

A journey of realisation: iPads in primary school learning

CHRIS BLUNDELL, ACADEMIC DEAN AT QUEENSLAND'S REDLANDS COLLEGE, WRITES ABOUT THE SCHOOL'S TRANSITION TO IPADS IN LEARNING AND HOW ITS TEACHERS UTILISE IPADS TO ENHANCE AND TRANSFORM TEACHING AND LEARNING.

Like other schools, Redlands College has long recognised the potential for Information Communication Technologies (ICTs) to significantly and broadly contribute to all facets of teaching and learning. Until recent innovations however, various limitations of technologies like desktop and laptop computers compromised this vision. We wanted ICTs that would be ubiquitous, highly flexible, and easy to use; what we had access to often demonstrated none of those attributes! With the release iPads in 2010, things changed.

This article describes the nature of ICT provision at Redlands College and provides a brief overview of the College's transition to our current arrangements, including our rationale for using iPads. It highlights examples of how our teachers of Prep to Year 7 utilise iPads to enhance and transform teaching and learning. Included, also, are observations about the nature of our journey. The article concludes with advice gleaned from our experience to this point in time.

IPAD PROGRAMME IN CONTEXT

Prior to initiating the iPad programme in 2011, our ICT provision model for Prep to Year 7 consisted of desktop computers in laboratories and bookable sets of laptops in trolleys. Our aim was to make ICTs available for teaching and learning in as many places as possible. The limitations, however, were significant. Integrating ICTs in learning required considerable forward planning by

teachers – equipment needed to be booked, room swaps organised, laptops collected and returned – leading to no small degree of frustration. This arrangement was inflexible and significantly limited opportunities for teachers to immediately respond to student needs. This frustration represented an important opportunity to innovate.

In 2011, we started our journey to a model focussed on providing the right ICT, in the right places, at the right times. In this model, ICTs are available in two forms: core and specialist technologies. Core ICTs are personal technologies immediately available and easy for students to use to support their learning. These technologies allow for a diverse range of pedagogies and provide our teachers with a common and consistent ICT foundation. In 2011 and 2012, iPads were introduced 1:1 in Years 9 to 12. From the start of 2013, all students in Years 2-12 have an iPad as their core ICT for learning, which they are responsible for managing. Students in Prep and Year 1 use College supplied and owned iPads (1:1 deployment). All teachers have an iPad. In addition to this, we provide specialist ICTs, which are technologies needed in specific subjects for specific purposes, usually in Years 7-12. The College provides these facilities in accord with and matched to the requirements of the particular subject; Mac or Windows, desktop or laptop. Students often use their iPads to supplement specialist technologies.

We are often asked why Redlands College



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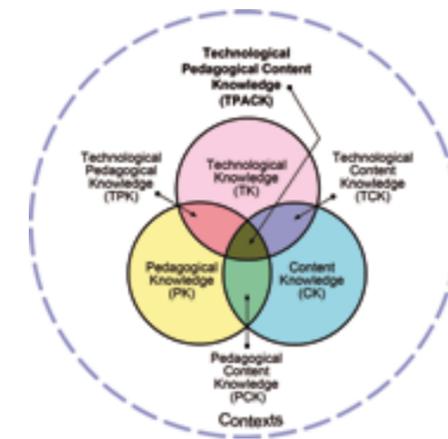
selected iPads as our core ICT. The reasons are many and the longer we use iPads in learning, the more evidence emerges to verify our decision to do so. The features of iPads facilitate and enhance the user experience, making them easy to integrate in teaching and learning. The design of these devices – small and light, easy to carry, long battery life, and simple to use – makes them accessible, highly flexible and useful in a staggeringly diverse range of contexts. iPads provide ubiquitous access to information, additional modes of communication, and a broad range of tools for content creation and curation. They are fun to use and, for many students and teachers, another source of joy in learning. As pedagogical tools, iPads have facilitated the realisation of new teaching and learning opportunities. Importantly, iPads are a genuinely personal technology as they can be used just about anywhere learning happens. Their reliability and the robust design of iOS (the iPad operating system) means students can be given the responsibility of caring for and managing their iPad. We have also appreciated the opportunity to move away from the inflexibility and limitations on the user experience caused by the hardware/software management protocols required for other types of

ICT. In essence, as our core ICT for learning, iPads have increased flexibility and opened up previously unrealised opportunities to facilitate learning.

