NO MORE TEACHERS, NO MORE BOOKS

BY ANTHONY CARUANA

We don’t want to be accused of stealing slogans from previous governments, but we are going through an education revolution. If you look carefully at education from the 1800s through to the 1980s, not a lot changed.

Sure, we went from blackboards to whiteboards and introduced overhead projectors in the time, but all of those were basically forms of the same educational system, or pedagogy. Essentially, the teacher was the font from which knowledge would spout. They would control which books students had available to them and when they could access them.

Even when the internet first appeared in tertiary institutions in the 1980s it was largely used as a tool for academics.

But a number of things happened during the 1980s that created a perfect storm – such as personal computers like the original Macintosh, the emergence of networking standards such as Ethernet – which was invented by Bob Metcalfe and his team at Xerox PARC – and Tim Berners-Lee’s invention of the hypertext markup language, or HTML.

These and other inventions came together to create a hitherto unimagined capability for creativity, connectivity and collaboration.

So, where are we today?

Education is at a tipping point. British educator Sir Ken Robinson is internationally recognised as an innovative thinker. In a recent speech, he noted that our education is based on principles largely established following the Industrial Revolution. We put students on an age-based conveyor belt that supposes they all learn at about the same rate across different disciplines.

Anyone who has spent more than five minutes in the presence of identical twins will have noticed that, despite their outward similarities, they very often have different skills and temperaments. Any fan of cricket will have seen that in Steve and Mark Waugh!

The good news is we now have the tools to enable students to explore their world in new ways. The role of the teacher as a distributor and controller of information is changing. Today’s educators have to walk a tightrope where they need to assist students in self-directed learning while teaching them discernment and the ability to recognise the different levels of veracity of the information they glean from the internet.

EDUCATION BY WIKIPEDIA

Many schools are justifiably concerned by the reliance on online tools such as Wikipedia. Although it’s a great resource, Wikipedia’s strength – that it can be edited by almost anyone resulting in it representing the connective knowledge of millions of editors – is also its greatest weakness.

Entries in Wikipedia can be edited to reflect opinions rather than facts.

But the same goes for almost any other online research.

What this reflects is the increasingly dynamic world in which we live. As Sir Ken Robinson puts it, “How do we educate our children to take their place in the
economies of the 21st century given we can't anticipate what the economy will look like next week?"  
It's not our role to formulate and set education policy. What's clear, however, is technology has a huge role to play in the future of education.

NO MORE TEACHERS?
Let's not beat around the bush. The role of the traditional teacher is under threat. And one of the big challenges is that digital native students are often more aware and more adept at using technology than their teachers.

We spoke to students from one school, who asked to remain anonymous, who said they routinely bypassed the school's internet filtering, which stopped them from using social networks at school by using VPN software.

The good news is that there are huge opportunities for teachers. They now have access to a massive trove of resources. As well as research materials, academic papers and videos from sites like YouTube and TED, they also have the iTunes U - Apple's online education centre that is filled with lectures, course notes and other resources.

The beauty of iTunes U is that it's not just for school and university students. We've 'enrolled' in a number of free courses where we get access to recorded lectures and course notes.

So, for teachers, there are some wonderful opportunities. Not only do they have access to classes and materials from teachers from all over the world, but also if they have put together a great course they can make it more widely available.

Classrooms are no longer confined within bricks and mortar edifices. We have access to a rich variety of teaching approaches and resources.

NO MORE BOOKS?
Although the iPad was released in 2010, the real revolution in digital books started late in 2007 when online bookseller, and now global marketplace, Amazon released its first Kindle e-book reader.

At first, e-books were little more than digitised version of paper books, but that changed when Apple released iBooks alongside the iPad. Suddenly, we were shown a new type of book - one that contained rich content such as videos and audio, as well as interactivity.

A year and half after Apple introduced iBooks, it released the iBook Author app for OS X. Now teachers can become publishers in their own right, creating interactive learning materials. Using tools that closely resemble the word processing and presentation software with which they are familiar, they can create their own text books that are electronically distributed.
Although it’s possible to publish books created by iBooks Author through Apple’s iBook Store, the output from Apple’s book creation software can be exported and shared on school networks where students can then add it to the library on their iOS device.

In addition to iBooks, teachers can work with their IT departments to create wikis for their students. If your school or institution is already running a Mac with the Apple Server software on it, the wiki functionality can easily be enabled through a few checkboxes and some reasonably straightforward configuration.

Similarly, resources can easily be shared using Learning Management Systems. While there are some that are commercially sold, others such as Moodle are available as open source software.

There is, however, a gotcha with open source software. While the software is free to download, there is still a labour cost and the need for expertise in setting up the software, configuring it and then teaching all the staff and students to use it.

