

Collated responses from “digital divide” survey – Bruce Vincent, Joel Smith, Karen Van Dusen:

1. Do you gather data on IT literacy or use patterns (cell phones, IM, iPods, etc.) of incoming students? Of faculty? If you do gather any data, could you share it with us?

Harvard	We gather cell phone data
Yale	No data collected on either student or faculty IT literacy. Some basic data gathered about ownership of various systems desktop/laptop, cellphone, PDA, but no real data on usage patterns per se.
Dartmouth	No. (A CS faculty member gathers ongoing data on 802.11 utilization by campus area traffic and protocols used)
Duke	<ul style="list-style-type: none"> <li>* 100% of our incoming students use iPods :-)</li> <li>* Incoming students are requested to use a web site to self report their computer skills. This information is shared with the Dean of Trinity College (undergrads) and with the Center for Instructional Technology.</li> <li>* Faculty who are creating a new course are asked to note the technology that will be used in the course.</li> </ul>
Penn State	<p>Yes. Surveys are repeated annually or close to it. Results can be found at <a href="http://tlt.its.psu.edu/surveys/survey_list.html">http://tlt.its.psu.edu/surveys/survey_list.html</a> .</p> <p>From the 2003 student survey:</p> <p>73.7% own a desktop and 32.2% own a laptop. There is an overlap of 9.2% of the students who own both, and 3.4% said that they do not own either.</p> <p>Students most likely use a cell phone to communicate with friends and family at a distance (75.6% of respondents). Other popular communication tools are Instant Messenger (72.5%), Email (71.9%), traditional telephone (44.8%), letters in the mail (16.7%), and NetPhone (0.8%). Less than one percent of students replied with some other type of communication tool (0.9%).</p> <p>Only 21% of the respondents own a Personal Digital Assistant. Of these, 46% used it for calendar information, 41% used it for address/contact information, 12% used it in the classroom to take notes, 5% used it to access the internet, and 4% used it for email. Male students and those with higher class standings were more likely to own a PDA.</p> <p>Of all respondents, 88% of the students own a cell phone. Of these students, 71% primarily for long-distance (free minutes) calls, 63%</p>

replaced all use of wired phones, 23% for emergencies only or simply infrequent usage, 17% for calendar and directory information, 8% accessed the internet with their cell phone, 6.2% take and send pictures, and 5% accessed their email. Females and CC students were more likely to own a cell phone.

When asked about their cell phone provider, the most popular companies were Verizon Wireless (40%), AT&T Wireless (34%), Sprint PCS (7%), Cingular Wireless (6%), T-Mobile (6%), and Nextel (3%). Five percent of students responded that they had another provider, the most popular named service being Cellular One (3%).

Students' per month cell phones usage varies from less than one hundred minutes per month (10%), to between 101 and 500 minutes (45%), to between 501 and 1000 (27%), and over 1000 minutes (13.4%). Four percent of students were unsure about their average usage.

Of courses with websites, 39% of students said that their instructors maintenance of a course web-site was extremely important, 32% said it was very important, 19% said it was moderately important, 6% said it was slightly important, and 5% said it was not at all important. Most students (78%) said they would still attend a class that has a course website as often as those that do not.

The majority of students (55%) said they would prefer taking a course that makes use of technology for out-of-class learning, with a reduced number of classroom meetings, as opposed to taking a course online and never going to classroom meetings (7%) or taking a course in the traditional sense where all of the instruction takes place in class (38%).

From the 2002 faculty survey:

Faculty operating system preferences:

- \* 79% of respondents preferred Windows,
- \* 16% preferred Macintosh
- \* 3% preferred Unix/Linux
- \* 2% preferred another operating system.

