Schools have become tech-heavy places, pretty much every student will have at least one internet enabled device in their possession, but despite all that potential, the real educational power that has been hinted at has remained mostly elusive.

The key lies in having underlying networking hardware and software that has enough capacity to cope with the amount of data required to allow the technology to really pop and schools that have invested in that infrastructure have found out just how much can be achieved.

Early last year, Camberwell Girls Grammar School (CGGS) in Melbourne bit the bullet and made a $1.1 million investment in a top-flight network, ushering in a new level of educational experience for its students.

Debbie Dunwoody, principal of CGGS, which has 800 students and two campuses in Melbourne’s inner east, says that their new infrastructure has been a win for the school in terms of the type of learning it's delivering and the way that teaching staff and professional services staff work.

It was a big investment and bold step in many ways but, that said, it has delivered, with CGGS becoming a Cisco Exemplar School, placing it among 28 similar institutions in Australia and within a global community of forward thinking tertiary and secondary schools.

‘Glocal’ best describes what is happening at CGGS, with technology bringing the remote and exotic directly into its classrooms. There's been any number of rich, virtual experiences delivered to students at the school.

"If we are to prepare our students for the future, we had to ask what were the educational experiences that we were to give them now that will help them have a much more global mindset. We really feel that these girls will be much more globally connected as they go out into the world than we were so we want them to have those experiences now so it becomes a normal part of their everyday learning and working."

"We all know that technology is a wonderful enabler of the 21st century skills of communication, collaboration, innovation and so we thought, how can we use technology to enhance our girls' learning?"

"In classrooms, computers and tablets are great for doing presentations or research or making notes, but we wanted to go a step further and use them for collaboration and creation," Mrs Dunwoody says.

"It's been a great success, we use these tools right from our beginners through to Year 12. Through the Cisco infrastructure we have an opportunity to enhance learning in different ways, one is video conferencing which has taken off at the school."

Recently, junior school students in Year 4 were studying Antarctica. Rather than reading textbooks or surfing the web they were able to have conversations directly with scientists at Casey Base station in via videoconference.

"The students were able talk with the scientists while they were standing outside and watch the icicles growing on their beards," Mrs Dunwoody says.

"It makes the learning very real and it gives them a lot of energy and inspiration to want to know more rather than being limited by what's in front of them. All of a sudden you start to see the girls asking a lot more questions, they're certainly not shy about asking questions to anyone they're having a videoconference with, and the reverse is true because the person that they're talking to can see them as well."

CGGS has found that the subjects of the videoconferences are very open to participating, the school is fortunate to have a lot of staff who have contacts with scientists doing fieldwork and many alumni who are prominent within their professions.

"Even some of the students work on establishing contact with people that they're interested in. We've had students contact authors of the novels that they're studying. We can also access a service called Centre for Interactive Learning and Collaboration (CILC) which makes videoconferences available to connect with on a range of subjects," Mrs Dunwoody says.

"The ability to videoconference has meant that there's a new level of inclusion at the school, for instance a Year 12 PE class visited the AIS in Canberra, one student wasn't able to go but by accessing WebEx through her tablet at home she was able to attend virtually."

As students become more and more comfortable with the network's capabilities, it has taken all of 18 months, the lines of
communication have opened up between them.

“We’re seeing students use our Film and Television studio to create content, sharing approaches and explanations of subject material. That’s where the valuable conversations come and that’s what we’re trying to encourage, you don’t just have to Google things or read the textbook, you can actually go and ask others.

“We’re very strong on sciences and mathematics and our Year 8 maths students have been using the network to instruct and tutor girls in the Year 6. It has become part of the way things are done at the school, part of everyday life here.”

Leah Atalalis who is in Year 9 at CGGS says that she’s been able to use the videoconferencing facility to explore her own interests in helping the disadvantaged.

“Everyone I know has been very positive about the technology, I was able to get in touch with people at The Big Issue and get involved in helping the homeless, I could talk directly to people that have found themselves in that situation and connect with the emotions that they’re experiencing,” she says.

Michael Slip Dimension Data’s General Manager of Communications Business who handled CGGS’ technology upgrade says that a networking solution should be based on a client’s vision of what it wants to do with its ICT capability.

CGGS has a system to rival anything in education or the business world. It uses Cisco’s WebEx product for videoconferencing and the Show and Share application for secure video sharing within CGGS’s local network. The CGGS system also has a video production component, which works with the students’ iPads so they can create content.

“All of this great technology should be focused on the outcome, schools should ask themselves, ‘what is our intent?’: Camberwell Girls Grammar had a very ambitious goal of not just creating a great technology suite but really were pursuing an educational mantra of preparing their students for later life through exposure to this technology.

“Once a goal has been visualised it’s a matter of putting together a business use case, how many people are going to use the system and where will they be using it? The process involves making clear what needs to be achieved and then fitting the technology around that requirement”, Michael Slip says.