St Catherine's Proserpine, photo Danny Mayson-Kinder

Heading into the [education] cloud

Townsville Catholic Diocese schools and St Columba Anglican College in Port Macquarie are early Chromebook users

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Robie Jayawardhana ICT Administrator with the Townsville Catholic Education Office and Matt Richards Director of Learning & Innovation at St Columba Anglican School in Port Macquarie are enthusiastic advocates of cloud-based education. Both cite the breadth of resources available through Google Apps; simple ICT management; equity of access; and cost as key considerations while weighing up the potential benefits against the risks of moving away from the school server and networked PC/laptops model.

Without knowledge of what the other was researching, they arrived at the same conclusion, choosing Samsung Chromebooks to launch their schools into the cloud.

"Chromebook was 'a natural' because almost every student and teacher already had a Google account," Jayawardhana says. "The government [Digital Education Revolution] funding has been good for the last five years, but that has dried up so we needed to find a 'power to the user' solution that we could afford."

He manages ICT for 31 Catholic schools in the Townsville Diocese, which together educate 11,500 primary and secondary students. Of the schools, nine secondary schools have onsite ICT staff while the primary schools are supported centrally.

Four hundred Chromebooks were delivered

Matt Richards

at the start of this year, followed by another 400 in May. The machines have been placed at 12 schools at this point. In Mount Isa, the Year 7 students at St Joseph's Primary and St Kieran's Primary have one each. At St Catherine's College in Proserpine students in Years 7 and 8 have a take-home device while Year 6 students share a trolley-based class set.

At around $300 each, Jayawardhana sees the Chromebooks as 'almost throw-away' compared to the cost of the Diocese's past investment in PCs and servers. "On a two-year plan parents will only be asked to pay $150 per year starting in Year 7. We will roll over the devices every two years if necessary but the parents commitment will not exceed $300," he says. "Provided parents and staff can see the benefit, our ambition is to achieve one-to-one for Years 7–9 within two years."

With 31 schools scattered across a huge slice of Queensland, from as far north as Ingham, west to Mount Isa and Winton, and south to Proserpine, broadband speed is vital. Jayawardhana says that he's looking for 100Kb/student at every school and is counting on the NBN roll out to make this possible. "Both the major political parties are committed to fibre services to schools. 100Kb per student means a 200MB connection in our largest school and a 10MB connection in our schools of 100 or less.

"Our ICT money will be going into bandwidth, licensing cloud services or providing a low cost option for students who don't have their own device. It won't be spent building up on-site server rooms to deliver traditional services."

Meanwhile, his immediate challenge is to find innovative professional development models. "Teachers are realising they don't have to do it alone. They can work collaboratively to create and share the resources they are using day-to-day. What is really exciting is that the tools required to create and share are now in the hands of every teacher.

"We have teachers who have discovered that they can use a Chromebook and Google Hangouts to record video lessons or conduct on-line conferences. These sessions can be made available to students or other teachers in a flipped classroom style of delivery.

"The Chromebook minimises or completely remove the need for tech support. Through the management console wireless keys, blocked sites, and bulk purchased apps can be configured once and then automatically deployed to the entire fleet of Chromebooks without the need to touch a single device."

The take up of Chromebooks in eastern states Catholic schools seems set to accelerate, with the devices currently being evaluated by CEnet, the ICT organisation supporting Catholic Diocese education networks that connect school communities across metropolitan, regional and rural NSW, Qld and the ACT. CEnet's user population includes over 330,000 K–12 students, teachers and administrative staff.

Matt Richards at St Columba Anglican School in Port Macquarie, which has 940 students in Kindergarten through Year 12, says that he couldn't wait for the Samsung Chromebook to be available in Australia. He joined the school in January last year with "carte blanche to do whatever was needed to guide the school into cloud-based education – the only proviso being 'just let's get it right'", he says.

While developing his plan for the cloud, the ICT team created 'Frankenmachines' as an interim measure, stripping out the MS operating system and other installed software in around 100 Dell laptops and PCs and installing Chrome OS as the operating system to create dedicated internet devices.

"It has been a really good way to get more life out of old machines… and save money on licencing fees too."

With the accumulated experience on his CV of computing, multimedia editing, journalism, teaching and ICT to draw on, Richards says that a major part of his role is to "help IT people to understand the implications of the internet [in education] and teachers to understand what IT people are talking about."

St Columba was the first school in Australia to have Samsung Chromebooks when its first

St Kieran's Primary Years 6 and 7 are currently sharing an old portable while the school is renovated.

"Glogster and Murally are awesome… there are so many that we've tried, like Toondoo, Glogster, Instagrok."

order for 100 machines arrived in May followed by another 100 not long after. The eventual target is around 300.

In line with the school's BYOT policy, which recognises that in the outside world students will use Macs, PCs, smart phones and tablets and should become confident users of all of these technologies, the Chromebooks are stored on trolleys and wheeled from class to class as needed.

"If we are to do justice to our students, we need to offer this diversity," Richards says while acknowledging that this adds to the complexity of managing the schools device dense network. He adds: "This is the world that they live in… education has moved past the internet age and into the learning age; we need to show them how to be a learner; how to access; how to think critically – and be good internet citizens."

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Samsung Chromebook: key features

Beautifully styled yet strongly engineered to withstand the knocks and shakes of daily use in school and at home.

Start up takes less than 10 seconds, resume is instant and battery life is up to 6 1/2 hours of continuous use.

Continuous operating system and program updating so there is no need to undertake time consuming, tedious backups, patches, data migration or reimaging. When the device is switched on, the latest version is always there.

Central web-based device management means that schools can update one Chromebook or a whole fleet with just a few clicks.

Integrates seamlessly with the Google Apps for Education (free for schools) suite of tools and services including Gmail, Calendar, and Google Docs.

Safe to share everyone gets their own personalized apps, settings, and bookmarks when they login.

Built-in virus protection Chromebooks run the first consumer operating system designed from the ground up to defend against the ongoing threat of malware and viruses. The principle of 'defense in depth' is used to provide multiple layers of protection, including sandboxing, data encryption, and verified boot.

Price: $349 RRP (education discounts available)