



2003 Summary Report

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Faculty and Student Computing

Section three of the core data survey captured data about campus computing support in general terms of services and infrastructure; specific support for faculty in the use of technology in teaching and learning; and student computing policy and infrastructure. Because of the increasingly widespread use of and interest in course management systems, data about these systems are highlighted separately.

Campus Computing Support

Campus IT organizations provide common support services and infrastructure in support of the academic mission. It is this service environment that both allows students and faculty to do their work and supports the instructional mission of the campus.

The first dimension of this environment has to do with the availability of technological assistance on a campus. The help desk is critical in

helping students and faculty overcome the hardware and software challenges that might interfere with their using technology in learning or research efforts. As seen in Table 3-1, the amount of support provided at different types of institution varies, with significantly more assistance available at doctoral institutions than other categories and more at MA institutions than BA or AA college campuses.

While there is much discussion about the need for support on an around-the-clock basis, with support available 24 × 7, the CDS data tell us that this is not common practice, occurring at only 5% of ALL institutions that have help desks. There was a change in the questionnaire in 2003, allowing respondents to indicate that they did not have a help desk, and this new option was reported by 5.2% of ALL institutions. No notable changes were observed between 2002 and 2003 with regard to help desk availability.

Table 3-1
Help Desk Availability

	ALL	DR	MA	BA	AA	OTHER
Mean hours/week help desk is available at campuses with a help desk*	69.2	83.5	70.0	62.6	60.1	66.5
Percentage of campuses with a help desk that have 24 × 7 support*	5.0%	13.6%	3.2%	1.9%	0.8%	5.4%
Percentage of all responding campuses that have no help desk	5.2%	0.6%	2.2%	6.0%	11.1%	8.9%
* N = 779						

Table 3-2
Percentage of Institutions That Issue E-Mail Accounts to All Students

	ALL	DR	MA	BA	AA	OTHER
Yes	87.6%	93.3%	93.8%	95.8%	60.4%	89.4%
No	12.4%	6.7%	6.2%	4.2%	39.6%	10.6%

Table 3-3
Policy on Offering Universal Student E-Mail

	ALL	DR	MA	BA	AA	OTHER
Never offered	6.6%	0.0%	2.2%	0.0%	28.5%	6.5%
Offered with no plans to discontinue	89.4%	98.2%	96.0%	96.4%	60.4%	90.2%
Offered but considering discontinuing	1.3%	0.6%	0.9%	1.8%	2.8%	0.8%
Already stopped offering	2.7%	1.2%	0.9%	1.8%	8.3%	2.4%

A second dimension of campus support has to do with the availability of e-mail, specifically whether or not students are issued e-mail accounts for the purpose of receiving official campus communications. The ubiquity of e-mail access is important to understand, as this determines whether or not faculty and/or administrators can count on being able to reach all students in a particular class or all students on campus to inform them of policies, events, and so forth.

As seen in Table 3-2, the practice of providing all students an e-mail account is very common, reported by about 88% of ALL respondents, and fairly consistent for all Carnegie groups except for AA colleges, about 60% of which reported this practice. This latter finding is probably due to the nature of these institutions, most of which are community colleges that serve diverse populations, almost all of whom are commuter students and who are not necessarily long-term attendees of the institution. In looking at the schools that completed both the 2002 and 2003 surveys, we noted a significant increase in this access among ALL institutions, with the average up about 3% since last year.

Because of the number of students who already have e-mail accounts when they arrive on campus, some campuses have stopped offering universal e-mail accounts. The data in Table 3-3 help us understand what is happening with regard to such access, interpret the data in the previous table, and identify patterns in the different strategies used by different types of institution.

Campus policies on providing universal student e-mail differ significantly across Carnegie classes, but overall more than 90% of respondents offer this access. No doctoral or BA schools reported that universal student e-mail was never offered, and this was the case among nearly all responding MA institutions as well. In addition, 96% of MA schools indicated that universal student e-mail is offered with no plans to discontinue this practice.

