

1:1 BYOD IPAD IMPLEMENTATION POLICY



Rosary is a Christ-centred community striving for excellence in the Dominican spirit.

Rationale

At Rosary, we believe in catering for the needs of the whole person and that it is important that teaching and learning reflects the needs of our students today our educational context should be oriented to their futures, not our past. We cannot ignore the development of technology and the opportunities it affords our students to create, communicate, solve problems and work collaboratively across all learning areas at school.

All schools must cater for the **diverse needs** of learners if they are to achieve their intended educational goals. Rosary Primary School, as part of its *Strategic Plan 2014- 2017*, has identified the need to “use data on the achievements, progress, strengths and weaknesses of individual students to **personalise teaching and learning** activities” and “promote the use of **differentiated teaching** to ensure that every student is **engaged** and learning **successfully**.”

The strategic plan also identifies the need to strengthen the digital learning environment in the school. In order to address the issues identified in the strategic plan, staff continue to investigate ways to further enhance the school’s capacity to cater for diverse learning needs using technology to promote **student-centred and self-directed** learning opportunities.

The Melbourne Declaration on Educational Goals for Young Australians (MCEETYA, 2008) states that schools must “promote **personalised learning** that aims to fulfill the diverse capabilities of each young Australian” while the Australian Curriculum (ACARA, 2013) states, “the needs and interests of students will vary, and that schools and teachers will plan from the curriculum in ways that respond to those **needs and interests**.” Both of these key national statements on education in Australia documents acknowledge that the use of Information Communication Technology (ICT) is crucial in meeting today’s educational outcomes. It is noted in the Melbourne Declaration that successful learners “have the essential skills in literacy and numeracy and are **creative and productive users of technology**, especially ICT, as a foundation for success in all learning areas.” Whilst the Australian Curriculum states that ICT will “**transform the ways that students think and learn and give them greater control over how, where and when they learn**”.

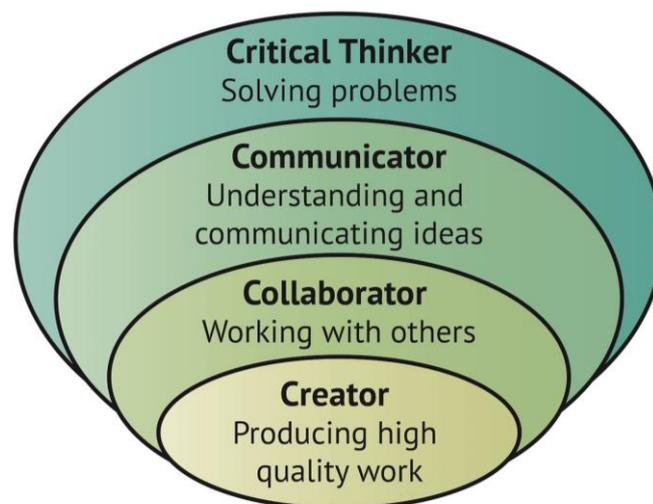
The use of ICT is an implicit part of contemporary teaching pedagogy and expectations of the role of teachers in using ICT in their professional practice are articulated in Standards 2.6, 3.4 and 4.5 of the Australian Professional Standards for Teachers. The effective use of technology is also embedded in the *Archdiocesan*

Transforming Teaching and Learning Framework and the *Quality Teaching Framework*, for teachers in Archdiocesan Catholic schools. It is no longer the case that the use of ICT is an helpful adjunct to learning or a part of the wider curriculum; ICT is now shaping and transforming how all subjects are learned and how teachers facilitate the educational context.

Literature Review

21st Century Skills

While the core subjects of literacy and numeracy are key to the development of our primary school students, researchers point to the importance of a focus on the 4 Cs of 21st Century learning. Tucker (2014) suggests that education systems need to infuse the “4Cs (**communication, collaboration, critical thinking and problem solving, and creativity and innovation**)” into their practice, to assist in preparing students for their role in the world and support them in developing the capacity to cope with “accelerated technological change”. This perspective is re-inforced by Donovan, Green and Mason (2014) who argue that the 4Cs are “learning and innovation skills necessary to prepare students for increasingly complex life and work environments in today’s world”.



