THE CAMPUS COMPUTING PROJECT

The 1997 National Survey of Information Technology in Higher Education

More Technology in the Syllabus, More Campuses Impose IT Requirements and Student Fees

Electronic mail, the Internet, the World Wide Web (WWW), and multimedia are increasingly common components of the instructional experience for growing numbers of American college students, according to the 1997 Campus Computing Survey, a national study of the use of information technology in higher education. Additionally, growing numbers of campuses now have some sort of computer competency or computer instruction requirement for all their undergraduates.

The 1997 survey reveals that almost one-third (32.8 percent) of all college courses make use of e-mail, up from 25.0 percent in 1996 and 8.0 percent in 1994. Fully one-fourth (24.8 percent) of all classes draw on resources available on the Internet, compared to 15.3 percent in 1996. And more than an eighth (13.4 percent) of all college courses use some form of multimedia resources, up from 8.4 percent in 1996 and 4.0 percent in 1994.

"The survey data document what is readily apparent on college campuses across the country," says Kenneth C. Green, visiting scholar at the Center for
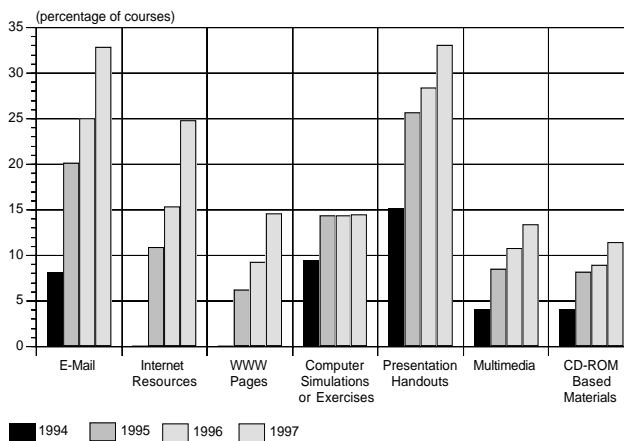
Educational Studies of the Claremont Graduate University and director of the project. "Information technology has become an increasingly important component of the instruc-

tional and learning experience, across all fields and all types of institutions."
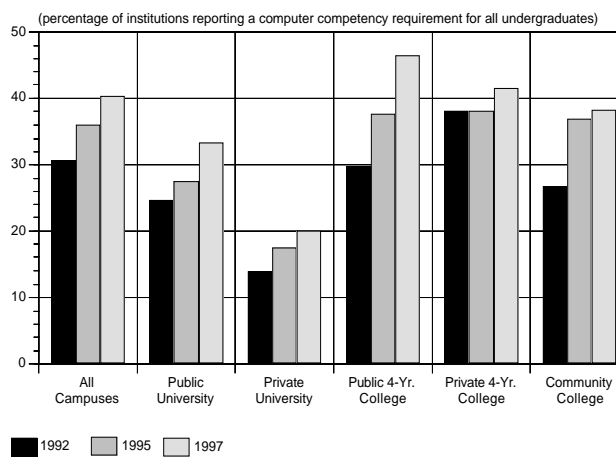
The use of technology as an instructional resource is highest in universities. However, Green observes that the gains have occurred in all types of campuses: "Although students in research universities are more likely to encounter technology in their classes than their peers in four-year colleges and community colleges, the 1997 survey data document the expanding use of IT resources across all sectors of American higher education."

This year two-fifths (40.3 percent) of the campuses participating in the annual Campus Computing Survey report having some type of computer instruction or IT competency requirement for all undergraduates, up from 33.1 percent in 1995 and 31.4 percent in 1992. Computer competency requirements are more common in four-year colleges (46.5 percent for public four-year institutions; 41.6 percent for private four-year colleges) than in public universities (33.3 percent), private universities (20.0 percent), and community colleges (39.2 percent).

