What's in an acronym?
The ABCs of BYOD

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An increasingly used FLA (Four Letter Acronym) has significant implications for technology and education and is often seen as a way of achieving 1-to-1 student to computer ratios. But, BYOD (or Bring Your Own Device) can have some distinct disadvantages in a school context. This is often the case when mainstream business initiatives translate into a school environment. While I often hear people in schools saying that BYOD is inevitable I do not see why.

People everywhere now want to do their computing when, where and how they choose, and school students are no exception. The wide availability of slimline notebooks, slates, tablets and smartphones mean great 'deals' can be had – so why not just let parents buy a device for their child to take to school? Sounds good, but it's not as simple as that…

BYOD in the Classroom

Increasingly, the classroom environment is being enhanced by 1-to-1 computer/student ratios, and many more teachers are actively building and integrating technology into their curriculum planning.

BYOD can easily become a distraction from this, as these teachers need to be able to rely on predictable, consistent performance of all devices being used. BYOD can also limit the effectiveness of educational computing to the weakest device. In some cases this is minimised by using the computer as a search tool rather than building technology into the learning experience. Strangely, this option has come at a time when computer design for mobility and power, with an abundance of educational software and low prices have come together to allow the delivery of meaningful, engaging learning for every student.

On the hardware side, a device not yet mastered or properly configured, a faulty touch screen, inadequate RAM or processing power – or difficulties connecting to the school network – are just a few of the dilemmas.

BYOD by any other name…

Just when we all got used to the term BYOD, it was realised that 'bring your own device' is nowhere near specific enough for all the possible permutations!

Here's a short glossary of the burgeoning acronyms going around the traps.

BYOT Bring Your Own Technology
Guaranteed free range!

BYOMD Bring Your Own Mobile Device or Bring Your Own Mandated Device
Caged: at least the hardware's nailed down!

BYOC Bring Your Own Computer
Like battery hens, so very 20th century!

In education, we may need to become even more specific:

BYOL Bring Your Own Lemon
Parent gives kid his/her old laptop and figures the school can sort it out

MDAMD My Dog Ate My Device
New student excuse – follow with LOL :)

That's just the hardware. If software needed for the curriculum is not properly installed, configured and updated on each device, teachers cannot rely on the entire class being able to complete the same in-school exercises or home assignments.

For these reasons and others, BYOD has the potential to narrow the learning process to information access and chat – and we know that technology has so much more to offer in the classroom than that! A computer is much more than just a search tool.

What about BYOOD?

A number of schools are talking about BYOOD – or Bring Your Own Other Device – but we can no longer see any benefits for education of students having two 'main' devices. (This said, smartphones certainly have a role to play for capturing video, voice and photographs, for example outdoors or on school excursions.) When computing devices were big and bulky and could only be accessed via a keyboard, it was understandable that students wanted a more portable option to browse the internet, take notes on the fly or enter doodles.

Over the past year, all of the major manufacturers have brought out lightweight but fully-functional hybrid tablets with considerably longer battery life than the previous generation of notebooks – many with detachable keyboards, touchscreen operation and pen-enabled for data entry or creative input.

To my mind, there is no longer any need for students to supplement their 'main' computing device with an 'other' device. Technology has now progressed to deliver the ultimate device for student use – at last enabling all teachers could wish to do within the curriculum on a predictable platform. So why allow or encourage kids to add another layer of complexity based on different form factors and operating systems? Far better to get them using a single device to achieve all they'll need to in their 21st century world.

BYOD on the School Network

While network protocols are highly standardised across today's devices, security settings are not. This is a significant issue that commercial organisations allowing BYOD are having to overcome. Numerous different models and types of device – especially the methods they use to update or synchronise themselves – can present a real security risk. Getting a multiplicity of devices connected safely to the school network can demand IT skills and effort that would place a drain on any school's IT resources.
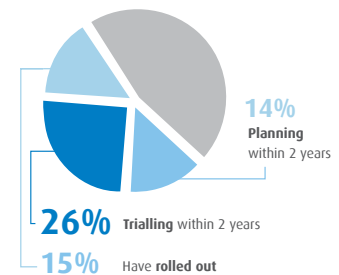
BYOD and Equity

BYOD may seem very attractive on a financial level... put complete responsibility for the purchase, management and maintenance of student devices onto the students and their parents themselves. Wipe student devices right off the school IT budget.

However, a fundamental issue with BYOD for school students is that it enshrines inequity. Some families will find it difficult (or even impossible) to justify the purchase and support of a new device, so those students may end up with out-of-date and unreliable 'hand-me-downs' from older siblings or parents.