The 4 Cs of 21st Century Learning

Use of Mobile Technology in the Classroom

A significant development in the field of ICT in recent years has been the development and uptake of mobile technology. Looi et al. (2010) note that while “mobile devices are changing rapidly, important commonalities remain the same: **portability, mobility and versatility**. These functions make learning ubiquitous in and out of classrooms, **provide potential opportunities for collaborative learning**, and enrich the learning experiences with the support of technologies”. This view was prescient given the introduction of tablet devices did not take place until April 2010. It is arguable that Looi et al. were only hinting at the revolution to come in mobile technologies. The rapid development of cheap and innovative programs, or apps,

designed specifically for this new form of technology has had a major impact on education and the educational context itself.

It can be argued that Mobile technology can be **personalised to cater for individual student needs** with content being adapted or settings customised (Ciampa & Gallagher, 2013; Chou, Block, & Jesness, 2012) with greater ease and at more manageable cost than at any time in our past. Added to this, the functionality of the device can be **easily tailored to meet the needs of the user** by adding and removing apps. This enables students to choose how they wish to demonstrate learning from a range of multi-modal options (Milman et al., 2014). While it is also the case that, as never before, mobile devices ~~also~~ cater for a **range of different learning styles** (Ciampa & Gallagher, 2013) incorporating text, pictures, video, audio and multimedia (Liu, Navarrete, & Wivagg, 2014) and greatly differentiated forms of assessment, enabling students to demonstrate their knowledge and skills in increasingly individuated forms.

An increasing number of studies acknowledge the potential of mobile technology to cater for a range of learner needs in an **authentic** way. They can support a variety of pedagogical approaches but to “leverage the full range of affordances that mobile devices can offer” teachers will need to engage in classroom practices that are **student centred** (Lui, et al. 2014; Chou, et al, 2012; Pegrum, Oakley & Faulkner 2013).

Fisher, Lucas and Galstyan (2013) have found that “the accessibility of the iPad facilitated the **collaborations** between students. The **size, portability, versatility and tactile** nature of the iPad are four of the main factors that contribute to its accessibility”. They also explored the concept of public and private space when using tablet devices, identifying the ease with which students can change between them. Devices, such as the iPad, can perform well as both **independent and collaborative tools**.

Some of the key findings of the research conducted by Macquarie University for the NSW Department of Education and Communities, *Use of Tablet Technology (iPads) in the Classroom* (2012) are:

- Increased engagement and motivation
- Improved student knowledge and skills
- Enhanced collaboration and communication between students
- Learning for students easy to personalise
- Ease of differentiation
- Students enabled to easily produce a professional finished product
- Instant access to provide just-in-time learning
- Student-centred pedagogies supported with the iPad – students learn *with not from* the technology
- Multimodal nature of the device afforded new opportunities for learning
- More timely and frequent feedback on student work
- Intuitive and easy to-use tool with minimal technical help required

1:1 BYOD (Bring Your Own Device) Mobile Technology and Learning

The NMC (New Media Consortium) 2014 Horizon Report, notes that BYOD devices in schools are a means of personalising learning, thus giving learners ownership of their learning. “BYOD” has profound implications for primary and secondary education because it creates the conditions for student-centred learning to take place”. As noted by Chou, et al. in 2012, “with sound pedagogy and implementation, one-to-one learning has the potential to **transform the classroom into a true learner-centred learning environment** in which communication, collaboration, and creative problem solving flourish to create student-driven learning”.

Incorporating student owned mobile technology into the school environment enables the creation of “seamless learning spaces” (Pegrum et al., 2013; Ciampa & Gallagher, 2013a; NSW Department of Education and Communities, n.d.). These devices expand space and time for learning, and “formal” and “informal” learning.

Curtis (2012) states that permitting students to use their own mobile devices provides them with an **opportunity to personalise their device**, which in turn allows them to access and engage with their learning in ways which meet their **individual needs**.