Rising Use of Technology in Instruction

(percentage of courses)

Legend: 1994, 1995, 1996, 1997

Computer Competency Requirement

(percentage of institutions reporting a computer competency requirement for all undergraduates)

Legend: 1992, 1995, 1997

Despite the increased use of IT in instruction and the growing numbers of campuses imposing IT requirements on their students, the survey respondents, typically the chief academic computing officer, continue to identify "assisting faculty integrate IT into instruction" and "providing adequate user support" as the top IT challenges confronting their institutions. Almost a third (29.6 percent, up from 27.3 percent in 1996) cite "instructional integration" as the top IT challenge, while another fourth (25.0 percent) identify "user support."

Technology costs are a growing concern for more institutions: fully a fifth of the survey respondents (20.4 percent, up from 17.4 percent last year) identify "financing the replacement of aging hardware and software" as the most pressing IT issue for their campus.

Faculty Recognition and Reward

While generally eager to see more and better use of technology in instruction, comparatively few colleges or universities provide recognition or reward for faculty efforts to do so. Well over half of all institutions have IT support centers and instructional development programs. However, just one-eighth (12.2 percent) formally recognize or reward "IT as part of routine faculty review and promotion" activities.

"Faculty recognition and reward are an essential if often ignored component of technology planning on campuses across the country," says Green. "The vast majority of institutions are sending a clear if somewhat punitive message to faculty: do more with technology, but learn the skills on your own time and do it in addition to your other professorial responsibilities." The technology support centers and mini-grant programs operating at many institutions are useful, notes Green: "But faculty monitor the experiences of their col-
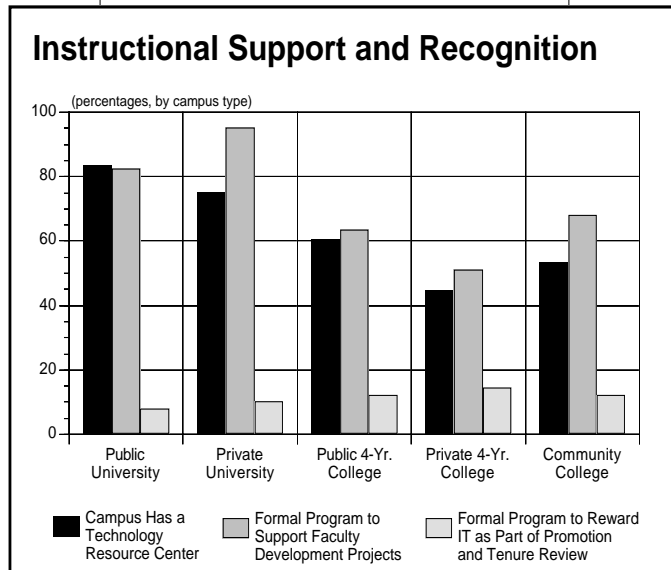
leagues. Failing to recognize and promote the instructors who invest significant time and effort to integrate technology into their teaching and

Instructional Support and Recognition

(percentages, by campus type)

leagues. Failing to recognize and promote the instructors who invest significant time and effort to integrate technology into their teaching and

syllabus sends a chilling message about the institutional commitment to IT integration in instruction and scholarship."

Internet 2

Although the Internet is clearly a critical resource for US colleges and

universities, the higher education community seems split about the importance of the Internet 2 initiative. Over half of the university respondents (54.4 percent in public research universities; 70.0 percent in private research universities) "agree" or "strongly agree" that "access to Internet 2 by Fall 1999 is essential to our long-term technology needs." In contrast, only a third of the respondents in public four-year colleges (32.0 percent), private four-year colleges (28.8 percent) and community colleges (34.7 percent) view access to Internet 2 by Fall 1999 as essential for their institution's technology plans.

