

SMART Classrooms

iPad Trial

Is the iPad suitable as a learning tool in schools?



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Abbreviations

Abbreviation	Name
1-to-1	One student to one computer
3G	3rd generation mobile telecommunications
App	iPad iTunes Software Application
DET	Department of Education and Training Queensland
DET IPWAN	Department of Education and Training, Internet Protocol Wide Area Network
ESL	English as a second language
ICT	Information Communication Technologies
ICU	iPhone Configuration Utility
iOS	Apple's mobile operating system.
ITB	Information Technology Branch
MDM	Mobile Device Management
MIS	Managed Internet Service
MOE	Managed Operating Environment
ULVC	Ultra Low Voltage Computer



Glossary

Enterprise Platform – The department's ICT infrastructure for all schools

iPad – first generation Apple iPad

iPad 2 – second generation Apple iPad

Apps - Small software applications built for mobile devices for a range of specific purposes including education, communication, productivity and leisure. Apps are available from the iTunes App store.

XO Laptops - One Laptop Per Child (OLPC), this non-profit organisation provides access to inexpensive laptops designed for children in developing countries and remote environments around the world.

Apple iOS – Apple Mobile Operating System

iTunes - a proprietary digital media application, used for playing and organising digital music and video files. The application is also an interface to manage iPods, iPhones and iPads.

Apple IDs - An account created and used for all interactions with Apple including shopping the iTunes Store, using iChat or MobileMe, buying from the Apple Online Store, making a reservation at an Apple Retail Store and accessing Apple.com support.



Executive summary

As part of the Department of Education and Training's (DET) commitment to ensure the latest technology is suitable for schools, two schools were selected to participate in an official iPad Trial to explore the use of iPads in school environments.

The use of Apple iPhones and iPod Touches within the department is currently being investigated informally through a number of corporate and school based interactions. This project extended the current trials to include up to 50 iPad devices in a primary and secondary school.

The aim of this trial is to determine the suitability of the iPad for business productivity, teaching and learning, and to assess compatibility with the department's Enterprise Platform.

The department's current ICT policies do not explicitly address the use of iPads or similar devices. A product of the trial is to inform policy regarding the use of these devices in both corporate and school based environments through information captured. Until such time that a policy statement is published, schools and business units have been advised to take all reasonable care to ensure information is secure when connecting these devices to the department's ICT network.

Throughout the trial, participating students and teachers evaluated the iPads' performance in a day-to-day school setting including:

- battery life
- ease of use
- suitability of apps
- content creation
- student engagement
- internet connectivity
- interaction with school networks.



Feedback was collected from students, teachers and parents via observations, usage data and analysis of anecdotal comments.

The outcomes of the trial included increased student engagement, production of a school implementation advice guide, demonstrated teacher confidence in using new technologies and a greater awareness of operating ethically online. Teachers blended the iPad and an assortment of available apps into lessons to engage the students, resulting in greater topic understanding and task completion.

It is essential that key decision makers have a clear purpose and vision for learning before implementing iPads or similar technologies. Identifying the vision ensures the technology is purchased to improve teaching and learning outcomes rather than having the device dictate opportunities.

The iPad is currently viewed as a 'supplementary device' within the department and is best suited to a 1-to-1 model of usage. Schools wishing to implement iPads/iPods within their school must be prepared to outlay funds for additional hardware, management software, accessories, apps, professional development and technical support. The total cost of ownership is not limited to the initial device purchase.



Introduction

Background

To support the use of ICT, the Learning Technologies team trials a range of existing and emerging technologies each year.

The Smart Classrooms Strategy 2011–2014 provides a roadmap for harnessing the learning and business potential of ICT for state schools. Schools and business units across the department are accessing innovative technologies to engage teachers and learners, enhancing learning and business productivity.

This project aims to identify whether the Apple iPad is an effective tool to support and extend student learning in the classroom.

Purpose

The purpose of the trial was to:

- identify the suitability of the iPad as a learning tool in schools
- assess the compatibility of the iPad with the department's Enterprise Platform
- facilitate collaboration between all schools trialling the iPad – both formally and informally.

Audience

- Principals and school based decision makers – to allow them to make informed decisions about the reliability and application of this technology within school environments.
- Central and regional office personnel – to inform policy and to gauge the impact on the Enterprise Platform.