Use of Web based tutorials:

- \* 79% have not used Web-based tutorials in conjunction with their course(s).
- \* 12% thought tutorials helped them teach better with Assistant

	<p>professors being more likely to say that the tutorials aided the teaching process.</p> <ul style="list-style-type: none"> <li>* 8% thought tutorials had no effect.</li> </ul> <p>Number of hours spend with email:</p> <ul style="list-style-type: none"> <li>* 12% spend none</li> <li>* 77% spend 1-5 hours per week on course-related email</li> <li>* 8% spend 6-10 hours</li> <li>* 1% 11-16 or more hours</li> </ul> <p>Reasons for not using interactive video:</p> <ul style="list-style-type: none"> <li>* 56% do not use interactive video because it is not relevant to course material</li> <li>* 29% do not know how to use it</li> <li>* 7% site costs</li> <li>* 6% say the locations are not convenient</li> <li>* 2% cited other concerns.</li> </ul> <p>Usage of Personal Digital Assistants:</p> <ul style="list-style-type: none"> <li>* 77% do not own a PDA</li> <li>* 19% use a PDA for other professional purposes</li> <li>* 4% use one for their courses</li> <li>* 2% use one for other purposes</li> </ul> <p>Cell phones:</p> <ul style="list-style-type: none"> <li>* 19% have a classroom policy regarding cell phones</li> <li>* 12% have a cell phone for university business</li> <li>* 3% use one for text messaging</li> <li>* less than 1% use one for Internet connections.</li> </ul>
Princeton	No.
UT-Austin	<p>We survey current students, faculty, and staff on use of computers, the Internet, and other technology.</p> <p>In response to a question concerning usage of Instant Messaging services we found that undergraduates were the highest users at 79%, followed by graduate students, staff, and faculty at 49%, 31%, and 15% respectively. Most user were satisfied or very satisfied with this service (undergraduates, graduate students, staff, and faculty were 92%, 87%, 86%, and 83% respectively).</p> <p>In response to a question concerning usage of SmartPhone or other portable e-mail / cell phone device (BlackBerry, Kyocera, Samsung</p>

	<p>SPH, Handspring Treo, Sidekick), we found that current usage was relatively low. Percent usage for undergraduates, graduate students, staff, and faculty were 6%, 6%, 9%, and 8% respectively. In addition, for those who were not current or previous users, most had heard of this technology but had never used (undergraduates, graduate students, staff, and faculty were 76%, 81%, 74%, and 75% respectively).</p> <p>Current use of Palm OS Personal Digital Assistant (PalmPilot, Clie, Tungsten C or T3, Visor, Zire) was fairly low. Faculty were the highest users at 27%, followed by staff, graduate students, and undergraduates, at 16%, 12%, and 9% respectively. For those individuals who were not current or previous users, most had heard of this technology but had never used (faculty, staff, graduate students, and undergraduates were 58%, 67%, 70%, and 74% respectively).</p> <p>Current use of PocketPC Personal Digital Assistant (Cassiopeia, iPAQ, Genio, Jornada, Maestro) was low with faculty, staff, graduate students, and undergraduates (4%, 5%, 3%, and 3% respectively). Individuals who were not current or previous users Tended to be aware of this technology (faculty, staff, graduate students, and undergraduates were 74%, 72%, 75%, and 76% respectively).</p>
Univ. of Minnesota	We do not gather specific data on incoming students or faculty. We are aware of high-level trends through the help-desk call categorization and high-level purchasing data.
Univ. of Michigan	<p>Central IT: Annual surveys:  <a href="http://carat.umich.edu/carat/itsurs/student_surveys">http://carat.umich.edu/carat/itsurs/student_surveys</a>  2004 survey of residence hall students (attached file: HousingSurveyFreshCharts.xls); Law School survey (attached file: LawClubSurveyCharts.xls)</p> <p>Business School: 1. We don't officially gather this information anymore. We used to collect data on student laptop ownership during orientation, but the number is now close to 95% for MBAs, so we stopped asking.</p>
Univ. of Colorado	We have done so occasionally, but don't have anything recent (except for % of students owning computers and desktop/laptop distribution). We are about to do a survey that will get at student IT literacy, early next semester.
Univ. of Delaware	<p>The 2003 survey and summary results are at</p> <p style="text-align: center;"><a href="http://www.rdms.udel.edu/surveys/it/studentfall03/results/">http://www.rdms.udel.edu/surveys/it/studentfall03/results/</a></p> <p>The username &amp; password are survey &amp; results.</p> <p>I was particularly interested in the level of usage of iPod-like devices</p>

