

Embracing Technology

by Jacqui Tomlins

I'd always lined up with the Luddites – the 19th Century textile workers who rebelled against the introduction of modern machinery. Not for them the newfangled ideas of the day. Stick with the tried and tested, they said, and I've always identified with that position.

So you can imagine my reaction when my Grade 4 son brought home a flyer announcing that the local State school he attended was introducing a trial program called 1-to-1 Learning, in which students are encouraged to buy their own tablet computer to use at school as part of their daily learning.

Can't we just teach them to read and write first? Let them at least be around books and show them what a library looks like? I could think of many reasons why this was a bad idea: the cost, safety/security issues – online and otherwise – and the fact that it just seemed so unnecessary. What would they actually do with them? These kids aren't even 10 and they're already bombarded with technology. Do they really need more?

Some well-informed people clearly think so. Sir Ken Robinson, English authority on educational development, creativity and innovation, argues that we need greater creativity and flexibility in the way we teach kids today. Robinson suggests the traditional way in which Baby Boomers and Gen Xers were taught has outgrown its usefulness. The old system was designed for another time – the industrial revolution – and the world is so radically different now that things need to change, he says. These days we're preparing kids for jobs that don't yet exist, and we can't even begin to speculate what those jobs will be like. Problem-solving, thinking laterally and the capacity to be creative will only become more important. The one thing we do know for sure is that technology will play a key part in the lives of our kids, whether we like it or not

Trials of 1-to-1 Learning have been undertaken in schools across Australia. The largest one was carried out by the Victorian Department of Education and Early Childhood Development (DEECD) and involved 700 students from Prep to Year 12 in nine State schools, as well as Melbourne's Royal Children's Hospital Education Institute. The aim was to look at the impact tablets have on students' learning at home and school, and to see how they might benefit, or even transform, teaching practice.

DEECD senior media officer Maria Ligerakis says results from the trials have shown tablets are easy to use for students, regardless of age or ability, and that there are many benefits, such as students taking more responsibility for completing tasks, becoming more organised and tending to write more, and more often. "The tablet is being used to extend learning beyond the classroom, facilitating learning wherever the student has one – at home, at camp or on excursions," says Ligerakis. "Using tablets has also increased parental involvement in children's learning."

The DEECD recommends a range of tablet apps in areas such as art, geography, current affairs and multimedia for students and teachers to use. For example, students can use an app to create a comic strip book using their own photographs and text; design a questionnaire, distribute it to their classmates and evaluate and share the results; or write and produce music.

Apps can be downloaded at home or school where there is internet access, and then used elsewhere, even when online. Teachers involved in the trials say they are better able to meet the specific learning needs of individual students while also facilitating collaborative learning using selected apps and multimedia presentations.

Ligerakis says rapid advances in information and communication technology (ICT) are changing the way people process information and connect with others, and students need to be adept at using new technology. She says the trial showed 1-to-1 Learning developed vital digital-literacy skills.

Tablet use in primary schools is not just about apps, but also embedding different ways of learning into students' daily experience. One school, for example, undertook an extensive project about natural disasters prompted by the Queensland floods. Using their tablets, students downloaded content from media outlets and government bodies, looked at regional maps and rainfall statistics, plotted graphs, devised questions and emailed them to interviewees. They shared what they'd learnt with their classmates via electronic scrapbooks and podcasts.

The program was also trialled for children with special needs. The touch screen's ease of use, the combination of visuals and sounds, and the range of apps tailored to individual needs are reported to have had positive outcomes for the children.

So when my son's school, Kew Primary, needed to increase its ICT capacity, they decided to implement the program, starting with individual tablets for Grade 4 and above, and a pool of tablets for lower grades. My son's young, techno-savvy teacher Andrew Wood says tablets are great for increasing student engagement and motivation. "Teachers can accommodate their students' different learning styles more easily, and the kids become much more actively involved in their own learning," he says. "There are some great apps out there with scope for digital storytelling, podcasting and animations. "About a third of the day will be taken up with the tablet, and that will increase over time. This program will really tap into students' passions and interests, and the digital skills they learn will equip them well for the future."

Perhaps what prompted a shift in my position on all this was my son's experience. He's a bright nine year old interested in many things, but very ambivalent about school. He loved the idea of using a tablet in class and took to it in a flash. Wood found a Roman-history app (my son's obsessed, thanks to *Asterix*) with great graphics, maps and information, which had him switched on for the first time in ages. Then there were the times tables, astronomy and music-making apps he couldn't wait to show me.

My son recently undertook a major project on an historical figure of his own choosing. Like many boys of his age, he's a reluctant writer and finds the mechanics of writing slow and laborious. While I was cooking dinner, he sat at our kitchen bench with his tablet and started researching Alexander the Great. He checked a number of sites for information, images and maps. We talked and he drafted some notes on the tablet and downloaded some pictures, which he organised into different folders.

Over the next week or so, we repeated the process each evening. Once he'd completed his research, he downloaded a book-creation app and started to formulate ideas about how he'd present the information. He devised four chapter headings and wrote down what he'd learnt, slotting in pictures to illustrate his text.

Without a doubt, he wrote more, thought more about the organisation of his material, and paid more attention to his presentation. Plus – and this is a big plus – he enjoyed doing it and felt a great sense of achievement when he had finished.

Professor Phillip Long, director of the Centre for Educational Innovation and Technology at the University of Queensland, says reluctance to embrace programs such as 1-to-1 Learning is a generational thing; it's not that we necessarily mistrust the new technology, but that we fear the loss of core things we value, such as books, libraries and handwriting.

"But there are many advantages," he says. "Tablets allow for remarkable creativity and provide a multimodal way of conveying information and ideas. They're great communication tools that enable students to share and present their work in many different ways, and have enormous potential for

collaboration between student, home and school. “And the mobility of the tablet is really important. Wherever the student is, they can pull up a chair, or sit on the floor, connect to the world and start learning.”

Tablets can also be used effectively in the mechanics of assessment, says Tom Worthington, adjunct senior lecturer in the Faculty of Engineering and Information Technology at the Australian National University. “Teachers can post regular questions and quizzes, which students can respond to from wherever they are and at any time,” he says. (My son did a quiz in bed on the morning of Anzac Day that his teacher had posted the night before.) “Teachers can easily monitor students’ homework and progress, and there is generally less chance of students falling through the cracks.”

The Australian Curriculum Assessment and Reporting Authority (ACARA) is developing the technologies area of the new National Curriculum to include design and technology and digital technologies. A draft paper, *Shape of the Australian Curriculum: Technologies*, has been prepared, and the first round of consultation with teachers, parents and academics is complete. The final curriculum will be ready next year.

ACARA senior manager James Morrow says while there will be a dedicated ICT learning area, technology will be integrated throughout the curriculum. “The specifics of how it will work in schools will be up to individual States and Territories,” he says. “But the National Curriculum is built around seven general capabilities, of which ICT is one. We are embracing the fact that this plays no small part in it.”

The education my kids receive will look increasingly different from the one I experienced. I have undergone my own technological transformation watching my son benefit from the tablet trial. While I’ll still cling to books, libraries and more traditional methods of learning, I remind myself that many moons ago I was a young, enthusiastic teacher with newfangled ideas that parents didn’t like, and I want to support this generation of young teachers who are doing something bold and innovative. If there’s one thing we should learn from the Luddites, it’s that the future is never quite as scary as we fear it’s going to be.