Methodology

Two schools were chosen for the trial based on their demonstrated capacity for working digitally. This information was collated from each school's 2007-2010 School ICT eLearning Indexes.

For the purposes of the trial, it was also important the two schools were from different locations and with different infrastructure capacity and usage scenarios.



The chosen trial schools were:

- Doomadgee State School – a rural school with limited Wi-Fi capacity in the school, but adequate 3G access in the local community. The iPads were assigned to individual students in a combined Year 8/9/10 class.
- Kedron State High School – an urban school with excellent Wi-Fi coverage across the school using the department's high density wireless solution (H3C). The iPads were split into three class sets of six iPads and shared by students.

These scenarios provided a comparison of students, device management, learning context, battery life, ease of use, engagement, connectivity issues and app usage.

The trial ran for six months and data was collected via observations, analysis of students' school work and feedback from teachers, students and parents.

- Doomadgee State School purchased 3G-enabled iPads early in 2011 with the 3G SIM cards being installed in March 2011. Teachers received their iPads at the same time as the students.
- Kedron State High School purchased Wi-Fi only iPads in late 2010 to allow teachers to become comfortable with the device before they were distributed to students.

Both schools retained the iPads and associated accessories at the completion of the trial.

Doomadgee State School cancelled the 3G SIM card data plans on many of the iPads at the end of Semester 1 2011, as the department's wireless solution had been rolled out across the school.

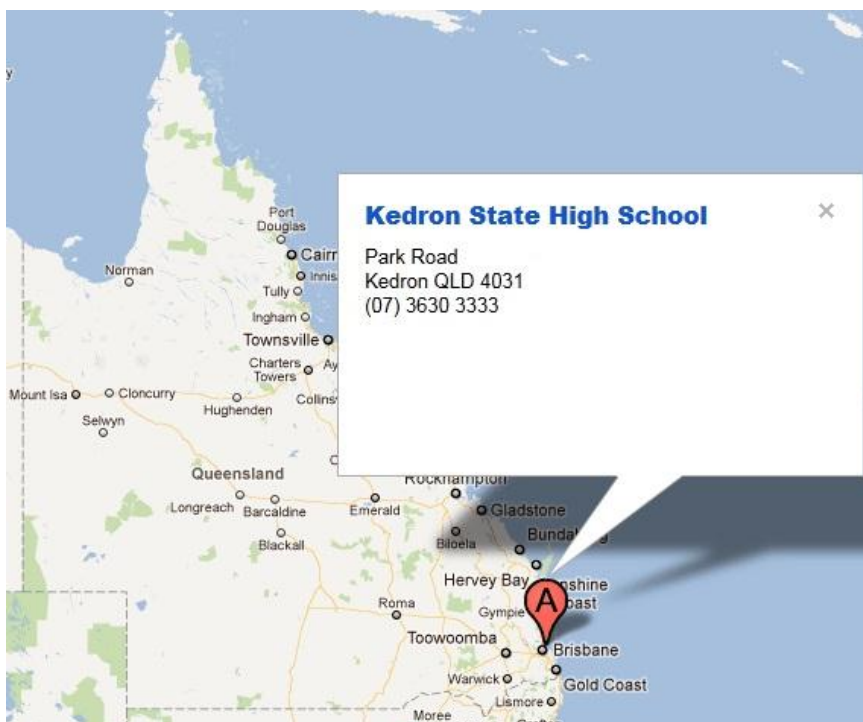


Trial schools

Trial school one: **Kedron State High School**

Type: Year 8 to 12
Region: Metropolitan
Population: 1167
Established: 1956

Kedron State High School delivers a curriculum based on the Key Learning Areas associated with the National Curriculum and focuses on assisting students to make informed choices as they progress from school to university, TAFE or the workforce. For many students this can be by combining school with university or TAFE study, or through vocational training in the workplace. The school supports a traditional academic and disciplined approach, enabling the diverse student population to reach its full potential. Working in partnership with parents and caregivers, the school provides a safe and inspiring work environment for staff and students.