Despite all these innovations, the humble textbook isn’t going anywhere. Most of the major textbook publishers have a strong presence in the iBook Store, following a number of partner agreements with Apple. And they have lifted their game, although many parents and teachers we’ve spoken with over the last year are disappointed that textbook prices haven’t fallen, despite the lower production and distribution costs that e-books offer when compared to tree-books.

THE AGE OF THE APP

When apps first came to the iPhone they completely changed our conception of how a smartphone could be used.

When the iPad came, we didn’t have to wait for apps – thousands of new apps that took advantage of the display and multi-touch capability were available within a few short weeks of its arrival.

Each month, when we prepare the iOS App Guide, we try to find a standout app or two for teachers or students. The trouble is, many apps – and not just those in the education section of the App Store – are useful in educational situations.

Most state education departments and many independent schools publish lists of apps they recommend for different subjects and year levels. We’ve also visited schools, however, where students aren’t directed to specific apps, but are instructed to find the apps they like to use in order to solve specific problems.

For example, rather than having all the students download the same spreadsheet program, they can choose the app they prefer to use. As long as they can use the software to get their work done, there’s no pressure to use a specific app.

With some schools, we’ve seen students rewarded for directing teachers to apps that either solve specific problems in novel ways or deliver information in a new or more engaging way. That way, students become part of the education process, rather than just sponges meant to absorb the information that flows from their teachers.

WHICH HARDWARE?

Choosing a computer or tablet for a student can be a difficult task. When Steve Jobs returned to Apple in 1997, one of the first things he did was rationalise Apple’s product offerings.

He did this by drawing a grid with four sections. He labelled one side as ‘professional’ and ‘consumer’ and the other as ‘desktop’ and ‘portable’. That led to four main product groups and anything that didn’t fit into one of those four groups was dropped. That’s why the MessagePad and all the different computers Apple was making disappeared from the market.

Today, Apple’s range is far broader. So here’s our take on what’s available and who it best suits.
<table>
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<tr>
<th>PRODUCT</th>
<th>WHO'S IT FOR?</th>
<th>COMMENTS</th>
<th>PRICE</th>
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<tr>
<td>MACBOOK</td>
<td>Secondary and tertiary students</td>
<td>Perfect for students who don't need lots of power for video editing and value portability.</td>
<td>From $1999</td>
</tr>
<tr>
<td>MACBOOK AIR</td>
<td>Secondary and tertiary students</td>
<td>A step-up in power, but lacks the Macbook's Retina display.</td>
<td>From $1399</td>
</tr>
<tr>
<td>MACBOOK PRO 13in</td>
<td>All students</td>
<td>As you step up through the range, you'll be spending on lots of power. At the entry level, this is a great Mac for all students and will serve for at least three years.</td>
<td>From $1999</td>
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<tr>
<td>MACBOOK PRO 15in</td>
<td>Students who need lots of power</td>
<td>Like the 13in, but for students who need a big screen and lots of grunt. Watch out for the weight – you'll need a sturdy carry bag and some muscles!</td>
<td>From $3099</td>
</tr>
<tr>
<td>MAC MINI</td>
<td>All students</td>
<td>A great workhorse for the home, complements and iPad for mobile use, but consider and upgrade to a Fusion drive for performance.</td>
<td>From $779</td>
</tr>
<tr>
<td>iMAC 21.5in</td>
<td>All students</td>
<td>Apple's all-in-one, particularly with the new 4K display is a great computer for everyone at home. If you don't need portability, this is a great student computer that will last years.</td>
<td>From $1699</td>
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<td>IMAC 27&quot;</td>
<td>All students</td>
<td>The desktop powerhouse all-in-one. If you've got the space and budget, this is a great system that will let students work for several years.</td>
<td>From $2799</td>
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<tr>
<td>MAC PRO</td>
<td>For the power hungry</td>
<td>This isn't likely to be on the radar for school use, unless you're a system admin looking for a powerful system to work as a server.</td>
<td>From $4899</td>
</tr>
<tr>
<td>IPAD MINI 2</td>
<td>All students</td>
<td>If you've already got a desktop system at home, the smallest, entry-level iPad is a handy tool for working on the go. And it's a great e-book reader and research tool to boot!</td>
<td>From $369</td>
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<tr>
<td>IPAD MINI 4</td>
<td>All students</td>
<td>Adding Touch ID and more power than the iPad mini 2, this pocket dynamo is a great secondary system if you've already got a powerful Mac at home.</td>
<td>From $569</td>
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<tr>
<td>IPAD AIR AND IPAD AIR 2</td>
<td>All students</td>
<td>Coupled with a decent keyboard case, the iPad Air and iPad Air 2 make a great laptop replacement, particularly if you've already got a more powerful Mac for the heavy lifting.</td>
<td>From $569 for iPad Air, $699 for iPad Air 2</td>
</tr>
<tr>
<td>IPAD PRO</td>
<td>Secondary and tertiary students</td>
<td>It's a tough call as the iPad Pro overlaps price-wise with many of Apple's notebook systems and functionally with the other iPad. But the Apple Pencil may be the clincher for those looking for a pen-driven system for annotating notes and drawing.</td>
<td>From $1249</td>
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Of course, you’ll possibly also add an iPhone to that mix and an iPad for listening to music and lectures delivered as podcasts while commuting to and from school or uni.