Student Fees

The 1997 survey also reveals that growing numbers of institutions, particularly public colleges and universities, are charging mandatory user fees to help support the campus technology infrastructure and underwrite some of the operating costs associ-

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THE CAMPUS COMPUTING PROJECT

Begun in 1990, the annual 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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ated with academic computing. The percentage of public universities with a mandatory IT fee rose to 56.9 percent on 1997, up from 47.5 percent in 1995. Similarly the percentage of public four-year colleges with mandatory IT fees also increased to 59.4 percent in 1997, compared to 44.0 percent in 1994. A third (34.4 percent) of the nation's community colleges also impose technology fees, up from 26.0 percent in 1994. In contrast, just 15.0 percent of private research universities and 31.7 percent of private four-year colleges currently collect IT fees from their students.

Technology fees are highest for students in public universities ($140 annually) and public four-year colleges ($131). In contrast, the annual computing or IT fees average $102 for students in private universities and $112 for students in public four-year colleges. In community colleges the IT fee averages about $55 annually for a full-time student.

Financial and Strategic Planning

Even with the additional revenue generated by student fees, institutions continue to struggle with financial planning for IT costs. Less than a third (28.9 percent) of the campuses participating in the 1997 Campus Computing Survey report a working financial plan for IT, virtually unchanged from 1996 (28.1 percent), although up from 15.9 percent in 1990. The vast majority of US colleges and universities (70.1 percent) continue to fund most of their equipment, network, and software expenses with one-time budget allocations or special appropriations. Moreover, the majority of colleges and universities (51.6 percent) continue to operate without a strategic plan for information technology.

"Clearly colleges and universities are having a difficult time managing the financial dimensions of information technology," says Green. "The

Mandatory Student Fees for IT

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

Legend: ■ 1995 ■ 1996 ■ 1997 ($=average annual IT fee for a full-time student, Fall 1997)

revenue from student charges provides some help. But student fees do not resolve the long-term financial planning issues that confront virtually all institutions, specifically de-

Financial Plan for IT

(percentages, by campus type)

Legend: ■ 1990 ■ 1991 ■ 1992 ■ 1993 ■ 1994 ■ 1995 ■ 1996 ■ 1997

veloping and funding budget models that recognize the short 'working life' of critical IT resources."

Green adds that "campus officials must avoid the temptation to use the student fees to supplant, rather than supplement the institutional investment in IT." He notes that this is a particularly pressing issue for public

institutions, as state officials may be tempted to reallocate technology dollars for other purposes, similar to the way campuses too often raid the library's book budget when money is tight. "Other infrastructure costs—computer networks, user support services, software and content licenses, computer labs and instructional classrooms—are key components of the campus technology infrastructure and need more than just student fees to be viable and reliable," says Green.
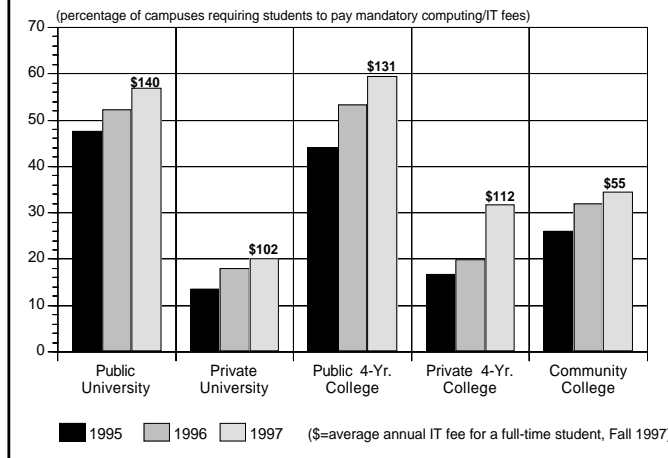
Software Standards