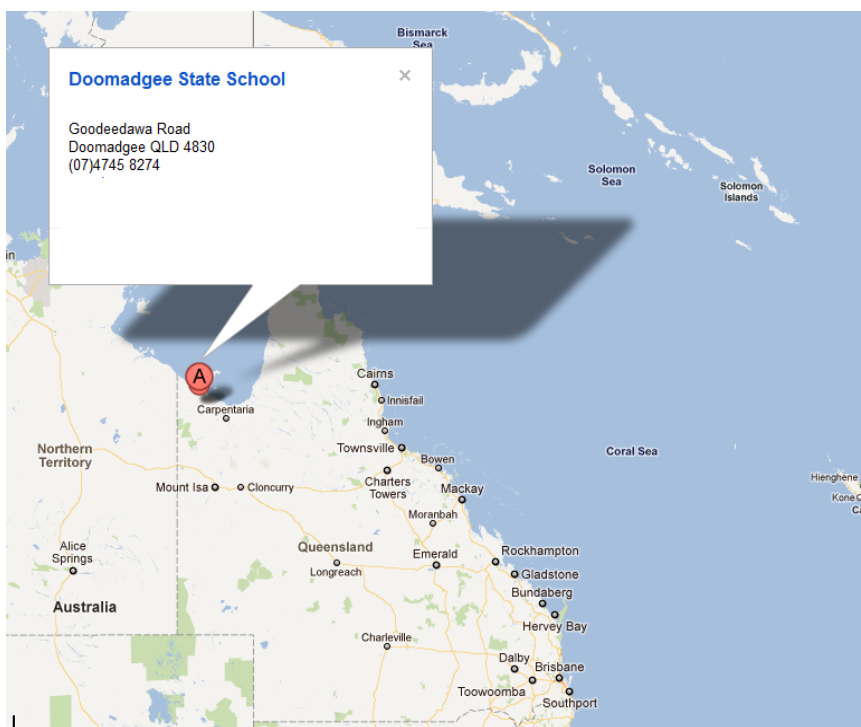
The school's ICT eLearning index indicators demonstrate capacity in the use of ICT for Working Digitally, Developing Professionals, Enabling Learners and Harnessing the Enterprise Platform. Kedron is an active school whose participation in the initial 1-to-1 laptop trial has seen the school use this opportunity to guide their 1-to-1 vision for the entire school.



Trial school two: Doomadgee State School

Type: Pre-Preparatory to Year 10
Region: North Queensland
Population: 344
Established: 1933

Doomadgee is a remote community located in Gulf of Carpentaria, north-western Queensland. The school population is more than 97% indigenous. The school delivers an Essential Learnings curriculum for Years 1 to 7, and senior students are engaged in VET subjects and specialist programs in an effort to prepare for them for the transition to boarding school or pathways to future studies or work. Unlike traditional high schools, the secondary students do not move from teacher to teacher, rather there is a combined Year 8/9/10 class taught by a single teacher.



The school's ICT eLearning index indicators demonstrate use of ICT for Working Digitally, Developing Professionals, Enabling Learners and Harnessing the Enterprise Platform. Doomadgee is currently participating in the XO laptop trial and is progressively implementing additional ICT within the school.

Further information about the ICT eLearning index can be found at:

<http://education.qld.gov.au/smartclassrooms/working-digitally/planning-cycle/elearning.html>



Students

- Doomadgee State School
 - Years 8/9/10 combined class

While Doomadgee students in Years 1-7 have been involved in the One Laptop Per Child (OLPC) trial, the students in Years 8, 9 and 10 have had limited exposure to any form of computing. Students in this group were chosen with the aim of enhancing engagement and improving attendance.

All students in the Years 8/9/10 combined class had exclusive access to their assigned iPads in a 1-to-1 usage model. Throughout the school day, participating students shared the same teacher and learning space. The iPads were not part of a take home model during this trial.

- Kedron State High School
 - Year 9 Boys Literacy
 - Year 9 Learning Support
 - Music
 - English as a Second Language (ESL)

Students in these groups were identified through OneSchool data trends, which indicated certain students were disengaging from their learning especially in Years 9 and 10. The data showed that many boys were alienated from the curriculum and their performance started to decline in Year 9.

These students utilised the iPads in specific classes with set teachers during their school day. They used the devices for specific tasks and assessment pieces blended into their class work. Students did not have access to the devices exclusively or for the entire day.



