ACCESS

The more tech, the bigger the divide?

ET Staff

Breaching the digital divide is more important than ever; as the amount of technology involved in education grows like topsy the opportunity for some to be left behind grows too.

If kids don't have access to the internet at home, even through mobile devices, their education is going to suffer any way you slice the cake.

"The more we enable the transition to digital learning the more the gap can be for students who don't have reliable broadband access or device access outside of the school. It goes by many names; digital equity, knowledge gap …

"There's a number of things we can do to address it, outdoor wifi coverage, community hotspots, there is no silver bullet though," says Rich Nedwich Global Director of Education at CommScope/Ruckus which makes networking hardware and software.

The consequence is teachers will set less work or allow class time for the homework to be completed, knowing they won't be able to do it when they go home. Or they may reduce the difficulty of the homework.

"It is done with the best of intentions but at the end of the day when they are competing for a job they're still going to be at a disadvantage, you really need to align education with where students need to be when they get to university or to work," Nedwich says.

"How can we open things up to make school life more collaborative, more creative, more communicative so these kids are learning skills they're going to need to succeed?"

Obviously, a good sturdy network which can grow with demand is important.

"Once you get online you can paint to the corners and get a fuller experience, it's richer, it's more immersive, it's more engaging. And it's the way kids want to learn, some kids are fine with reading books but others will say 'books are boring and if you could set it to music I'd appreciate it'.

Rich Nedwich

"Students can say; 'I want to define a project and do it myself and get creative about and not be told how to do it', it allows more of this personal style to enter in, as long as you have a framework of how the curriculum is supposed to be."

Every school will be doing digital learning to some degree but most are far from done. 'Done' looks pretty amazing, bringing together everything that connectivity has promised, a global community, a global internet of things, massive bandwidth, everything through to internet access on the bus.

All but a few schools will be a while away from achieving that; 75% have no strategies for providing off campus connectivity after school and 80% say their network is unreliable, which means for many, digital transformation has some very definite boundaries.

New Zealand has done digital learning well, focusing on rich self-guided learning but rooted within a framework and pointed towards a set of outcomes.

"It's a long process and becomes more ambitious every year. The ministry of education New Zealand standardised on Ruckus about seven years ago, after the earthquake it was a case of we have to rebuild, do we rebuild what we had or do we rebuild what we want?

"They took the opportunity to reimagine what the schools should be, how it should be run coursework everything and they built these fantastic digital learning centres. They recently upgraded their infrastructure, they're centrally managing it, securing their connection and allowing teachers to roam from site to site, there are about 2000 schools that need to be managed.

"Each school controls their own way of doing things, they're not command and control top down told you all must teach the same thing you all must teach it the same way, they're given a framework and some high-level goals for outcomes and are allowed to do what they want.

"There is a lot of talk about student personalisation and student centric learning and I think it's getting to that point. There is an effort to not only improve digital learning in the school but to towards community wide wifi access."

Five phases of digital transformation

If you want to get on the path to unlocking the real power of connectivity a good place to start is identifying where along the path to transformation you are.

Stage 1 is the most basic where stage five is aspirational and a fair way down the track for most. Stage 1 features a lab centric wired only classroom using small files/PDFs a 10/100Mbps edge and needs a 1Gbps backbone. Stage 2 involves teacher centric classrooms which are using Google docs or Office 365, it needs a 1 Gbps edge and a 10 Gbps backbone.

Stage 3 is where most will find themselves right now; student-centric classrooms, using VR, video and gaming which needs a 2.5 Gbps edge and a 10 to 40 Gbps backbone. Stage 4 is where most schools could be with some investment, the network integrates with the community allowing international collaboration and regular videoconferencing and needs a 5 Gbps edge and a 40 Gbps backbone.

Stage 5 is where most would like to be, allowing access to a global internet of things, virtual teaching, pervasive computing and requires a 5/10 Gbps edge with a 100 Gbps backbone.