The digital classroom

ET's run down of current education technology

The promises that ICT has made are being kept as digital learning tools become a classroom staple.

There's no shortage of technology available but the schools that are doing it best are doing it smart, mixing and matching technology to suit their specifics and, in the process, accessing rich, involving material for their students.

On the other side of the coin, the equipment manufacturers have put a lot of thought into configuring their education offerings, keeping an eye on pricing, scalability and adaptiveness. The smarter manufacturers have also focussed on making exciting content available so users can see the technology used at its full potential.

Video conferencing

There are any number of ways video conferencing can be accessed, but Polycom's scalable solution, which it combines with strong content provision for educators is a leader. The company has seen huge growth with users liking its content partnerships with NASA, the Manhattan School of Music and locally with the Questacon National Science and Technology Centre in Canberra, Charles Sturt's Telescope and the ANU's School of Music.

Teachers have run some very ambitious programs with success. One recent standout was Abbotsleigh Girl's School's Year 6 class, which embarked on a virtual excursion to Antarctica. They were able to see and meet with New Zealand researchers at the Scott Base and experience Antarctica, virtually at first hand.

Polycom's ongoing content partnership with Reef HQ in Townsville has been another hit. Several online conferences are held each year, garnering the events a recent Berrien RESA – a US based education service provider – Teachers' Choice Award for international content providers.

The technology makes international conversations between classrooms a hassle free possibility. Polycom opens the lines of communication through a Facebook-like service; visitors can post profiles and the type of conversations that they'd like to have and suggested conference times. The possibilities there are endless.

Polycom provides a number of solutions from individual teleconferencing to connecting assembly-size audiences to each other. The spend is scalable too with many dipping their toes in initially and then building on their video conferencing capability as their enthusiasm and expertise grows. Prices start at the $500 mark and go all the way to high end, all the bells and whistles $25,000 installations.

Students and teachers MacKillop College in Melbourne love Dell's Connected Classroom

Classroom hardware

In-classroom technology has become a very crowded space equipment-wise. But the advantage is that the technology is mature and there's definitely equipment out there to suit most budgets

Dell has come to the party with a laptop, short throw projector and laptop storage offering which it has called the Connected Classroom.

The company has worked with educators on the solution, and Dell's open approach, it has always had a focus on being adaptive, means it can be matched and integrated with existing equipment.

First in Dell's solution are the super tough Dell Latitude netbooks which sport tamper resistant keyboards treated with an anti-bacterial coating, HD display and enhanced optional touch screen. The laptops come with integrated WiMax support and embedded mobile broadband. An optional six-cell battery provides all day battery life.

The netbooks also come with a network activity light that lets teachers monitor whether students are actually using their laptop for schoolwork.

A lot of thought has been put into Dell's S300 wi interactive short throw projector which converts any surface into an interactive learning surface. 3D-ready DLP technology, which can be used with any platform, means the projectors will continue to be useful as teaching content inevitably migrates away from 2D.

Dell ships the einstruction Interwrite Workspace and Workspace content free with every projector. It supports 48 languages and provides handwriting and shape recognition and over 50 instructional tools.

Mimio has always been good at providing dynamic, low cost learning technology, updating its offering recently with the launch of the Mimio Classroom system. TheMimioTeach system transforms any dry-erase whiteboard into a fully-interactive whiteboard. Wireless and not much bigger than a ruler, the MimioTeach system comes with an integrated stylus and user-friendly software.

The easy to use MimioView™ document camera combines with MimioView and MimioStudio software so editing and storage features such as copy, cut, and live video markup and the ability to drop images and video into lessons and tests can be accessed. Roughly the size of a tissue box, the MimioView camera uses a single mini USB cable and has one-button activation, autofocus and lighting correction.

The MimioPad™ product is a wireless tablet that allows teachers and students to collaborate and interact with a MimioTeach-enabled whiteboard from up to 30 feet away.

Using MimioStudio 7 software, educators can capture, create and present engaging classroom

content. The Mimio Gallery provides teachers fast access to ready-to-use lesson plans, images, objects and content. MimioStudio software features drag-and-drop for Flash, audio and video files and is compatible with Microsoft PowerPoint and Adobe Acrobat.

The MimioVote™ student assessment system provides real-time assessment and immediate feedback combined with intuitive software and auto-illuminated buttons that reduce student error.