The percentage of ALL institutions responding to both surveys that reported never offering universal student e-mail significantly decreased from 2002 to 2003, as did the percentage that reported they offer it but are considering discontinuing it. In addition, the percentage that reported universal student e-mail is offered with no plans to discontinue the

Table 3-4
Mean Percentage of Classrooms Equipped with Various Technologies

	ALL	DR	MA	BA	AA	OTHER
Wired Internet connectivity	84.3%	78.3%	88.3%	89.2%	87.5%	74.7%
Wireless Internet connectivity	26.2%	30.6%	28.5%	25.3%	22.2%	22.1%
LCD projectors	45.5%	41.0%	47.3%	44.8%	43.4%	51.6%
Computers	37.2%	26.8%	38.6%	39.9%	41.5%	39.9%
Televisions	32.6%	21.3%	36.4%	32.6%	39.5%	32.2%
Smart boards	3.6%	2.2%	4.1%	3.1%	4.5%	4.0%
Document projectors/systems/cameras	15.8%	14.0%	16.3%	14.2%	14.3%	21.0%

service significantly increased, especially among AA colleges, which on the whole offer much more limited access to start with.

The last dimension of general campus support is the extent to which technology is available in classrooms so that faculty and students can use electronic means for learning in their in-class experiences. The results appear in Table 3-4.

The percentage of campuses with classrooms equipped with wired Internet connectivity differed significantly as a function of Carnegie class, with MA, BA, and AA institutions all reporting significantly higher percentages of classrooms equipped with wired Internet connectivity than doctoral and OTHER institutions. One likely explanation for the smaller percentage of wired classrooms in doctoral institutions is that they usually have very large inventories of classrooms, so even though in absolute terms they probably have far more classrooms with this capability than other types of institutions, the percentage of such classrooms is smaller. Comparing last year's and this year's survey results for the schools that completed both, wired Internet connectivity increased significantly among ALL and OTHER institutions.

While doctoral institutions reported a lower percentage of wired classrooms, they also reported the highest percentage of classrooms with wireless connectivity (about 30%). The

percentage of classrooms reported to be equipped with wireless Internet connectivity increased significantly from 2002 to 2003 for schools completing both surveys, with significant increases across all groups.

A difference across Carnegie groups for this year's survey was found with computer projection. OTHER schools reported the highest percentage, on average, for LCD projectors, which was significantly greater than those reported by DR and AA schools. In addition, MA institutions reported a higher percentage than DR schools. Overall, there was a significant increase (about 6%) over last year in the percentage of classrooms with projection.

The percentage of classrooms equipped with computers was significantly lower on doctoral campuses as compared to all other Carnegie groups, as was the percentage equipped with televisions. The percentage of classrooms equipped with computers also increased from 2002 to 2003 by about 4% for institutions responding to both surveys.

Two new classroom technologies were added to the choices on the 2003 survey: smart boards and document projectors/systems/cameras. Doctoral institutions reported the lowest percentage of classrooms equipped with smart boards, and schools in the OTHER category reported a notably higher percentage of classrooms equipped with document technology.

Table 3-5
How Faculty Are Supported in the Use of Technology in Teaching and Learning

	ALL	DR	MA	BA	AA	OTHER
Designated instructional technology center	70.4%	86.5%	72.4%	52.1%	72.2%	68.3%
Faculty teaching/excellence center that works with IT	51.9%	62.6%	57.3%	31.7%	56.9%	49.6%
Instructional designers who work with technologists	53.8%	74.2%	54.2%	30.5%	53.5%	57.7%
Instructional technologists who are discipline specialists	17.9%	28.8%	14.2%	16.8%	13.9%	16.3%
Intensive support for faculty using technology	49.3%	50.9%	52.9%	47.9%	47.2%	44.7%
Faculty training through scheduled seminars	86.3%	93.9%	88.4%	83.2%	87.5%	74.8%
Faculty training on request	91.7%	92.0%	96.0%	91.6%	93.8%	81.3%
Activities for faculty to share innovative ideas	70.9%	85.3%	77.8%	65.9%	64.6%	53.7%
Special grants/awards for faculty using technology	31.4%	36.2%	37.8%	29.3%	28.5%	19.5%

Faculty Support

If e-learning is going to become a reality in higher education, the extent of support provided for faculty to learn about and incorporate electronic capabilities into their courses will be a key factor in this transformation. Table 3-5 summarizes the data about a number of dimensions of faculty support, once again examining these across the Carnegie groups and showing differences associated with the nature of the campus.