INTEGRATING IPADS IN TEACHING AND LEARNING

Prior to providing examples from our journey of realisation, two significant theoretical underpinnings for the integration of ICT in teaching and learning need to be briefly explored. The first is the TPACK framework, the second is the SAMR model for technology integration.

The TPACK framework (Koehler & Mishra, 2009), conceptualises integration of ICT in terms of teachers' knowledge. Specifically, the framework emphasises



TPACK Framework (Koehler & Mishra, 2009)
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that balanced teacher application of content knowledge, pedagogical knowledge and technological knowledge with consideration of the schooling context is significant for the integration of ICTs in learning. This framework was created in response to observed limitations on ICT integration caused by imbalanced development of technological knowledge disengaged from content and pedagogical knowledges.

The SAMR model (Puentedura, 2013) describes the ways teachers commonly integrate technology in learning. The model suggests that, initially, teachers use ICTs to enhance existing practice. ICTs are used as tools that are direct substitutes for existing practices with no functional change or they augment existing practices with some functional improvement. Greater engagement may lead to transformation of existing practice by using ICTs to significantly modify practice and, potentially, redefine practice through the realisation of new opportunities. As a model, SAMR emphasises that ICT integration is a journey. It is also a useful tool for analysing modes of ICT integration.

The following success stories about the integration of iPads in teaching and learning at Redlands College are presented to illustrate how iPads can be used to enhance and transform practice in Prep to Year 7. They represent a small sample of the many great outcomes achieved by our Prep to Year 12 teachers and students over the last few years.



iPads as tools contributing to a range of learning activities.



ENHANCING PRACTICE

In addition to the many iPad uses that are commonly available via all modern ICTs, such as WWW, email, instant messaging and document creation, our teachers have identified a number of ways to use iPads to substantially enhance teaching and learning. Indicative examples of enhanced practice are listed below, some rely specifically on iPad features.

- In Prep, students use a range of apps designed to support development of mathematical concepts and skills. App-based drill and practice provides supplementary opportunities for students to receive immediate feedback.
- Students in Year 1 have used iPads as part of their writing and spelling activities. After handwriting imaginative stories, the students typed them in the Pages app. These were printed for addition of hand-drawn illustration and then placed on display in the classroom 'library.'
- Year 2 students explored the world of insects using ICT. Using their iPads, students researched insects from a collated set of online sources to create information fact sheets using Keynote. Based on their research, students presented concluding statements about what life would be like without insects.
- Also in Year 2, students used iPads to assist with collaborative story writing. After an excursion, students collaboratively wrote recounts of their experiences and created illustrations. This work, along with photos from the excursion, was collated

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- by the teacher as a single iBook using Book Creator for iPad. This iBook was shared with all students. The students enjoyed reading about their peers' experiences.
- As part of devotions in Year 3, students used Bible (YouVersion) app to become familiar with reading the Scriptures. Interactive activities and features allowed students to explore topics further.
- Also in Year 3, students have used a range of iPad apps in Maths. Students used the app for the Ekka (Queensland's annual agricultural show and exhibition) to plan a day trip. They used the timetables to schedule their day and prices to organise a budget, all collated in a Pages document. In another activity, the students used Pages to create posters to show their understanding of three-dimensional shapes that included collated illustrations of the shapes, pictures of real-world examples, and text.
- As students start German for the first time in Year 6, our teachers have looked for opportunities to use iPads to promote engagement and assist skill acquisition. One of the more inventive opportunities

involved students practicing their language skills using the Puppet Pals 2 app to create animated cartoons with student-spoken German dialogue. The animations also generated opportunities for teacher and peer feedback.