	<p>and we found that 28% of the early responders (2300) to the 2004 student computing survey indicated that they owned an iPod or MP3 player. However, it's premature to announce other results of this year's survey. We're still collecting data.</p> <p>If you would like to see the survey itself, it's at</p> <p><a href="http://surveys.rdms.udel.edu/it/student-f04/survey.html">http://surveys.rdms.udel.edu/it/student-f04/survey.html</a></p> <p>No password is needed if you use that URL.</p>
Columbia University	No.
Univ. of Washington	<p>We do a survey of both students and faculty every few years. We're going to do them again this spring and will be happy to share results.</p> <p>I've attached the summary of the most recent student (2002) survey we did.</p> <p>Results from the last faculty survey (2001) are at <a href="http://www.washington.edu/oea/0106.htm">http://www.washington.edu/oea/0106.htm</a></p>
Brown University	<p>We did do a survey of incoming freshmen and seniors this year. I am sharing pertinent slides with you that we used for a presentation to our advisory council. We are planning on doing a faculty survey sometime this year and want to compare newer faculty expectations with faculty who have been here longer.</p>
Georgetown University	We do not gather data explicitly.

2. Does your institution provide IT literacy instruction for students? For faculty? If so, in what ways do you offer training? What is the content? Do you think it is really necessary?

Harvard	Training for faculty as requested
Yale	<p>No mandatory or institutional IT literacy instruction for either population</p> <p>We offer instruction out of both the Library and ITS on an as needed basis to work on improvements in manipulating tools (e.g. MS Word, SPSS) or research skills (e.g. how to find a particular electronic resource at Yale).</p> <p>Some instruction is course based and therefore very topical to the</p>

	<p>course. Some is on demand as needed. We see very few instances where for example faculty are signing up to attend regularized instruction. Lots of "point contact" where one staff member gives 1-5 faculty some very practical skills based training on a specific need.</p> <p>Based on the way we do things I think it is safe to say "Yes, it is needed" because there are almost no sessions that are canned or pre-scheduled.</p>
Dartmouth	<p>Depending on how you define "literacy" we offer "first year student computer orientation" every fall. Various mini-workshops during the year. IMHO the IT literacy level is rising for everyone, esp. the students since they refresh at a faster rate than faculty or staff. Our orientation is increasingly just making people aware of the local environment, and then helping people with specific more specialized applications.</p> <p>&lt;<a href="http://www.dartmouth.edu/~rwit/">http://www.dartmouth.edu/~rwit/</a>&gt; as a form of student literacy</p>
Duke	<ul style="list-style-type: none"> <li>* A few of the graduate/professional schools (Fuqua School of Business, Law, Nursing, Environment) provide a short boot camp for their students to make sure they can access the network, navigate email, any school specific software or web sites (e.g. FuquaWorld). These orientations appear to be perceived as useful by the students.</li> <li>* Faculty members can request IT training on specific topics (e.g. Dreamweaver, Excel, etc) for their classes. These sessions are typically taught during class time. IT training staff sometimes assist students during class time while the faculty member is leading the class.</li> <li>* Open classes on popular topics (e.g. Dreamweaver and building web sites) are scheduled during the evenings for attendance by students.</li> </ul>
Penn State	<p>From our colleague who manages the above surveys:</p> <p>"PSU offers IT training on a wide variety of topics to faculty, staff, and students. Some of the training is offered in a hands-on environment, but much more training is available via web-based tutorials. We are beginning to offer "streamed" training on some topics, and we expect to do more of that in 2005. The content? It varies from introductory seminars in MS Office to desktop publishing for faculty and high-end visualization for graduate students.</p> <p>Do I think that training is necessary? Unquestionably. Only a small percentage of faculty and students are proficient with IT. Everyone</p>