Most types of support reported for faculty use of technology in teaching and learning differed significantly by Carnegie class. Doctoral institutions reported greater use than other groups of all but three practices: intensive support for faculty who are heavy users of technology, faculty training upon request, and special grants or awards for faculty using technology. A slightly higher percentage of MA colleges than doctoral institutions reported using these three methods. BA colleges reported using a designated instructional technology center, a faculty teaching/excellence center that works with IT, and instructional designers who work with technologists at much lower rates than did the other groups.

Offering faculty training through scheduled seminars or upon request, activities for faculty to share innovative technology uses, and special grants or awards for faculty using technology were reported least by OTHER campuses. However, even among this group, approximately three fourths of schools offer faculty training through scheduled seminars, and more than 80% do this upon request. These two means of supporting faculty in the use of technology were the most commonly reported overall, with more than 86% and 91% of ALL campuses offering these services, respectively.

Employing instructional technologists who are discipline specialists was reported least, with only about 18% of ALL responding institutions employing this strategy. However, nearly 30% of doctoral schools reported this practice. Offering grants or awards to faculty to support innovative use of technology in teaching and learning was the second least reported strategy, with fewer than one-third of ALL responding institutions employing this practice.

In comparing the 2002 and 2003 data sets, the use of the following faculty support practices increased significantly over the past year: a designated instructional technology center,

Table 3-6
Percentage of Students Reported to Be Using Their Own Computers

	ALL	DR	MA	BA	AA	OTHER
Mean	63.6%	77.0%	69.4%	78.2%	29.9%	54.6%
Median	75.0%	86.0%	75.0%	80.0%	20.0%	65.0%
Minimum	0.0%	5.0%	0.0%	10.0%	0.0%	0.0%
Maximum	100.0%	100.0%	100.0%	100.0%	90.0%	100.0%

Table 3-7
**Average Percentage of Students Using Their Own Computers
 by Institutional Control**

	ALL	DR	MA	BA	AA	OTHER
Private institutions	78.4%	90.1%	75.0%	79.9%	43.3%	69.3%
Public institutions	54.4%	71.1%	64.4%	67.3%	29.7%	51.3%

activities for faculty that share innovative technology uses, the use of a faculty/teaching excellence center that works with IT, and faculty training upon request.

Student Computing

The estimated percentage of students using their own computers on campus differed significantly as a function of Carnegie class, as shown in Table 3-6. Doctoral and BA institutions did not differ significantly from each other, but both groups had a higher percentage than all of the other groups. In addition, the percentage of students reported to be using their own computers on MA campuses was significantly greater than for AA and OTHER colleges. A notable finding is the significant increase overall in student ownership from 2002 to 2003 among institutions for which data are available for both years, with the mean increasing from 53% to 65% and the median increasing from 60% to 75%. This trend was observed and was statistically significant for every Carnegie group within the subset of schools that completed both surveys.

While some of the differences in student computer ownership can probably be attributed to coursework demands that would require a computer, there may well be another factor working here. When the percentage of student ownership is examined in terms of institutional control—that is, public versus pri-

vate institutions—a very strong and statistically significant pattern emerges, as seen in Table 3-7. At private institutions, there is approximately a 24% greater level of student ownership than at public institutions for ALL institutions. If a student is attending a private institution, there is some correlation with his or her relative affluence, even when financial aid is factored out, and hence there is probably greater means to afford the technology than a student who is commuting from home to the nearby public institution. This finding, along with an assumption that a digital divide still persists on any campus, be it private or public, supports the premise that public access to computers needs to continue to be offered or some students will be disadvantaged in using technology effectively in the pursuit of their academic goals.