Depending on the student’s needs and budget, you may find that a desktop system and an iPad make a good ensemble. Cloud services such as Office 365, iCloud and Dropbox make it easy to work on different devices and keep files synchronised.

ESSENTIAL APPS

Once you have your computing hardware, it’s all about accessorising. Given the massive variety of peripherals and accessories that are on the market, it’s tough to work out what you really need.

Here are the five types of apps we think every student needs to have on their computing device. We’ve given preference to tools that are multipurpose and can make it easy to sync content across devices.

1. A note-taking app

Being able to capture all sorts of different information is an essential skill for students. We’re big fans of Evernote as it’s cross-platform and lets you easily grab information from websites using its clipping tool, record audio, shoot images and sync across multiple devices.

Microsoft’s OneNote is also very highly regarded and there are others such as Paper, which works with a stylus (called, not surprisingly, Pencil) as well as Intuos’ Bamboo app.

Any one of these will be a handy app for students of all ages.

2. Productivity suite

When it comes to office suites, Microsoft Office rules the roost. Although many long-term Apple fans will cringe at the thought, almost every school and university still relies on Microsoft Office for creating documents, presentations and spreadsheets.

Coupled with the Office 365 cloud service, it’s easy to create a document on your iPad, assuming it’s connected to the internet over Wi-Fi or cellular data, and then pick up your work on another device. And, for group work, it’s a great solution for collaborating on files when your study group can’t physically get together.

A close second place is Apple’s iWork suite with Pages, Numbers and Keynote. All are great apps, backed up with Apple’s iCloud service. Google Apps is also popular, but both services suffer slightly from not being 100 percent compatible with Microsoft Office file formats.

Some formatting can be lost, as Microsoft adds some extra features to the base formats, which have been ISO standards for several years.

3. Image editing

For many years, Adobe has ruled when it comes to image editing. Photoshop has become a verb, as well as a noun, for image editing. Coupled with Adobe’s Creative Cloud service and a host of iOS apps to complement the OS X counterparts, Adobe’s tools are a safe, albeit expensive, option for image editing.

We’re big fans of a lower cost, but powerful, app. Pixelmator integrates with Apple’s iCloud service, so you can create and edit images on your iOS device and then continue working on them with your Mac.

A search through the OS X and iOS app stores reveals hundreds of image editing apps, but many focus on one or two specific image transformations. We’d recommend a more comprehensive tool so your iOS device or Mac don’t get cluttered with dozens of smaller, less used programs.

4. Communications

Skype, Facetime, Facebook Messenger and all the other social and messaging services are essential for today’s students.

As far as picking the best tool – that’s almost impossible. Although Facetime, in our experience, offers the best video quality, Skype is more widely used and has the advantage of broad platform availability. That means students can connect to almost anyone in the world regardless of what device they are using.

For instant messaging, there are lots of platforms to choose from, but it’s possible to integrate many, such as Facebook Messenger, Google talk and others into Apple’s Messages app on the Mac.

Adium is quite popular. We’ve used it in the past and it lets you easily integrate Microsoft’s Messenger as well as common social messaging tools.

5. Security software

Mac users don’t live in a bubble of invulnerability projected from Cupertino. And while most malware targets Windows and Android users, Mac and iOS users aren’t immune to phishing scams and other attempts to steal personal information.

ESSENTIAL ACCESSORIES

Whether you’re carrying a portable Mac or iOS device, it’s important to protect your tools.

There are literally thousands of cases to choose from for your portable Mac. Our advice is to take your Mac with you when looking at options and try a few out to see how they feel when loaded up. A funky backpack or satchel may look great, but lug it around campus for a few hours could have you wishing for the less fashionable but more comfortable option.

Look for bags that have a protective compartment for your notebook. Padding on the base of the bag is a good idea as well, so that your Mac is protected when you drop your bag on the floor. And separate compartments for pens, papers, cables and other accessories make it easy to stay organised.

With your iPhone, our advice is to consider a more solid case that offers protection for the screen and body of the device and if you’re planning to use an iPad as your main mobile computing device, we think a keyboard case is essential.

Despite all the promises of a paperless world, students will continue to receive lots of handouts from teachers and lecturers. A small scanner at home is a handy tool, as it will allow students to digitise the notes. Many scanners will integrate with software such as Evernote to perform optical character recognition on the text, so you can search through notes for specific information, as well as saving on storage space.

As a bonus, you’ll have all of your notes with you, wherever you go, without needing to lug piles of paper around.