	<p>can use email and a browser, but lots of faculty and students do not know how to get OS updates, virus updates, etc. They do not know how to create databases or to use research tools like Endnote."</p>
Princeton	<p>No, but this is being actively considered (both for students and faculty). Princeton applied for and was awarded a grant from the Teagle foundation to bring together a number of schools to discuss the need for IT Literacy training (although we are calling it "IT Fluency"). We do offer various kinds of IT training for faculty and staff, but this training focusses on specific IT services, not literacy per say.</p>
UT-Austin	<p>The IT surveys have been conducted by ITS in the past that gather data on types of computer usage, etc. I haven't seen any reports though on computer literacy per se. ITS Training Services provides several classes on basic computer literacy that are available for faculty, staff and students.</p> <p>From my perspective, there are still gaps between skill levels of faculty and students. Students really push the boundaries of available technology and continually strive for more functionality than there are resources to support. Faculty are more interested in making their courses more useful to students and strive for technology that integrates the variety of resources available into the learning environment.</p> <p>I have heard a few faculty members discuss that their students are IM'ing or chatting during class (laptop, computers in class, pda, cell phone). This can be as distracting to class as students whispering in the back of class or reading newspapers (or even sleeping). Instructors who engage students more actively in class discussions or activities are less likely to complain about inappropriate uses of technology. By having Internet access in the classroom, instructors can show students how to gather information and learn skills to discriminate between high and low quality sites.</p> <p>Instructors are concerned about use of computers or other technologies when it aids in cheating especially in online quizzing. They are interested in more secure testing environments and tools that simplify the administrative aspects of classroom management.</p> <p>See: &lt;<a href="http://www.utexas.edu/academic/diia/">http://www.utexas.edu/academic/diia/</a>&gt;</p> <p>We offer basic IT literacy instruction for all incoming students as part of their orientation to the University. ITS works with many colleges and departments to provide training that is catered to the specific needs of the students. In general, the training consists of two parts: an orientation to the IT resources available at the University of Texas at</p>

Austin and a group of lessons and recommendations on current security risks and policies at the University.

Students learn about the following IT resources through a short movie:

1. Electronic identifiers and passwords, including password safety.
2. UT's online portal system and online course management system.
3. How to acquire and use a UT e-mail address, including our online Webmail interface.
4. WebSpace, the personal file storage system that provides 75 megabytes of disk space to all students, faculty, and staff.
5. Internet access options at UT, including our dial-up service, our residential network, our wireless network, and our computer labs.
6. How to use our printing system.
7. BevoWare, a software package available for download at no additional cost by all registered students, faculty, and staff that includes software to protect your computer from viruses, improve the security of your connections, browse the Web, read and send e-mail, use the campus printing system and more.
8. How to get help via the ITS Help Desk and Training Team.
9. Academically priced software and site licensed software available for purchase.
10. UT's Campus Computer Store, where students, faculty and staff can purchase software, hardware, and peripherals.

The students view several brief animations individually on a computer and answer a few questions on each topic as they proceed. The topics covered are:

1. Antivirus protection.
2. Firewall protection.
3. Peer to peer application use and safety, including file sharing issues.
4. Spam handling, reduction, and safety.
5. Operating system and software updates and risks.
6. Password safety.
7. How to get additional help or information concerning computer security issues through the Information Security Office.

Finally, the students are given the opportunity to acquire their University computer accounts with assistance from the ITS Help Desk and Training Team staff. They are also allowed to visit the Web sites for the IT resources that have been covered and are provided further assistance as needed.

ITS Short Courses, hands-on computer classes taught on campus, are available throughout the semester to students, faculty, and staff at no additional charge. These classes cover a range of software including the Microsoft Office Suite, several Adobe and Macromedia products,

