

Full marks: new IT aids learning

No blackboards: colleges and schools report on how tech is transforming education



New IP system increases safety in schools

Loughborough Schools Foundation, a group of four independent schools and a nursery, with a total of just over 2,500 pupils.

Three of them share a campus: the all-boys Loughborough Grammar, founded in 1495, which has 849 pupils (and 74 boarders); Loughborough High, with 650 girls; and Fairfield Preparatory which has 506 pupils.

Loughborough Amherst School, founded in 1841 as Our Lady's Convent School, has 359 pupils; and a day nursery looks after 64 children.

The foundation had two separate phone systems and decided it needed a single product which, importantly, would provide features such as classroom lockdown, campus-wide messaging and a lock-out and lock-in function.

It also wanted a system to enable staff to more efficiently communicate with each other, pupils' families and emergency services.

An evaluation was carried out by the foundation's IT director, Richard Smeeton.

The foundation engaged Evoke Telecom, based nearby, which installed an Avaya IP system which connects more than 600 Avaya handsets in classrooms and offices in the four schools.

Now staff can communicate through traditional phones, simultaneous SMS messages, as well as through screen pops on computer terminals and broadcast messages over speakers and digital radio. The system has the ability to carry out both lockdown and lockout instantly across every campus, potentially including the ability to control electronic door locks. This is functionality that wasn't possible with the disparate mix of phone systems and handsets the Foundation was using previously. And the system has been programmed so that pupils cannot use it for external calls.

Mr Smeeton said: "Not only can we now give parents better peace of mind, but because external communication is now much more efficient, school admin staff have been reporting how much easier it is to find pupils who missed registration.

"Our IT support has also been transformed with direct contact reducing ticket numbers and resulting in faster resolution and less wasted lesson time. It is simply not acceptable that students often have more means of effective communication between them than teachers...

"Above all, we believe that student safety and effective school operations shouldn't be held back by a lack of investment."

Pictured: the £2.1m Parkin Sports Centre on the campus, designed by A+G Architects and built by Stepnell.



Online made easier thanks to update

With more than 11,000 students, Bournemouth & Poole College (BPC) is the largest provider of further education and apprenticeships in the region. Its core focus is on work skills, so that students are well placed for their chosen careers.

The college uses a free and open source learning management system called Moodle. Following student feedback, the college decided to modernise its Moodle digital learning environment (DLE) with more engaging features for both staff and students.

Although its main website carried the latest news and events students did not visit this website while accessing the DLE.

The college turned to its DLE provider CoSector – University of London to update its Moodle platform to include features such as a new learning resources section and a modern looking front end.

It also needed continued hosting and support so it could continue to be used in a variety of ways. For example, students needed to be able to upload their work from different platforms, make edits and submit it for marking within a particular timeframe. Teachers needed to be able to access work submitted from any location, at a time that suited them.

CoSector managed the migration and upgrades, ensuring all content was secure. BCP says that with all important links in one place means educators and learners can access all the key information in the same place at the same time.

Now data can be accessed at any time regardless of device and the college reports that teachers can now mark and grade student assignments – and insert comments and annotations – far more easily.

Students have simplified access to research materials and campus facilities, such as Box of Broadcasts (BOB), which allows them to watch and record TV programmes suggested by their lecturer. Information from the student union and college events is now available when students access the DLE – particularly beneficial for career opportunities, as they are notified when recruiters are to visit.

The college's technical officer, Keith Ball, reports that the upgrade aided learning during the pandemic. Some students were loaned computers and given SIM card hubs for use in rural areas without internet access.



Imperial College's data moves out of town

Imperial College London, which gained its royal charter in 1907, has its main campus in South Kensington, in Exhibition Road near the Victoria and Albert Museum.

It also has campuses in White City and Sunninghill, Berkshire, and teaching hospital throughout the capital.