Device

In April 2010, Apple introduced the iPad as a 'post-PC' device. It quickly became a popular consumer item and was introduced into many school and corporate environments, even though it was advertised as a personal device not an enterprise device. The two schools purchased the original iPad with 32Gb of storage for the trial with grant monies received from departmental/ government initiatives.

In March 2011, the iPad 2 was released and added two webcams, a 3-axis gyroscope and a faster processor into a form factor that was thinner and lighter than the original. The table below lists specifications of the iPad and iPad 2:

	Original iPad	iPad 2
Size and weight	<ul style="list-style-type: none"> Height: 241.2 mm Width: 185.7 mm Depth: 13.4 mm Weight: 680g (Wi-Fi) / 730g (3G) 	<ul style="list-style-type: none"> Height: 241.2 mm Width: 185.7 mm Depth: 8.8 mm Weight: 601g (Wi-Fi) / 613g (3G)
Storage	<ul style="list-style-type: none"> 16Gb / 32Gb / 64Gb (non expandable) 	
Display	<ul style="list-style-type: none"> 9.7-inch (diagonal) LED-backlit glossy widescreen Multi-Touch display with IPS technology 1024-by-768-pixel resolution at 132 pixels per inch (ppi) Fingerprint-resistant oleophobic coating 	
Chip	<ul style="list-style-type: none"> Apple A4 (1GHz) 	<ul style="list-style-type: none"> Apple A5 (1GHz dual-core)
Power and battery	<ul style="list-style-type: none"> Built-in 25-watt-hour rechargeable lithium-polymer battery Up to 10 hours battery life Charging via power adapter or USB to computer system 	
Input/output	<ul style="list-style-type: none"> 30-pin dock connector port 3.5-mm stereo headphone mini-jack Built-in speaker Microphone Micro-SIM card tray (3G) 	<ul style="list-style-type: none"> 30-pin dock connector port 3.5-mm stereo headphone mini-jack Built-in speaker Microphone Micro-SIM card tray (3G) Rear Camera (HD 720p quality) Front Camera (VGA quality)
HDMI out	<ul style="list-style-type: none"> 720p (with optional Digital AV adapter) 	<ul style="list-style-type: none"> 1080p (with optional Digital AV adapter)
Extras	<ul style="list-style-type: none"> 3-axis accelerometer GPS (3G) 	<ul style="list-style-type: none"> 3-axis accelerometer 3-axis gyroscope GPS (3G)
Connectivity	<ul style="list-style-type: none"> Wi-Fi (802.11 a/b/g/n) Bluetooth (2.1 with EDR technology) 3G models – UMTS/HSDPA/GSM/EDGE (850/900/1900/2100MHz) 	

More detailed specifications can be found at: <http://www.apple.com/au/ipad/specs>



During the course of the trial, none of the iPads were damaged and in both locations teachers commented on how well the students cared for the devices and how motivated they were to use them.

In the long term however, it would be advisable to use protective cases, particularly if the devices were part of a take home program.

Battery life was consistent with the rated specification, meaning the iPad was able to last a full school day on a single charge.

Other considerations about the device that were not covered in the trial include:

Readability of the glossy screen in bright sunlight – particularly if the iPad was to be used on field trips or by sports teachers on the oval.

Usability of the onscreen keyboard when typing large documents.

Benefits offered by peripheral devices like the dock keyboard or stylus.

Student response to the devices has been overwhelmingly positive. Each student has been assigned an iPad which they may name, establish their personal email and retain work. The students take very good care of their iPads, which I attribute to their sense of 'ownership' of the device.

Teacher - Doomadgee State School



Connectivity

As can be seen from the map below, both Doomadgee and Kedron were covered by Telstra's NextG wireless network. At Kedron State High School, it was decided that the school's own wireless infrastructure was suitable for the trial and so Wi-Fi only iPads were purchased.

