The IT Lab: It’s Not Dead Yet

One of the benefits of the EDUCAUSE Annual Conference is that it allows delegates from outside North America to compare facilities in the United States and Canada with those in their own countries. For me, an example from the 2011 conference was the session on whether there is a future for the IT “lab” in colleges and universities. The session featured three higher education institutions. Temple University had opted to invest in the TECH Center: a central facility with traditional computer rooms, a flexible working space in which students can work collaboratively, specialized facilities, and catering outlets. The building had developed into the hub of the university, with ever-increasing numbers of students passing through its doors. This situation contrasted sharply with the experience at the University of Virginia, where the bulk of the IT labs had been ripped out and replaced with flexible learning spaces or had been converted into standard teaching spaces. The small computer room that remains is used solely for the software that cannot be virtualized because of technical or license reasons. The middle ground was represented by George Mason University, which retains central IT facilities but does not plan to expand them. Instead, the university will increase its investment in virtualization as a way to deliver services to students.

What are the reasons behind the three differing approaches? The University of Virginia has 100 percent computer ownership by its student body, and of those students, 95 percent own laptops. The university is entirely residential. Given the demographic base of the student body and given the residential campus, it makes perfect sense to utilize the student-brought technology as a resource. However, Virginia retained the departmental IT labs with subject-specific software, so it did not totally close down lab-based IT facilities. Temple, on the other hand, is a city-center university. Students don't want to carry their laptops with them (and not all students own laptops). They prefer a secure on-site environment that offers them all the facilities they want and need. In between these two institutions is George Mason, a multi-campus university with students from a range of demographic backgrounds. The university's investment in further virtualization is tempered by the knowledge that not all of its students will have access to high-bandwidth broadband to accommodate the delivery of virtualized services.

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I recently visited two universities in New York City. Both still have central IT labs. Columbia University is largely campus-based but is not 100 percent residential. Central IT labs are needed so that students don't have to bring their laptops onto the campus. Likewise New York University has well-utilized central IT facilities, including specialist equipment such as video-editing suites and group working facilities and also a popular laptop-loan scheme within the main learning resource.

In the United Kingdom, student ownership of IT equipment is increasing and has reached 100 percent at some institutions. Yet even though the number of students owning their own computers at many institutions will soon be over 90 percent, the figure is much lower (in one case as low as 30%) at other institutions. So the need to provide equality of access to all students is one driver for the central provision of computing facilities. Second, in the United Kingdom there are no wholly residential institutions like the University of Virginia. The majority are located in cities and towns, and students tend not to bring their laptops onto campus. Low-cost laptops are generally quite heavy and not something a student wants to carry around, and battery life is inadequate to get through a full day. Recharging can be difficult and also means carrying a charger, adding more weight. City centers are the hubs for student social life as well, and many students will take their laptops with them as they head out for the evening, increasing the risk that a laptop will be lost or stolen. Whether tablet computers will solve many of these problems remains to be seen.

There is evidence that students use their mobile phones for some of their learning. Many students use their phones to search for resources while on the move or to generate some content as part of their coursework. Students' phones are also their information resource, and many institutions are providing mobile applications that, in addition to providing personalized information on the student's course and timetable, will provide alerts and location-specific services such as the location of the nearest bus stop and time of the next departure.

In the United Kingdom, the number of centrally provided IT workstations has actually increased in recent years. All universities are rated by their graduating students in the National Student Survey, and the results from the survey are used in many of the league tables by which universities are ranked.
includes a question on IT facilities, and although the question is open to interpretation, research has indicated that the ability to access a computer when required is one of the main reasons for a positive response. This may, in part, be responsible for the increased number of centrally provided IT workstations.

In addition, an increasing number of laptop-loan schemes are being introduced in U.K. universities. One of the first was based at Canterbury Christ Church University, which used low-end devices with solid-state disks to access virtualized student desktops. The loans were available within the new Library and Student Services building, which had been redesigned to accommodate group work as well as individual study. The laptops could be used only in the building and were freely available from racks where they would be placed to recharge. This meant that no staff were required to check the equipment in and out. Most students returned the laptops to the racks and plugged them in to recharge. Although providing equipment within a building can be managed with little staff intervention, other institutions are looking at the possibility of extending loan schemes so that equipment may be used away from the university.

The development of new facilities that blend IT and library services has been taking place in many U.K. universities over the past ten years. An early example of this was the Saltire Centre at Glasgow Caledonian University. The Saltire Centre had a café on the ground floor, large numbers of PCs, facilities for group work, and areas for silent study. The building also contained the short-loan collection from the library, which accounted for around 80 percent of loans. In addition, the Saltire Centre provided a one-stop shop for student inquiries; students could find out about topics such as their course options or financial standing in addition to IT- or library-related queries. A number of universities are now deploying one-stop shops within combined IT and library facilities.

For all the increase in the provision of central facilities, a number of U.K. institutions are looking to provide access to academic computing facilities through virtualized desktops downloaded onto student-owned equipment. The main aim of this is to provide an enhanced service to students: those who have their own equipment will be able to access central resources from their home or student residence, provided they have good network connectivity. Licensing remains a challenge to wholesale virtualization, but progress is being made.

In many U.K. institutions, the traditional central IT computing lab is not dead. Facilities like the Information Commons at the University of Sheffield are, like the TECH Center at Temple University, very well patronized by students. In the United Kingdom, one of the main drivers has been to improve facilities for students. There has been heavy investment in ensuring that much of the estate can be used flexibly—both in providing movable furniture in central facilities and in providing pervasive wireless networking to enable any area in the campus to be converted into working space, be it group or individual. Moves toward virtualization have been to enhance the central provision, not to replace it.

Students are not comfortable bringing their own laptops to and from the campus, and until all software that they use can be made available in a virtualized environment and until those devices are light enough to carry and have sufficient battery life to get through a full day of study, this is likely to remain the case. Most universities have a significant body of students who live off-campus and may not have ready access to high-speed broadband. For them, some central provision is, and will continue to be, essential.

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