There are 19,000-plus students (half postgraduates) and 8,000 staff, half of them academic. Alumni include Sir Alexander Fleming, H.G. Wells, Brian May (Queen guitarist), Peter Higgs (Higgs Boson) and Sir Roger Bannister (runner).

In addition to technology used by teachers and students in their fields of study, the college uses systems such as virtual and blended learning which means it is heavily reliant on technology.

The head of ICT service operations, Paul Jennings, said that when he joined in 2014 the college had underinvested in its data centre.

He said: "Firstly, both of our data centre facilities were situated on the same campus which gave us an obvious single point of failure".

Its data centres had already suffered from power outages, and cooling and UPS failures, and even water damage from building work – causing not only a temporary loss of service but knock-on effects to productivity and research.

Imperial faced a choice: build or buy. They knew that outsourcing to a third colocation party provided the best protection against increasing data centre complexity, cost and risk. And relocating would free expensive space for teaching and learning.

Colocation, Imperial thought, would add resilience, helping to address reliability concerns, increase and improve disaster recovery and support business continuity.

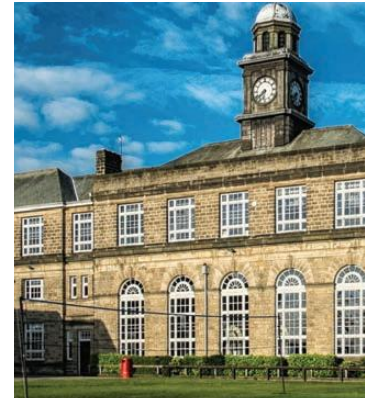
When outsourcing with multiple connectivity options, the potential for carrier failure would be reduced. And in the event of disaster, it would be the providers' job to restore the system.

Imperial contracted Virtus Data Centres and in a three-year programme is moving its data centre to a site in Slough called London4.

The facility is part of a shared research institution framework agreement, brokered through Jisc (formerly the Joint Information Systems Committee) which, says Virtus, ensures value for money.

Jisc is a Bristol-based not-for-profit company set up in 1993 to support technology in education.

London4 has another 23 university and research tenants including The Francis Crick Institute, University College London, University of Bristol and Kings College. And it has a direct connection to Janet (Joint Academic Network).



Wireless worries calmed with new kit

Harrogate Grammar School has a 1:1 learning scheme which means each of the 2,000 students has an iPad for use both within and outside the classroom.

However, the high-density use of WiFi with its previous networking equipment brought constant helpdesk requests from users frustrated at failing to gain access. Students lost valuable lesson time when it could take them up to 10 minutes to log on.

The Red Kite Learning Trust, which comprises Harrogate Grammar School and 12 other schools, contacted an IT specialist, NetProtocol, which has two facilities in Lancashire: Bury and Morley.

The trust's head of IT, David Burns, said: "Ultimately, we wanted to achieve a wired-like experience in a densely populated wireless environment. That is to say, students and staff needed to be able to access all given resources within 30 seconds of entering a classroom, anywhere on the site and at any time."

NetProtocol's wireless lead, Paul Rylett, said the first task was to model the environment: "How did the iPads operate? What applications were critical? How did they move around the site? And so on. We also performed a detailed survey... a critical part of any successful wireless deployment.

"The building is around 100 years old in places, but modern glass fronted in others – it has every type of wall material you can imagine that will affect the wireless propagation.

"We also faced environmental challenges; the school is surrounded on all sides by a densely populated residential area – as well as the largest radar station in Europe (RAF Menwith Hill) based just along the road."

Other key considerations were how to accommodate the needs of individual year groups as well as those of staff, BYOD, guest on-boarding and internal mobile devices.

NetProtocol first installed the new technology in one school block for testing before rolling it out site-wide. It uses Cloud IQ from Extreme Networks and an access point (Extreme's 305C) was placed in the centre of each classroom to handle 30-plus devices. The power of each was configured to create a coverage cell for the room and to minimise cross channel interference from other rooms.

The trust plans to roll out similar technology at a further three schools in the coming months and to another nine schools within two years.