The Government of the Canadian province of Alberta (2012) reiterates that students invest time, thought and energy into customising their personal device and setting it up to suit their needs. ‘The student is typically quite proficient with the device and will use it anytime, anywhere to learn. Such devices, in the hands of every student, afford seamless learning opportunities that **bridge the formal learning in schools, with the informal, outside of classrooms and schools**’

Background

Over the last four years, Rosary has invested in Apple iPads to explore the educational opportunities that handheld devices can provide. The school initially purchased 12 iPads and increased the number over the years. Different configurations and methods of distribution have been trialled. There are now 42 iPads with six allocated to each grade and teachers can borrow from other grades if they require more for a given activity.

A number of apps have been loaded onto the iPads with a specific focus on Maths, English and cross curriculum apps that facilitate the creation of digital content. The management of the installation of apps is centralised and teachers can request new apps as required.

Teachers utilise the iPads in a variety of ways with usage varying from drill and practice to open ended creative tasks. When staff were evaluating current use of the iPads, access was identified as an obstacle. The school has been considering if the current method of use is the most effective to achieve our strategic goals for learning and teaching.

As iPads were developed as a personal user device, the school has experienced some challenges having multiple students use the one device for open ended long

term projects. As the iPads are shared across and between grades, it is not always possible for students to work on the same iPad and to continue work begun previously, nor has the personalisation potential of the technology been able to be developed. Students using 1:1 BYOD iPads will be able to store their work and personalise their device to alleviate this problem, while at the same time enabling more effective teacher facilitation and monitoring of individual needs and progress through the technology.

There are a number of schools within the Canberra Goulburn Archdiocese, and within the ACT Education and Training Directorate, that have implemented a 1:1 BYOD iPad program and the Catholic Education Office (CEO) is supportive of the concept as a form of technological innovation and through the provision of technical support for this platform. The CEO has launched a program called T4C (Technology 4 Classrooms). This has been done to ensure that schools do not initiate technology based programs without first identifying the desired educational outcomes and all technical requirements necessary for success.

This year, Rosary has investigated the feasibility of establishing a 1:1 BYOD iPad program for the students of Years 5 and 6 as the emerging literature has begun to consistently indicate that handheld mobile devices could be used to support dynamic student-centred learning environments if the correct pedagogical foundations were in place. The school has adopted a four phase process: Planning; Preparing; Implementation; and Evaluation. As part of the preparation phase a number of issues were considered. These have been categorised into two areas:

- Pedagogical Considerations
- Technological Considerations

Pedagogical Considerations

The implementation of any technology program within a school must be based upon a sound pedagogical rationale. Rosary Primary School has a number of strategies and programs in place to cater for the variety of learner needs within the school.

As a number of schools within the Archdiocese have implemented similar programs, a visit was arranged to see a 1:1 classroom in action. Both the principal and the class teacher spoke positively about the impact the program had on their students including the high levels of engagement and changes in pedagogy.

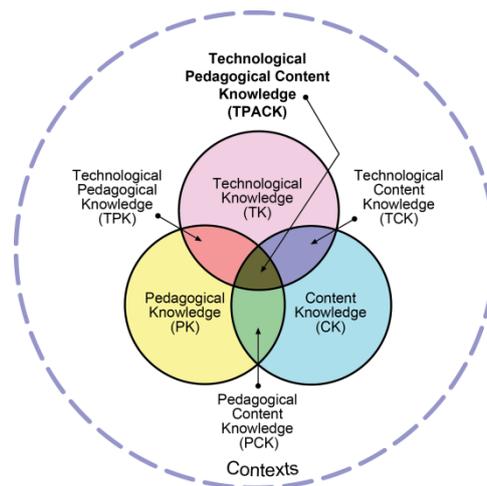
Critical to the success of the Rosary 1:1 BYOD program will be the pedagogy used to create an environment that accommodates diverse student needs. Rosary teachers are competent and experienced in integrating multiple technologies into the classroom.

At Rosary, we acknowledge that the successful implementation of any technology program is reliant on quality professional learning (PL) linked to the Australian Professional Standards for Teachers. We will continue to ensure that professional learning around the implementation of BYOD iPads:

- has a strong focus on pedagogy
- allows time for teachers to become familiar with devices and applications
- provides the opportunity to attend formal professional learning sessions
- engages in informal collaborations with other teachers
- uses the support of a learning technologies officer from the Catholic Education Office
- builds a professional community of practice as a platform.