Deployment

So you've got your new computers, hundreds of them, what now? Getting them running either means a forced march at the IT department or finding a better way of doing things, enter Acronis. The company is a leading provider of deployment software – hard disk imaging for those who are interested. The software takes a copy of a single computer hard disk set up and lets you put it on as many machines as you'd like to, saving huge amounts of time.

Anyone who has tried to update software on their computer can attest to the time consumption and annoyance. Imagine that times 1000. That's what Victorian school Christian College was faced with recently. But by going with the Acronis Snap Deploy product and Universal Deploy, which lets standard disc images to be deployed to dissimilar hardware, the school's small IT department deployed 400 student computers in three days and took another three days to image all the staff and student laptops on the network.

"Pre-deployment and scheduled deployment features increase the flexibility and productivity of the deployment plan. Once set, the process is automated and requires very little intervention from our technicians. Acronis Universal Deploy also gives us peace of mind by eliminating hardware constraints, no need to have identical hardware across the entire network," Ashley Walters, Director of IT at Christian College says.

Video management

Many students are visual learners and because of that home grown ClickView's video management and distribution software has hit a chord with Australian educators, having been adopted by 1500 secondary schools in the country, roughly half.

It's very clever stuff, the company's patented software is the only non-streaming video technology in the world presently, the result of managing director Evan Clark's doctoral research.

ClickView software compresses video files into manageable sizes and that frees video up to be used anywhere; viewed on individual computers, inserted into course material, moving visually based learning away from the group-sat-in-front-of-a-screen approach.

Wireless networks in schools have often meant bottlenecks for large video files.
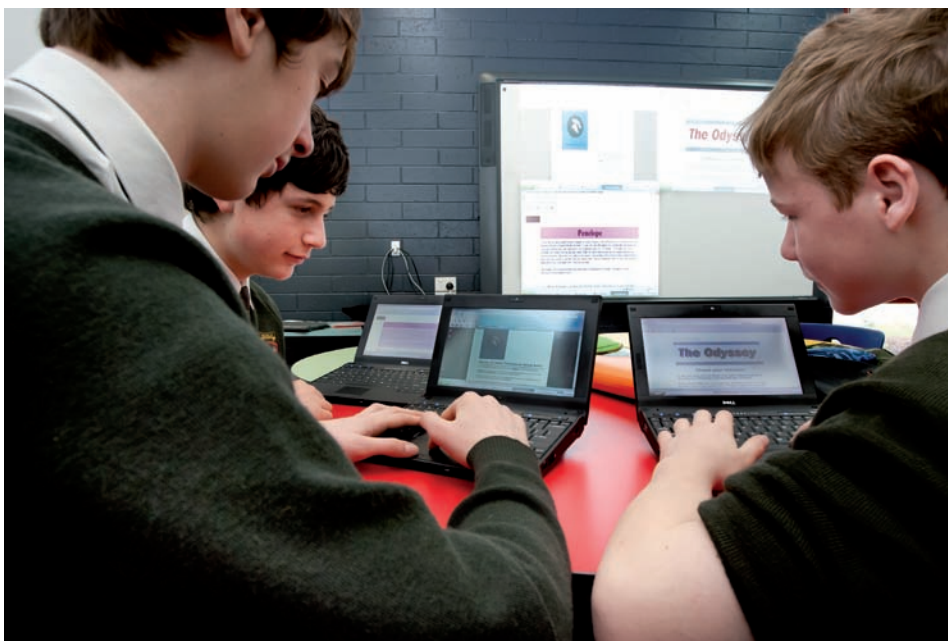
ClickView reduces them to a 300 kb per second format which is suited to most bandwidths.

Further, schools often have large inward capacity for data but have low outward capacity, which makes transferring video files for home use problematic. ClickView's smaller file sizes overcome that barrier.

The government has granted secondary schools permission to record any free to air material (Screenrights), both a blessing and a curse. ClickView has a hardware solution called ClickView 24-7 which records and stores shows from up to six channels. Shows from the previous two weeks are avialable, ready to be extracted and catalogued in the ClickView library server.

ClickView has content partnerships with the Discovery Channel and Channel 4 and an extensive library with content suited to primary, secondary and tertiary students.

"Librarians and teachers have formed a real community around our content library (ClickView Exchange) contributing their own resources and making recommendations to others. From our point of view it's meant that the product is getting constant word of mouth endorsement," ClickView CEO John Bonnyman says.

The company has 13 full time developers on staff, so good ideas are being generated at a steady clip and there's plenty more in the pipeline.