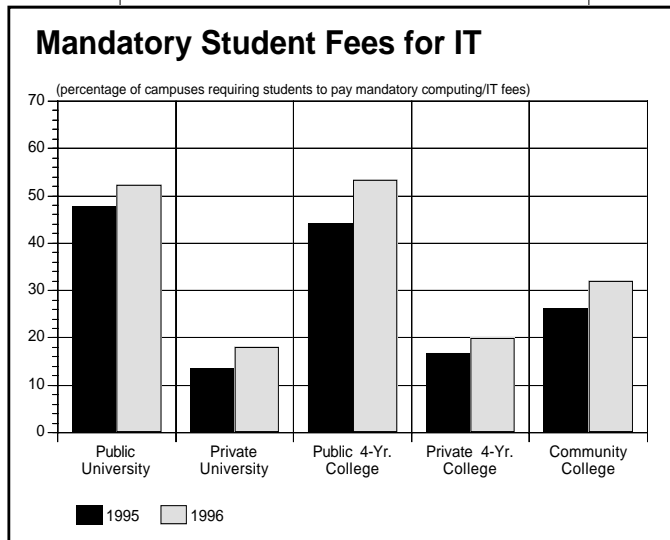
Student Fees

Growing numbers of colleges are turning to user fees as one way to manage the continuing costs of enhancing and upgrading technology resources for students. This year al-

most a third of all campuses (31.8 percent) require a student technology fee, up from 26.9 percent in 1995. Yet this number masks significant differences across sectors: in Fall 1996 more than half of the nation's public

Mandatory Student Fees for IT

(percentage of campuses requiring students to pay mandatory computing/IT fees)

1995   1996

research universities and public four-year colleges report mandatory technology fees for their students. In contrast, less than a fifth of private universities and four-year colleges have a technology fee; most private institutions apparently prefer to incorpo-

rate technology charges into tuition. Community colleges fall in the middle: about one-third (31.9 percent) currently require a technology fee from their students.

"Mandatory fees are typically spent to expand and enhance technology resources and services for students," notes Green. "Campuses try to spend this money in ways that students can see it — more and better campus computer labs and clusters, new equipment and software for existing public computer labs, and enhanced network and Internet access." The challenge, Green observes, is to retain the institutional and departmental money required to support core infrastructure needs: "Campuses that impose a student fee should use these funds to supplement, rather than replace, the institutional dollars budgeted for technology. The risk is for no net improvement in technology resources or infrastructure if the student fees begin to replace institutional dollars."

Support and Rewards

Comparatively few institutions formally recognize or reward faculty efforts to integrate technology into instruction as part of the promotion and review process. The 1996 survey reveals that 54.6 percent of the nation's colleges have some type of technology resource center intended to support the use of technology in instruction. Yet just an eighth (12.6 percent) have a formal program to recognize and reward technology efforts as a routine component of the review and promotion process.

"Review and promotion are the real test of an institutional commitment to the instructional integration of technology," says Green. "Support centers and mini-grant programs intended to promote instructional development are important. But comparatively few campuses formally recognize and reward faculty efforts to enhance their syllabi and classroom activities with technology resources."

Green notes that faculty monitor the experience of their colleagues who were "early adopters." Failing to promote or to award tenure to faculty who invest time and effort into instructional integration sends a chilling message about the campus commitment to technology integration in instruction and scholarship.

IT in the Classroom

In contrast to 1995, this year's survey points to modest rather than major gains in the proportion of college courses using various kinds of information technology resources. The percentage of college classes using electronic mail rose from 20.1 to 25.0 percent, compared to 8 percent in 1994; use of presentation handouts rose slightly to 28.4 percent from 25.7 percent in 1995 and 15.1 percent in 1994. About 9 percent of all college courses currently use WWW-based resources to support instruction, up from 6 percent in 1995.

Instructional Support and Recognition

(percentages, by campus type)

Campus Has a Technology Resource Center — Formal Program to Reward IT as Part of Promotion and Tenure Review

But other kinds of technology resources showed little or no gains: the percentage of classes using commercial courseware was almost unchanged from last year to this at 18.5 percent, as was the use of computer-based simulations (14.4 percent of all classes).

"What seems like slower growth is more likely the consolidation of past gains," says Green. Additionally, he notes that user support plays a major role in helping faculty update and enhance their courses with IT re- sources. Given what some in the campus community have called the "user support crisis" — prompted by growing demands for assistance from students and faculty, the transition to Windows 95, and the explosive growth of Internet — Green is not surprised that the pace of classroom activity may have slowed this past year.