TRANSFORMING PRACTICE

- Ubiquitous access to iPads has provided many opportunities for our teachers to modify existing practice, allowing for more diverse and deeply engaging learning experiences for our students, as exemplified below.
- Year 2 students used their iPad's video camera to record puppet plays about Australian animals. After developing a story outline, they acted out their puppet play for the camera, often videoing multiple takes. Following this, the students edited together takes of their play using iMovie. This allowed students to make critical decisions about the quality of each performance.
 - As part of a poetry unit in Year 4, students used multiple apps to expand their understanding of the emotion and mood of poetry through written word,

sound, images and pictures. In addition to writing their own poems, students produced multimodal presentations. The apps used included Pages, Keynote and iMovie.

- In Year 5 Art, students used stop motion apps (e.g. iMotion HD) to creatively explore shape, form, motion and composition. Using a new form of expression, students were able to retell stories about our universe. The videos were showcased for the class. Students in Year 7 also created stop motion animations.
- In addition to modifying practice, some of our teachers found that ubiquitous iPad access allowed them to redefine their practice to improve learning opportunities for students. Often this has occurred as a consequence of challenging existing paradigms and routines, and commonly involved using the iPad's video hardware and software.
- As an enrichment activity in Year 6, students were given the challenge to research, in pairs, an Antarctic animal. Inside two hours, the students were required to collate informative text and images, and create a Keynote presentation. What makes this activity unique is that students had not been formally taught how to use Keynote and were encouraged to use the inbuilt help tools. As testament to the ease of use of the technology, and more importantly, teacher willingness to invest in student capacity for self-directed learning, the students were readily able to create engaging and informative presentations. Some students even creatively determined how to create a

quiz that linked to different slides based on the user's response. The teacher of this class noted that the experience of instigating this activity felt like riding a bicycle down a hill and letting go of the handlebars. There was a certain amount of fear associated with the lack of control, yet it was clear that the students were capable of taking responsibility for an effective outcome.

- With increased accessibility to ICT, we were able to develop a new subject in Years 6 and 7 called Integrated Learning. Based on the principles of challenge-based learning (www.challengebasedlearning.org) students collaboratively work on cross-curriculum projects with the goal of developing solutions for authentic audiences. Themes for previous projects included: cyber safety and responsible iPad use, raising awareness of the plight of asylum seekers, town planning, sustainability, and fund raising for missionaries. The pedagogy in Integrated Learning is student-centric and in some projects, the teams decide the manner in which the outcome of their work is communicated. iPads provide a diverse range of tools and sources of

information that students strategically decide to use. The modes of communication provided by 1:1 iPads means students can communicate efficiently and with a level of quality that promotes engagement from parties outside the College. Ties with local community groups and mission organisations have been substantially strengthened due to the high level of engagement and care evident in the students' work. For more information, please visit: <http://il.redlands.qld.edu.au/>.

- One of our teachers started recording short videos to email home each week to students and their families. In these videos he recounted the successes of the week and offered comments about the week to come. These videos promoted the teacher-student-family relationship in a manner consistent with that teacher's style and personality.

OBSERVATIONS

Our ongoing journey to realise and actualise the benefits of integrating iPads in teaching and learning in Prep to Year 12 has lead to a number of useful anecdotal observations.

Our staff have been able to readily achieve forms of iPad integration that enhance existing pedagogy because iPads can be easily used to support or supplement curriculum. Commonly this involves using specific apps, standard tools (i.e. WWW browsers and email clients), and online sources of information. The enacted pedagogy is typically teacher-directed and teacher-centric. Relative to the TPACK framework, ICT use seems to engage the technology-pedagogy knowledge domain, or the technology-content knowledge domain. This has led to meaningful and engaging learning experiences for our students. For teachers, change has occurred in a manner that is consistent with existing practices and established routines, providing for successful engagement.