Most institutions operate as multivendor environments in the area of hardware and operating systems. However, many institutions have decided to support "only one" software product in key application categories. For example, more than half the institutions responding to the 1997 Campus Computing Survey report a campus standard for word processing (57.5 percent), application suites (60.0 percent), and Internet browsers (65.0 percent). Not surprisingly, Microsoft products dominate among campuses that have set standards for word processing (Microsoft Word; 47.3 percent) and software suites (Microsoft Office; 60.0 percent). However, the survey data also reveal that Netscape's Navigator is the preferred WWW browser on US college campuses: although 35 pecent of the institutions in the survey identify no preference on the WWW browser issues, well over half (56.1 percent) have standardized on Navigator.
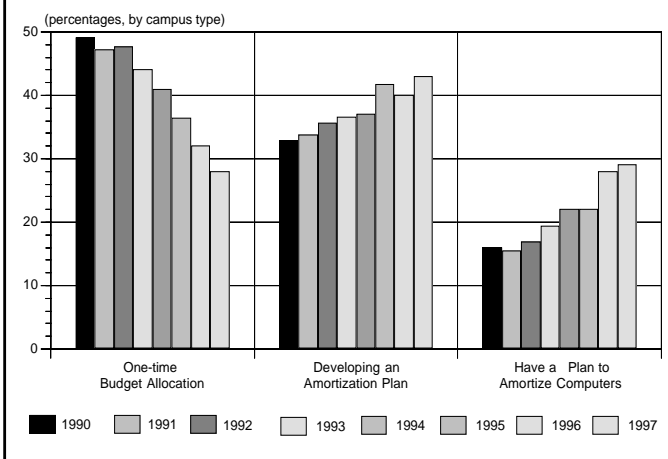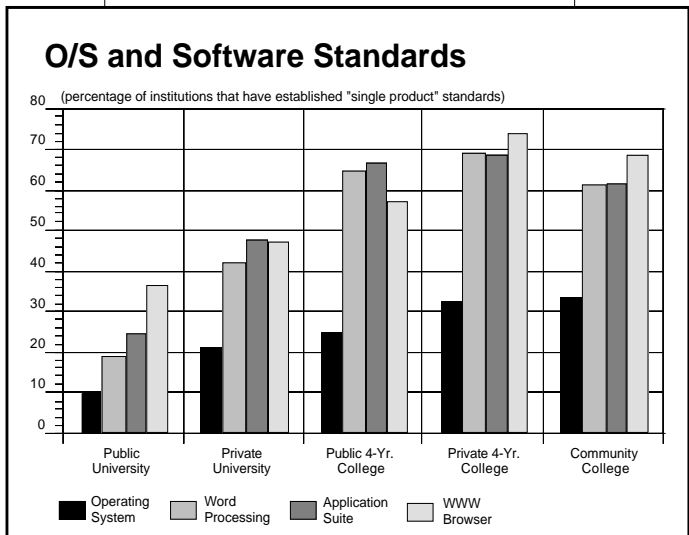
Smaller institutions appear more likely to establish standards than larger colleges or universities. For example, 80 percent of public univer-

sities and 57.9 percentage of private universities have not set standards for word processing products; in contrast, fully half of the public four-year colleges (50.5 percent) and private four-year institutions (51.9 percent) have standardized on Microsoft Word, as have almost half (47.9 percent) of the community colleges. Similarly, four-year institutions and community colleges are more likely to have standardized on Microsoft Office as the preferred "application suite," while the majority of universities have not set standards for this category of software.

"Campus standards represent, in part, the legacy of past practices as well as future assessments about dominant products and technologies," says Green. He adds that standards also reflect an effort to

simplify user support efforts, as it simply costs less to support one product rather than two or three in a

O/S and Software Standards

(percentage of institutions that have established "single product" standards)

| | Operating System | Word Processing | Application Suite | WWW Browser |

particular category, such as word processing, spreadsheets, or e-mail.

But Green comments that the history of desktop computing is littered

with shifts in standards and what seem to be dominant products and technologies. "Many faculty and administrators will recall that Word Star and later Multimate were the 'standard' word processors of the 1980s. Yet today, these products are gone, nowhere to be seen. So too, today's 'standards' may eventually be replaced by newer, better technologies and products."

The annual Campus Computing Survey, now in its eighth year, is based on data provided by officials at 605 two- and four-year colleges and universities across the United States. Participating campuses completed the survey during Summer 1997. Copies of the 1997 Campus Computing Report are available for $35 (postpaid); see coupon below for ordering information.

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