The Internet and WWW

The 1996 survey reveals that two-thirds (67.0 percent) of all undergraduates have access to e-mail and the Internet, up from 60.0 percent in 1995. Just over three-fourths (76.5 percent) of all faculty have Internet access, reflecting virtually no change from last year.
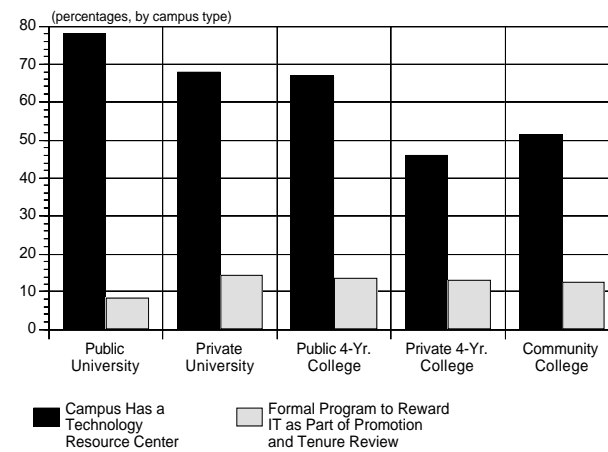
Not surprisingly, the role of the Internet and WWW continues to expand in higher education. Four-fifths (79.4 percent) of the responding campuses have an institutional WWW presence, up from 55.2 percent in 1995. Almost a third of the campuses participating in the 1996 survey (30.1 percent) report a formal campus plan for the use of the Internet and WWW in instruction (up from 24.4 percent in 1995). Over a sixth (17.5 percent) have a formal plan for the role of the Internet and WWW in distance education, up from 12.5 percent last year; well over half (56.8) have a formal plan for using the WWW in off-campus promotion (admissions, alumni activities, etc.) compared to almost two-fifths (38.1 percent) in 1995.
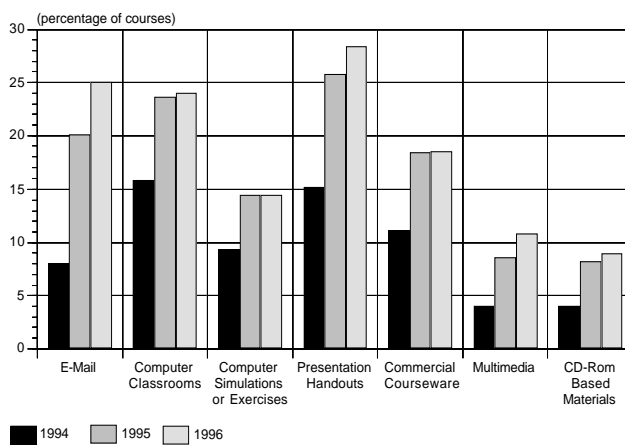
Windows 95

After some caution following the August 1995 product launch, colleges and universities have begun to recommend and support Microsoft's Windows 95 operating system. Al-

Using Technology in the Classroom

Rising Use of IT in Instruction

(percentage of courses)

1994   1995   1996

most three-fourths (73.3 percent) of the campuses participating in the 1996 Campus Computing Survey report that they support Windows 95, up from less than a quarter (23.3 percent) in fall 1995. As in the corporate sector, the year-long transition to Windows 95 reflects institutional concerns about significant migration costs: the need for new software, faster and more powerful computers, and additional demand for user training and support.
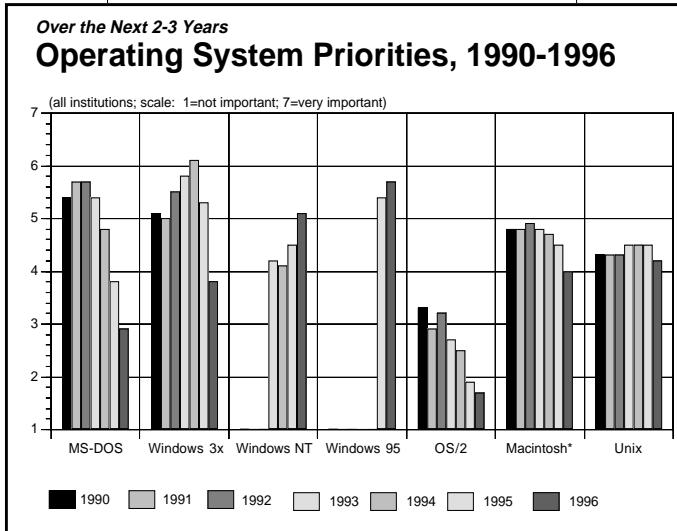
The rising institutional support for Windows 95 has not, however, significantly diminished current campus support for Apple's Macintosh platform. Just over two-thirds (69.7 percent) of the campuses in the 1996 survey report they "recommend or support" the Macintosh, down slightly from

72.8 percent in 1995. Yet looking forward, the 1996 data point to future gains for Windows 95 and possible decline for the Mac. Asked about

the importance of Windows 95 in their technology planning over the next two-three years, campus respon-

dents rate Windows 95 at 5.7 on a 7 point scale (1=not important; 7=very important), up from 5.4 in 1995. Windows NT rose to a scale score of 5.1, up from 4.5 last year. In contrast, respondents identified the "future importance" of the Macintosh at a scale score of 4.0 this year, down from 4.5 in fall 1995.

The annual Campus Computing Survey, now in its seventh year, is based on data provided by computing officials at 660 two- and four-year colleges and universities across the United States. Participating campuses completed the survey during summer 1996. Copies of the 1996 report are available for $35. (See coupon below for ordering information.)

Over the Next 2-3 Years
Operating System Priorities, 1990-1996
(all institutions; scale: 1=not important; 7=very important)

Bar chart legend: ■ 1990 ▥ 1991 ▨ 1992 ▤ 1993 ▦ 1994 ▢ 1995 ▨ 1996

Categories: MS-DOS, Windows 3x, Windows NT, Windows 95, OS/2, Macintosh*, Unix

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