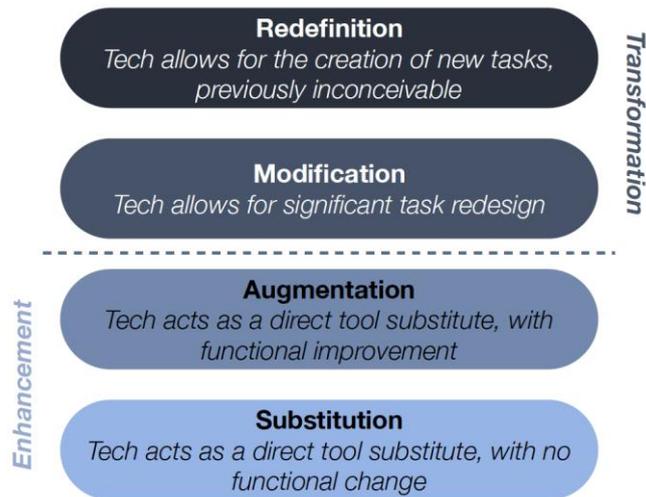
As illustrated in the literature, mobile handheld technology has an inherent capacity to be personalised and when used in a 1:1 environment allows easy, sustained and consistent access for individual students. When students use their own personal devices it can also create links between learning at home and school. The introduction of BYOD is consistent with the pedagogical literature that has been informing Rosary's Strategic Plan and the attainment of its goals.

The **TPACK Framework** and **SAMR Model** are used at Rosary to build teacher understanding of how technology can be used to enrich learning opportunities.



TPACK Framework (Koehler & Mishra, 2008)

The framework represents the integration of three bodies of understanding: Technical Knowledge, Pedagogical Knowledge and Content Knowledge. TPACK illustrates that the inclusion of technology in an education setting is a complex and multifaceted process and that successful integration cannot be achieved without considering pedagogy and content.



The SAMR Model (Puentedura, 2009)

The SAMR (Substitution, Augmentation, Modification, Redefinition) model is also used to help teachers evaluate how they are using technology. The first two stages - substitution and augmentation - accomplish “traditional” tasks that have been enhanced by the use of technology. It is in the next two stages - modification and redefinition - where technology can be used to transform learning and involve rich, open-ended, student-centred activities. It is our belief, based on the current and emerging research that BYOD represents the next step in the transformation of our educational context from one in which technology merely supports the initial stages of learning to one where students are genuine participants and co-creators of knowledge, skills and values.

Technological Considerations

Discussions were held with Catholic Education Office (CEO) technicians early in 2014 and this process was formalised when the school enrolled in the T4C program in Term 2. All technical considerations were discussed with the T4C team with the capacity of the current wireless system being the main infrastructure issue identified. The CEO evaluated the system and found it would not be capable of dealing with the expected number of devices. The technicians planned a new system with the cost being split between the school (cabling) and the CEO (wireless access points). The school has a broadband connection so bandwidth is not an issue and the CEO currently charges for downloads on a per student basis so there would be no cost difference caused by this technology. Quotes obtained for the technical upgrade necessary for implementation to ensure that this dimension of the project was within the capacity of the school.

The choice of platform (i.e. iPad) was determined by the provision of a stable technical support infrastructure provided by the Catholic Education Office. The CEO has also sourced favourable pricing regimes for iPad apps. While it is recognised that a variety of tablet devices now exist and each has its own strengths and

limitations, the option of system wide support and the capacity to transfer learnings and successful innovation across schools was determinative.

The school also investigated which iPad would best meet the requirements of the project. Through discussions with the Apple Store, Mac 1 and the technicians on the T4C team it was decided that the Apple Air 32 GB was the most cost effective option for meeting the identified requirements.

The question of 'purchase' options was also considered, recognising that some parents may want to lease the devices, while others may prefer outright purchase. Leasing options for the iPads were sourced. This information, along with the rationale for the 1:1 BYOD iPad program were presented at the Rosary Community Council meeting held on 5 November 2014. At this meeting, in principle support was given to proceed to the community consultation phase of the project for the implementation of a 1:1 BYOD iPad for Years 5 and 6 students at the beginning of the 2015 school year.

iPad Options

There are several factors that have influenced the particular choice of device, whether to use devices from home, how to maximise learning potential from the introduction of this innovation.