Campuses vary greatly as to their requirements and expectations regarding student access to technology, as shown in Table 3-8. Only about 15% of doctoral institutions do not have any requirements or recommendations about personal computers, whereas more than 82% of AA colleges do not have such guidelines; intermediate percentages were observed among MA, BA, and OTHER institutions. Nearly 40% of doctoral institutions have policies requiring students in general or in some departments to buy or lease a PC. The percentage of schools recommending PC buying or leasing for all students,

Table 3-8
Policies on Student Computer Requirements

	ALL	DR	MA	BA	AA	OTHER
All students are provided a PC	3.0%	0.6%	2.2%	6.0%	0.0%	7.3%
Students in general required to buy/lease PCs	3.2%	6.1%	2.2%	1.2%	1.4%	5.7%
Students in some departments required to buy/lease PCs	12.9%	33.1%	8.4%	3.6%	8.3%	12.2%
PC buy/lease recommended but not required for all students	31.3%	32.5%	43.1%	49.7%	0.7%	18.7%
PC buy/lease recommended but not required in some departments	7.7%	11.7%	6.7%	4.8%	5.6%	10.6%
No requirements or recommendations about PCs	40.3%	15.3%	34.2%	34.1%	82.6%	43.1%
Other	1.7%	0.6%	3.1%	0.6%	1.4%	2.4%

Table 3-9
High-Speed Network Connections Offered in Residence Halls

	ALL	DR	MA	BA	AA	OTHER
Yes	76.2%	98.8%	92.4%	97.0%	10.4%	65.9%
No	3.3%	0.0%	1.3%	0.0%	9.7%	8.1%
No residence halls	20.5%	1.2%	6.3%	3.0%	79.9%	26.0%

but not requiring it, was highest among BA colleges, with approximately half of these schools reporting such a policy. Just over 43% of MA colleges and about one-third of doctoral schools reported endorsing this policy, which was virtually nonexistent among AA colleges.

The practice of providing all students with a personal computer is overall uncommon. It is rare at doctoral and MA institutions and nonexistent at AA colleges that responded to our survey. All students are provided a PC at 6% of the BA colleges and 7.3% of the OTHER schools in our CDS data set.

Looking at the subset of ALL schools that completed both surveys, we found that the percentage of institutions that have no requirements or recommendations about PCs decreased significantly from 2002 to 2003, while the percentage of institutions at which students in some departments are required to buy or lease PCs increased.

Another dimension of student computing addressed by the CDS survey was the level of support provided in the residence halls that

house undergraduate students. As seen in Table 3-9, more than 92% of BA, MA, and doctoral institutions reported providing high-speed network access in the residence halls, while only 65.9% of OTHER schools did so. Only 10.4% of AA colleges reported offering this access, but this number is distorted because nearly 80% of the schools in this group reported not having residence halls. Even so, of the AA colleges with residence halls, only about 52% reported providing high-speed network access (see Table 3-10). Nearly all schools offering high-speed network connectivity in residence halls, regardless of Carnegie class, use primarily Ethernet connections, and the speeds of connectivity reported are also consistent across types of schools, as seen in Tables 3-11 and 3-12.