	<p>Web publishing, statistical software, and more.</p> <p>The new faculty are invited to attend a brief computer orientation as part of their new faculty orientation. This lecture-style presentation briefly covers the same topics as above, focusing on current hot topics. Literature is provided with URLs to encourage faculty to follow-up and learn more on their own. Additionally, ITS Training offers hands-on classes each semester exclusively to faculty on subjects such Adobe Photoshop, Macromedia Dreamweaver, and Microsoft PowerPoint. Ongoing assistance with media intended for class use is also provided by the Center for Instructional Technology.</p> <p>Students, faculty, and staff are also encouraged to register for in-depth hands-on computer training at a reduced rate offered elsewhere on campus.</p>
<p>Univ. of Minnesota</p>	<p>The University of Minnesota offers orientation for enterprise applications (portal, portfolio, web registration....etc.) to all incoming students – but presumes a level of IT literacy. Institutional application (course management, Portfolio...) orientation is available to faculty – and collegiate units provide varied levels of college-specific application training to faculty.</p>
<p>Univ. of Michigan</p>	<p>Central IT: no campus-wide centrally provided IT literacy instruction. IT Central Services provides training that is available to students (charged for):  The University Library has a faculty training program:  <a href="http://www.lib.umich.edu/exploratory/">http://www.lib.umich.edu/exploratory/</a></p> <p>Business School:  For students:  A. "Virtual" IT orientation sessions are held over the summer (we used WebEx this summer). We held 4 this summer on the topics of "basic B-School IT" and "buying a laptop". Most value is as a forum for students to ask questions. About 20-30 students "attended" each session.  B. Monthly in-person classes during the fall/winter semester on various topics. We assume students know basic MS Office, so we concentrate on advanced Excel, PowerPoint, Photoshop and MovieMaker (how to make cameras, editing, lighting, etc.) C. A student-specific helpdesk that is available 10am-7pm every day. We will help with laptop problems, answer IT questions, show them how to use various tools, etc.  D. Core Knowledge web site with movies for various, frequently asked topics.</p> <p>For faculty  A. Mostly done either in-person.</p>

	<p>B. We offer monthly classes on a variety of topics, but these are mostly attended by staff. But, faculty do show up -- just not in larger enough numbers. But, we do get their support staff in large numbers and that helps.</p>
Univ. of Colorado	<p>The only special training we offer for faculty is quite a bit higher up the value chain, a multiweek workshop for about 20 faculty, see <a href="http://www.colorado.edu/ftep/summer">www.colorado.edu/ftep/summer</a>. We experimented with a voluntary IT literacy program for students at the beginning of fall semester, targeting basics. It was a pilot so lightly publicized but even more lightly attended so the need did not appear large.</p>
Univ. of Delaware	<p>Word document describing literacy efforts</p>
Columbia University	<p>No.</p>
Univ. of Washington	<p>We provide a credit course called Fluency in Information Technology, modelled on a National Research Council report on the topic. The home page for the course is at <a href="http://www.cs.washington.edu/education/courses/cse100/">http://www.cs.washington.edu/education/courses/cse100/</a></p> <p>We also teach lots of free workshops on specific topics both for students and faculty.</p> <p>My personal opinion is that these efforts are mostly necessary as political cover - but that opinion is not universal.</p>
Brown University	<p>Not "literacy instruction" per se. CIS provides a series of courses that result in a certificate that is meant to convey competency. The Library provides courses on finding digital information, sources, etc. All of these offerings are extra-curricular and not part of the curriculum, although faculty do have specific tech and library sessions for their students when they deem it necessary.</p> <p>My thinking has changed over the years. I actually think it is necessary more today than it was a few years ago. I am sure students and faculty could use help in navigating the increasing number of digital resources that are available.</p>
Georgetown University	<p>We don't provide IT literacy instruction per se. We do have a training program that allows faculty, staff, and students to get skills in particular areas and tools (e.g. developing web sites, Advanced Powerpoint, etc.) Such a program is useful. I don't think an IT literacy program is really necessary. We do require all incoming students to take a substantive online tutorial that includes proper research methods, a full discussion of what is expected under our Honor Code and Acceptable Use Policy. This has been extremely valuable.</p>

3. Do faculty have complaints/concerns about the information technologies used by students? For example, do they want wireless networks disabled in classrooms?

