

# ICT in the classroom – can do better

Despite the \$6.4B invested through the Digital Education Revolution, the effective use of ICT within the classroom is still limited

**Nigel Thomson**

In the corporate world an investment of the scale of the *Digital Education Revolution* funding (DER) would have been accompanied by a comprehensive deployment and implementation process designed to ensure that entrenched work practices would be reviewed and improved, leveraging the capabilities provided by new equipment and ICT services into better outcomes.

That no such process was undertaken as part of the DER suggests that the traditional classroom teaching paradigm must be challenged. This is one of education's sacred cows and often polarises discussion. In many instances the discussion about how ICT can enhance learning outcomes masks an underlying nervousness within teaching cohorts in regard to adopting even minimum engagement with technology. The argument is made that teaching *per se* is not about computers but about making a connection with students.

Student engagement is a two-way street; a fact that contemporary educational leaders have recognised. Although they have taken different paths, each strives to provide their teachers with an awareness of how ICT can be used to enhance teaching methodologies by introducing rigorous technology adoption programs.

## Why isn't ICT being better adopted?

Let's be clear about the problem, by way of a stated proposition.

*'Schools have not in general made substantial progress in leveraging ICT to assist teachers, to improve learning outcomes, provide better and more sophisticated facilities for students away from school and improve engagement with parents via parent portals.'*

*'Teaching practices within the classroom have not changed very much, and despite the digitisation of students' results, few schools utilise such aggregated data to analyse student performance either on an individual or collective basis.'*

The above proposition is clearly contentious, so let's examine the proof; indeed let's identify some of the symptoms.

## The six most obvious indications of underutilisation of ICT

- 1 There is no formal professional learning program specifically addressing new teaching methodologies. Professional development (PD) in relation to ICT is typically restricted

to how to use the device not what to use the device for.

- 2 There are no formal processes to identify new trends in the use of ICT in the classroom.
- 3 If a survey of students were to be undertaken their [honest] opinion would yield the following two statements:
  - a Teachers don't know how to use the equipment and therefore don't.
  - b Most of the time their device is used as a paper substitute and occasional research tool.
- 4 The majority of teacher lesson plans have not significantly changed to incorporate ICT.
- 5 The culture of the teaching cohort in respect to ICT is that it is a necessary evil, rather than a positive opportunity.
- 6 ICT support within the school is about the device not about applications or use.

## The first steps to resolution

The first step in resolving a problem is to accept that there is a problem, the second is to identify the root causes, and the third is to develop an action plan. The fourth step, often missed, is to evaluate progress.

Assuming that schools are prepared to accept that there is a need to leverage ICT to improve educational outcomes, why hasn't this happened before? What are the impediments – the root causes?

Commentators outside the educational system do not appreciate the profound impact of the DER program. Prior to its implementation, schools had relatively modest ICT infrastructures, typically restricted to supporting teacher and admin devices and some senior students, but post DER networks grew by a factor of four to five times.

ICT teams have struggled to handle this growth. Traditionally ICT teams were not involved in the integration of ICT within the schools, that is to say the *use* of ICT within the school – merely the *provision* of ICT services. While e-learning was a recognised function within many schools, this role was often no more than a teacher resource, and did not address the larger issue of strategic direction and PD, nor was the role involved in changing teaching practices.

In too many schools, teachers have been presented with new devices and, while they are shown how to operate the device, there is no formal school-wide policy in respect to how or

even if these devices are to be used within the classroom. Progressive and innovative teachers most frequently use their own initiative and innovation to research new applications, and while this can act as a catalyst for other teachers, typically because it is *ad hoc*, no promulgation of the experience happens within the rest of the teaching cohort.

## The blame game

It is tempting to lay the lack of effective innovation in the use of ICT in the classroom at the door of the PD co-ordinator, but the lack of co-ordinated, planned and *effective* ICT related PD is symptomatic of a systemic problem. The real underlying problem is cultural. If the culture of the school is to adopt new technology in the classroom, encourage teachers to be innovative, and support them in doing so, it is the teachers who will define and drive effective PD. But it needs to be said that unless this is supported from the top is usually doesn't happen.

Does this suggest that the root cause of the problem is the principal? The answer is an emphatic No! No more than it is appropriate to criticise the principal if the building maintenance program is not working or the business manager gives erroneous financial advice.

In many ways the accounting environment is a good example of a mature discipline, in that it has rules and regulations – standards of practice that are commonly known. The adoption of ICT in the classroom is literally less than five years old and such standards are still evolving. Whereas the principles of accounting have not changed significantly in many decades, computers in education are a new phenomenon, and as yet frameworks are still in development.