Course Management Systems

A final discussion about student and faculty computing relates to the use of course management systems. The analysis here focuses on use and patterns of deployment, while a discussion of the actual systems in use can be

Table 3-10
High-Speed Network Connections Offered in Residence Halls
for Institutions with Residence Halls

	ALL*	DR	MA	BA	AA	OTHER
Yes	95.9%	100.0%	98.6%	100.0%	51.7%	89.0%
No	4.1%	0.0%	1.4%	0.0%	48.3%	11.0%
* N=653						

Table 3-11
Primary Technology of Network Connections
for Institutions Offering High-Speed Connectivity in Residence Halls

	ALL*	DR	MA	BA	AA	OTHER
Ethernet	93.9%	94.4%	94.2%	95.7%	80.0%	91.4%
Cable modem	1.1%	1.9%	1.4%	0.0%	0.0%	1.2%
DSL	1.0%	1.2%	0.0%	0.0%	6.7%	3.7%
Wireless	2.9%	1.9%	2.9%	3.1%	13.3%	2.5%
Other	1.1%	0.6%	1.4%	1.2%	0.0%	1.2%
* N=626						

Table 3-12
Speed of Residence-Hall Network Connections
for Institutions Offering High-Speed Connectivity in Residence Halls

	ALL*	DR	MA	BA	AA	OTHER
10 Mbps	27.2%	36.6%	24.2%	20.4%	13.3%	32.1%
10–11 Mbps	3.7%	3.7%	2.9%	3.1%	20.0%	3.7%
10/100 Mbps	45.7%	43.5%	46.4%	53.1%	40.0%	34.6%
100 Mbps	20.8%	14.9%	23.7%	22.2%	20.0%	22.2%
> 100 Mbps	2.7%	1.2%	2.9%	1.2%	6.7%	7.4%
* N=626						

found in Section Five of this summary report.

As illustrated in Table 3-13, more than 90% of ALL responding campuses reported using a course management system. Only 2.8% of ALL respondents have not deployed such a system and do not have plans to do so, with 1.9% planning to deploy a course management system but not having yet begun and 3.3% currently reviewing options. More than two-thirds of ALL responding campuses have implemented and support a single commercial course management system, with another 3.8% supporting a single homegrown system and 8% supporting more than one commercial system. The use of more than one commercial CMS was reported most by doctoral

institutions (13.5%) and least by BA colleges (4.2%). About 9% of ALL respondents use both homegrown and commercial systems, with more doctoral institutions reporting employing this approach. The percentage of schools that support a single commercial course management system increased significantly among ALL institutions responding to both the 2002 and 2003 surveys.

Finally, we examined the nature and extent of faculty use of course management systems, as shown in Table 3-14. At the vast majority of campuses, faculty members use these systems selectively, with only about 17% of ALL responding campuses reporting that these systems are employed for all or nearly all

Table 3-13
Course Management System Practices

	ALL	DR	MA	BA	AA	OTHER
Not deployed and no plans to deploy	2.8%	0.0%	1.3%	4.2%	4.9%	4.9%
Planning to deploy one CMS or more	1.9%	0.6%	0.9%	4.8%	1.4%	2.4%
Currently reviewing options	3.3%	1.2%	2.2%	6.0%	4.2%	3.3%
Support a single commercial CMS	68.4%	65.0%	78.2%	65.9%	70.1%	56.1%
Support more than one commercial CMS	8.0%	13.5%	5.8%	4.2%	9.7%	8.1%
Support a single homegrown CMS	3.8%	3.7%	3.6%	4.8%	0.7%	6.5%
Support more than one homegrown CMS	0.7%	0.6%	0.0%	0.0%	0.7%	3.3%
Employ hybrid approach (homegrown and commercial)	9.1%	14.1%	6.7%	6.6%	6.3%	13.8%
Other	1.9%	1.2%	1.3%	3.6%	2.1%	1.6%

Table 3-14
Faculty Use of a Course Management System

	ALL	DR	MA	BA	AA	OTHER
Employed for all or nearly all courses	16.8%	14.1%	16.4%	12.6%	16.0%	27.6%
Used selectively by faculty	77.7%	85.3%	81.8%	74.9%	77.1%	65.0%
Faculty do not use course management systems	5.5%	0.6%	1.8%	12.6%	6.9%	7.3%

courses. Among the institutions that completed both surveys, the percentage of ALL institutions that reported employing a CMS for all or nearly all courses increased significantly from

2002 to 2003, and the percentage that reported not using a CMS decreased significantly over this time period.