Harvard	yes, from time to time. They do not like cell phones in class either-- there are lots of signs up.
Yale	Yes there are some number of faculty who are unhappy with students who use technology "inappropriately" -- including your example of some who would prefer wireless not be present, over-reliance on Google for research and even cellphones that ring in class. Hard to categorize the quantity of complaints. Best we can tell it is a small number who find it really objectionable and want us to fix it for them.
Dartmouth	There's the usual faculty expectation/fantasy among some faculty that students will be like mini-faculty scholars, but otherwise, only musings that I've heard from faculty re: use of laptops during class, over dependence on anything that turns up on a web search as authoritative, etc.
Duke	<ul style="list-style-type: none"> <li>* This varies widely. We have heard this discussed, but have never disabled wireless networks.</li> <li>* Faculty in the Law school asked students not to use laptop computers in class.</li> <li>* The general belief at Duke is that the classroom is the domain of the professor. If they choose to ban reading the campus newspaper or use of laptops in class, it is up to them.</li> </ul>
Penn State	"Faculty have lots of concerns about academic integrity, but so far we have not had a focus on wireless networks as an enabler of dishonesty. Less than 40% of PSU students have notebook computers, so we have not had complaints about students' not being "on task" in wireless classrooms. But that will come soon."
Princeton	There are some complaints about students asking faculty members to use the Blackboard LMS, centering on the fact that it involves added work for faculty (stuff that used to be done by department staff, like mimeographing, now have to be done by the faculty, by uploading documents to the LMS). Very few of our classrooms have wireless, so this has not been a major concern; the few faculty we asked about this said that the faculty member could simply ask the students to "close the laptops".
UT-Austin	I have heard a few faculty members discuss that their students are IM'ing or chatting during class (laptop, computers in class, pda, cell phone). This can be as distracting to class as students whispering in the back of class or reading newspapers (or even sleeping). Instructors who engage students more actively in class discussions or activities are less likely to complain about inappropriate uses of technology. By having Internet access in the classroom, instructors

	<p>can show students how to gather information and learn skills to discriminate between high and low quality sites.</p> <p>Instructors are concerned about use of computers or other technologies when it aids in cheating especially in online quizzing. They are interested in more secure testing environments and tools that simplify the administrative aspects of classroom management.</p> <p>See: &lt;<a href="http://www.utexas.edu/academic/diia/">http://www.utexas.edu/academic/diia/</a>&gt;</p>
Univ. of Minnesota	Faculty comments vary. Concerned comments center on cheating – not distraction or 'multi-tasking'. ;-)
Univ. of Michigan	Business School: Very infrequently. Very rare. In the past 4 years, 2 faculty have asked me to turn off the network for a class exam. One we accommodated and one we did not. Faculty *do* grumble a lot that students are using the laptops to surf the web while they teach. I know of other b-schools that are facing this problem (the famous Darden classroom network kill switch). I really think we headed this one off because our facilities are older than most, and we had wireless in here before faculty had a chance to resist (1997).
Univ. of Colorado	I've heard that concern but it doesn't seem like it has been too often. It may be more common to hear faculty who are doing moderately advanced IT things (multimedia, eg) say that the students aren't as well versed in that as they had hoped.
Univ. of Delaware	<p>An interesting publication related to IT efforts is Tapestry  <a href="http://www.udel.edu/PR/Messenger/03/4/">http://www.udel.edu/PR/Messenger/03/4/</a></p> <p>We have heard no complaints from faculty about student use of technology. Classrooms are wireless only if a college or department has provided an academic reason. Faculty do set rules about laptops, handhelds, and cell phones in their classes.</p>
Columbia University	Not really. Only in the Business school wireless has been an issue for faculty.
Univ. of Washington	Yes. We're currently in the midst of that discussion with the faculty governance folks, who really want to believe that there is a technical method for just turning it all off for students. When we point out that the real penetration in the next few years is likely to be provided by the cellular carriers and hence completely out of our control, they get upset. One of my current questions is how we advance the state of the conversation to be teaching strategies for a wired world...
Brown University	I know that we have a very few faculty who do not want students to be using computers in the classrooms, but I think that is not the norm.
Georgetown University	This has not been an issue. MBAs and Law students ubiquitously have laptops in class, Medical Students ubiquitously have PDAs. Many undergrads do bring laptops to class; many do not.