## Is ICT in the classroom the only problem?

No, the ICT services provided to the average teacher are far less, in fact considerably worse than routinely provided to corporate citizens. Communication with parents and engagement with them in terms of providing more and better information in respect to their sons and daughters is poor. The typical school does not have a particularly effective learning management system. Ask any teacher and they will probably tell you half a dozen things that they can't do, and probably criticise the things that than can do.

Parent portals are another area of

underdevelopment. It is acknowledged that providing information is not the optimal form of engagement with parents and further that parent teacher interviews offer both parties with an important opportunity to discuss relevant issues. But what happens in between times? Surely ICT can provide more than electronic reports, access to student calendars and the ability to fill out forms online. Where many schools are displaying student artwork and rendering music and stage productions for all to enjoy online, at other schools simple things such as the principal's address being available online is still some way into the future.

### **How have schools addressed the problem?**

Education is a very specific skill set, as is the practice of law, accounting, engineering and so on. The salient point here is that commercial law firms recognise two things: first, that ICT represents an important competitive advantage and second that they don't have the ICT skill sets to define the practice's ICT needs and implement change. The same can't be said of education; consultants are used but most often they are retained by the ICT manager for a specific purpose... they are not used to advise on the strategic direction or explore options beyond the task at hand.

The education system has instead adopted a

rather curious strategy, being the appointment of teachers to the role of technical guidance. In a significant number of schools the solution has been a time allocation provided to teachers with an interest in ICT. The rationale, although in principle sound, is flawed in that, although teachers can identify the problems they do not often have the technical skills or marketplace awareness to identify either the problem or the solution. In many instances teachers cross the line and become pseudo ICT managers. This is particularly dangerous because they often fail to get independent advice on technical issues and how to implement strategies.

### **What should schools do... but don't**

The use of a non-technically qualified teacher to devise and implement ICT in the classroom is analogous to being your own lawyer and needs to change in favour of seeking educationally experienced consultants. The reality of experience is that each school is different and something bought off-the-shelf will almost never be a good fit.

### **So what's the answer?**

The best solution is one that takes into consideration the context of the school. The solution needs to be developed consultatively and collaboratively, by engagement with teachers and the executive team. Finance needs

to have a say too, but at the end of the day it is about the stakeholders, the students first, the teachers and of course the parents...

*Like most good ideas the answer in this instance is intuitively obvious, select a consultant that knows technology, but recognises the need to engage and collaboratively derive a solution relevant to the needs and circumstances of your school.*

A final piece of advice, when schools received BER funding they didn't rush out and employ a full time architect, instead hiring a practice only for the design and build phase. By this obvious logic, one doesn't need a full time appointment to resolve ICT issues, better to appoint on contract and make sure to define desired outcomes and measure progress.

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## **Eiki returns to Australian education space**

Japanese projector manufacturer Eiki has returned to Australia and plans to sell directly to schools. The new local operation is the company's eighth worldwide branch.

There are three DLP projectors in the entry level EIP range. The X5500 XGA projector with 5500 lumens, the U4600 WUXGA projector with 4600 lumens and the W4700 4600 lumens projector with WXGA resolution. The projectors are filter-free, compact, have 3D capabilities, dual HDMI input and a display port. Recommended retail prices are \$1470 for the W4700 and \$2600 for the U4600.

The easy to use EIP-X5500 is compatible with Mac and Windows systems and has 3D functions. It is supplied with two HDMI cables and a display port. At 3.8 kg it is Eiki's lightest high resolution projector.

The WSS 3100 is a portable ultra short-throw model capable of creating a full sized, high resolution image even when placed 50 cm from a wall or screen. At 50 cm it gives a screen size image of 127 cm. This enables use in a small meeting room or office, with the added bonus of no shadow or glare because the teacher is not standing between the projector and the wall. This model is also interactive and can be used to create a touch screen image on almost any projector surface by using an Eiki pointer or pen.

Model LC-WIP 3000 is also capable of projecting a large image at a short distance. When placed less than 100 cm from a wall or screen it can project an image up to 190 cm. With an interactive pointer or pen teachers and students can easily write on, highlight, delete or add to projected images. The LC-WIP 3000 weights just 4.1 kg.



For \$1800 the LC-XBN 4000N with 4000 lumens in XGA resolution is wireless and has an internal hard drive. Its wireless technology is compatible with Android or Apple laptops, Macs and PCs as well as smartphone devices. Its built in hard drive can store up to 1.5GB of data. Only one power cable is needed when using the hard drive so there's no messing around with HDMI cables and waiting for the laptop to start up. Files can be loaded on from a USB stick and ready for viewing within seconds.

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