On the other hand, there is potential for an 'arms race' – with more fortunate students competing to bring in the latest, coolest device each year or even more often.
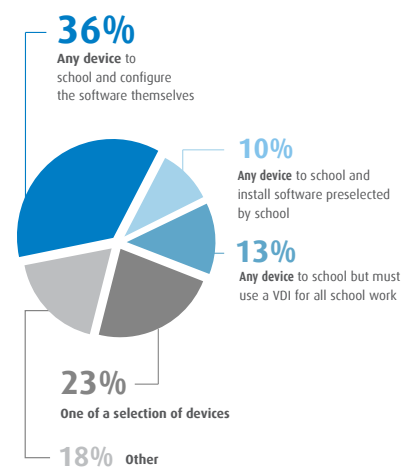
BYOD is gaining acceptance

Over half the schools responding to our annual survey said they have rolled out, plan to rollout or will be trialling BYOD programs within the next two years.

14% Planning within 2 years

26% Trialling within 2 years

15% Have rolled out

What does BYOD actually mean for schools?

Because there are a number of possible interpretations, we then asked what it specifically means in their school.

BYOD means students can bring:

36% Any device to school and configure the software themselves

10% Any device to school and install software preselected by school

13% Any device to school but must use a VDI for all school work

23% One of a selection of devices

18% Other

Source: Computelec, IT Management in Non-Government Schools 2013

For the same reasons that school uniforms prevent competitive dressing, helping create an environment in which all students are equal, setting some form of standards on student devices is an important leveller in today's 'tech-upmanship' world.

Performance and Reliability

For most of us these days, the unavailability of our personal device creates havoc in our lives. We lose access to contacts, appointments, documents not yet backed up to a server. For most students, it means lost access to their school work and inability to do their homework or participate in classroom learning activities until their device is back in service again.

Our survey on IT management in non-government schools acknowledged that the performance and reliability of student devices is increasingly a mission-critical objective. It was the second-highest challenge for school IT teams in 2012, just behind network performance and access. Almost half of respondents said they expected to spend more IT staff time during 2013 on end devices.

Perhaps the greatest disadvantage of free-range BYOD in education is what happens when a device malfunctions. Statistically, a student device will break down six times as often as a similar device used by parents or in business. Apart from the rough and tumble of being owned by a young person travelling in packs, it is also due to the way it's carried to and from school, and the number of times it's opened and closed in different classrooms each day.

An inordinate amount of unplanned effort can be involved for parents and/or school IT teams when a student's device doesn't work the way it should, or needs maintenance or repair.

If a device fails, no standard consumer warranty arrangement is going to get it back up and running (or even just backed up!) in time to prevent disruption to schooling – unless it happens during the very earliest part of the long school holidays. So, like workers in commercial organisations, school students need 'industry-strength' return-to-service support contracts on their devices – something parents simply are not in the position to negotiate with every supplier or manufacturer. Ideally, this should include:

- Coverage for accidental damage
- Maintenance engineer to school site rather than 'back to depot'
- Immediate on-the-spot repair/parts replacement in over 90% of cases
- Available stocks of genuine spare parts
- Online service status portal for the school's IT department, including a comprehensive maintenance history log of each device under cover

Is there any good news?

For some schools, BYOD will become inevitable as students and their parents push for choice. For others, it is financially desirable to remove the economic burden of acquiring and supporting student devices from the school budget.

So how do you overcome the shortcomings of BYOD? We strongly recommend that schools mandate the device that is to be purchased by parents. However, if you are unable to take this path for any reason, we offer three strategies to help make BYOD work in your school:

1. **Set hardware standards**
    Allow BYOD within constraints! Give students and their parents a choice of models and form factors to choose from – after your IT team has carefully ascertained each will function the way they'll need it to in the classroom and on your network.

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2. **Set software standards**

You can still minimise angst (and effort) by creating software images to be loaded on each device – after testing that this will be a simple process on the models you select and that firmware will not compromise the environment.

3. **Remove the support equation**

Rather than leaving it up to chance and the different support levels and warranty conditions offered by a range of vendors, negotiate on behalf of the entire school community with a provider of fast and reliable support for your full set of approved devices and their peripherals.

On support, you will make it easy for parents to swallow the cost of a pay-as-you-go arrangement with a low monthly support cost. The typical alternative for them would be to take out a 2-3-year warranty extension – which still would not provide the return-to-service levels required and, usually, involve several trips to the vendor's depot during office hours. The other advantage of a monthly fee is that students are only paying for the devices they have, as long as they have them.

With the right support arrangement, delivered on site by school IT specialists, you will have the confidence that your students have optimum support for their devices – whatever form they choose to bring to school.

If you'd like to learn more about the implications of BYOD for education, watch this video: https://vimeo.com/69284114

5 Myths of BYOD

Before rushing into BYOD, educators and IT professionals must sort the truth from the apocryphal. According to Computelec founder Bruce Dixon, the following statements just don't stand up:

1. Corporates are now storming across to BYOD
2. It's a new idea
3. It's easier to manage
4. It will solve all my funding problems
5. It's the only option

About the author

His unwavering passion to support schools in learning with technology initiatives resulted in David La Bozzetta's progression to CEO of Computelec in 2004. Under his direction, the company has seen significant growth with the development of new services including Expanding Learning Horizons (ELH) consultancy. David is now focused on continuing the development of innovative cloud, support and infrastructure services for schools, as well as Computelec's Freedom to Learn and Professional Development programs.