Transformation of pedagogy is more challenging as it requires reconsideration of current practices. In this endeavour, the role of iPads is to help teachers facilitate emerging curriculum and new assessment opportunities. Transformed classroom activities often involve students and teachers using multiple apps and iPad features to complete a specific task. The video capture and editing features of iPads seem to readily facilitate new learning opportunities. The resultant transformed pedagogy and assessment seems to be more student-centric, often collaborative, and more authentic in nature. Relative to TPACK, iPad use seems to demonstrate highly integrated technology-pedagogy-content knowledge. Teachers who have transformed pedagogy with iPads often challenged their own thinking and existing practice; they willingly and confidently tried different approaches.

CONCLUSION

Our experience with the integration of iPads in teaching and learning in Prep to Year 12 has emphasised to us the importance of acknowledging that all participants - teachers and students - are on a journey of realisation. Integrating any form of ICT in learning is a challenging, yet rewarding endeavour that requires engagement and time. For schools who have just or are about to embark on this journey, we offer the following:

- iPads can make pedagogy more student-centric and learning activities more authentic through teacher realisation of new opportunities;
- iPads can promote engagement and help to diversify

the learning environment; and,

- iPads will disrupt existing routines; be aware and open to this when accommodating the change.

The integration of ICT into schooling provides new opportunities for students and teachers to engage in learning, and after all, isn't that the purpose of schools?

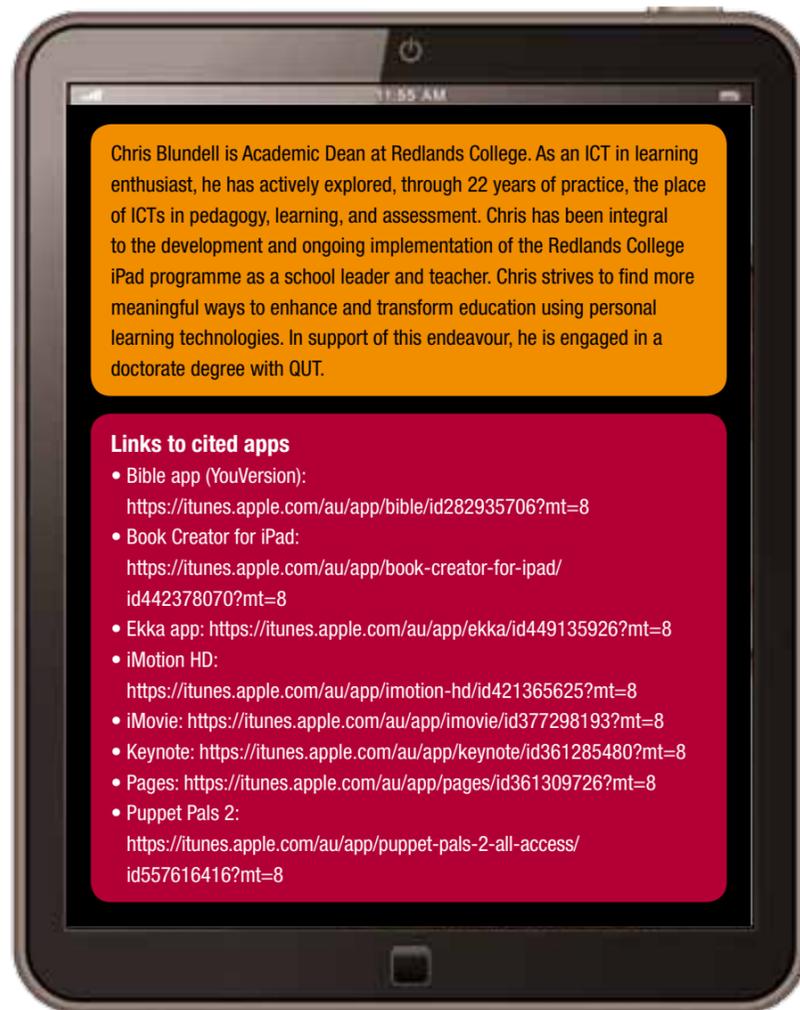
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