Students who already have an iPad can bring it to school (this includes iPad minis) under this proposal – provided it has a camera.

Please note iPad 1st generation (no camera) are not suitable as they do not have the features to meet the desired educational outcomes intended through this strategy.

We are *recommending* that the iPads be at least 4th generation (iPad retina). If you have a 2nd or 3rd generation you may choose to use it, but please be aware that as devices become older they may not be able to support new operating systems, apps, etc.

If purchasing/leasing a new device the Apple iPad 32GB WiFi is the preferred device. This is a current model and we have chosen the 32GB over the 16 GB. The cost difference between the two models is \$50 and having double the capacity will prove beneficial when working with video, photos and other multimedia content.

The Air 2 iPad WiFi is the latest iPad model and families may choose this device.

If you do not have an iPad you may wish to purchase one outright. The RRP for the iPad Air 32GB WiFi is \$549. They are available at many stores and can also be purchased online from the Apple Store.

The school has also explored a leasing option. The cost for this arrangement will be 8x quarterly payments over 2 years (each term). The initial leasing option did not

incorporate insurance but a number of parents expressed interest in this option so we have included it as an option for those who are interested.

Leased iPads will be available at the beginning of the 2015 school year and the two leasing options are:

Option 1: Apple iPad 32GB WiFi model **including** comprehensive insurance

The cost for this lease will be 8x quarterly payments over 2 years (each term). Each payment will be \$88. At the end of this time, the family will own the iPad. Terms and conditions for the insurance policy are attached. This policy covers accidental damage, theft and loss in transit. It has a \$50 excess for each claim.

Option 2: Apple iPad 32GB WiFi model **excluding** comprehensive insurance

The cost for this lease will be 8x quarterly payments over 2 years (each term). Each payment will be \$74. At the end of this time, the family will own the iPad. This option has no insurance element and the families will be responsible for any loss or damage. Parent may wish to explore their Home Contents Insurance Policy to identify if the device would be covered.

For both of these options parents of Grade 6 students will have the option of returning the iPad at the end of Year 6 or paying out the final four payments and keeping the iPad.

Parents are responsible for supplying a sturdy case for their child's iPad.

Financial Assistance

If you have difficulty meeting the costs of this program please schedule an appointment with the Principal.

Setup

All iPads need to be set up with an Apple ID. Parents will need to create the Apple ID as the terms and conditions state that you need to be 13 years old or over. The CEO advise that parents should not 'share' their own Apple ID but rather create a new one for their child.

It is recommended that the Apple ID be setup using the student's school email address. This will be available before the end of the school year. When creating the password it will be the parents' decision whether it is shared with their child.

The devices will be 'student managed' with the school having the capacity to provide apps and manage settings (eg wireless settings, student email) via the app 'MobileIron'. Details regarding the installation and use of this app will be provided at the beginning of the 2015 school year.

Information regarding the setup and use of an iPad can be accessed at the Canberra Apple store. A parent workshop will be conducted at the start of the 2015 school year to assist with any setup and technical issues. Information from this workshop will be available on the school website.

Safety

Internet traffic at Rosary is filtered by the CEO Internet filter 'Z-Scaler'. All iPads will access the Internet via this filter. Please note that when students use the Internet at home (or anywhere else) access will be filtered by whatever system is in place in that location.

Safe and responsible use of technology is an essential part of participation in this program. During 2014 the school has used the "Cybersmart" and "Think U Know" programs, and Australian Federal Police Officers have worked with the students in relation to cybersafety. Ongoing education about cybersafety and how to be a responsible digital citizen will be an integral part of the 1:1 BYOD iPad Program in 2015.

All participants (parents and students) in the program will need to sign and abide by the school's Acceptable Use Agreement.

We acknowledge the support and advice of the Principal and Staff of:

- Good Shepherd Primary School, Amaroo
- Sts Peter and Paul Primary School, Garran
- Holy Family Primary School, Gowrie
- Sacred Heart Primary School, Pearce
- St Bede's Primary School, Red Hill
- St Thomas Aquinas Primary School, West Belconnen

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