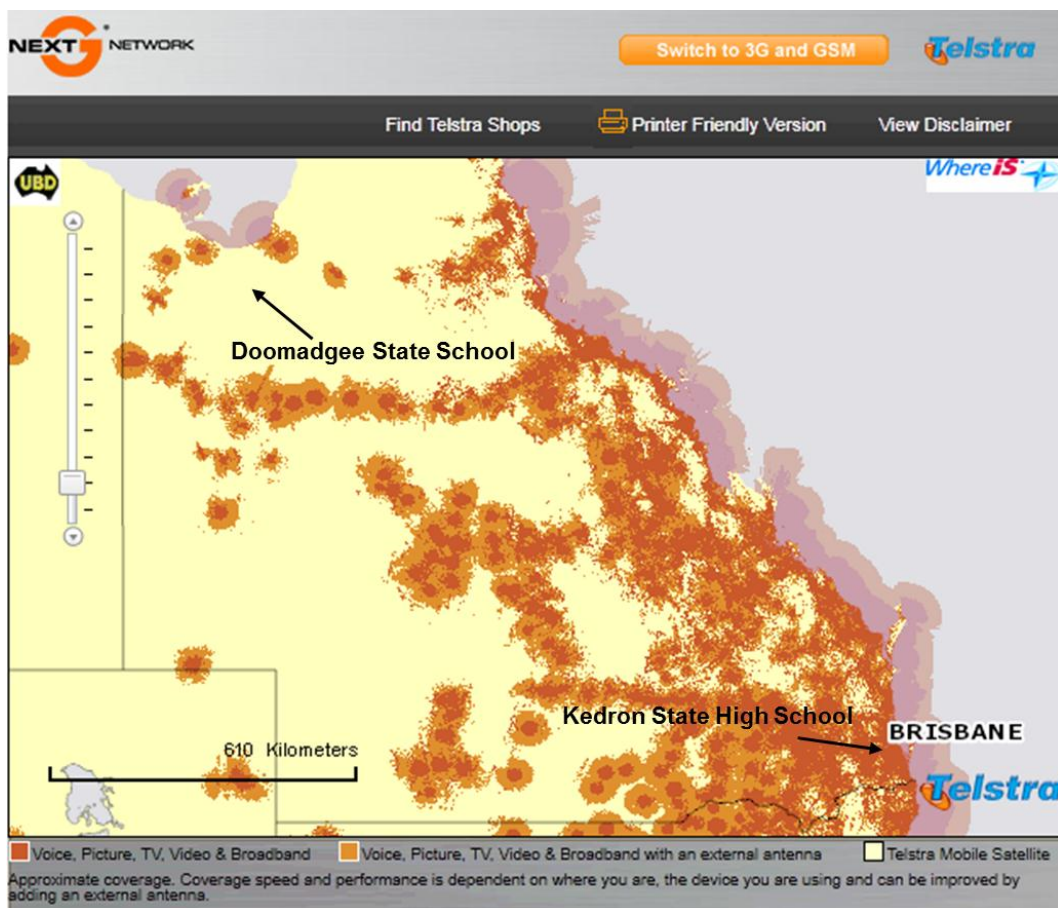


Figure 1: Telstra's Next G network coverage highlighted in dark orange.

Doomadgee State School had no internet capacity, hardwired or wireless, within the school for the duration of Term 1, 2011 and so were reliant on the NextG network. Learning Technologies funded 25 data enabled SIM cards for the duration of the trial.

iPads used at the school had an iPhone Configuration Utility (ICU) profile installed to provide DET student filtered internet access. Learning Technologies worked closely with the department's Operational Systems Management and Integration Unit to ensure this profile provided the level of student filtering required to maintain duty of care responsibilities.



The ability to monitor the internet usage on the iPads throughout the trial provided an insight into the usage of 3G internet on the device for educational purposes. 3G usage data from students and teachers at Doomadgee State School is available in *Appendix A*. Students had no internet access via desktop computers or other devices throughout the trial. Usage data demonstrates the minimal data usage of each allocated data plan. This also indicates an internet connection is not vital to device operation provided apps are synced locally from a computer.

Key technologies and eLearning resources

The following technologies and resources were used throughout the trial:

- Learning Place Learning Pathways, blogs and virtual classrooms. The Learning Place is DET's comprehensive eLearning environment, providing secure access to an innovative range of digital tools, resources and eSpaces for teaching and learning, collaboration and networking.
- First Generation iPads both Wi-Fi and Wi-Fi +3G models.
Schools purchased peripheral devices to use with the iPads, for example: protective cases, keyboard docks and AV/media/instrument connectors.
- iTunes Store - Apps and content.
- Telstra NextG (3G) network.
- Apple iOS.
- DET IPWAN – iPad Configuration Utility Profile.
- Education Queensland discussion lists.

iTunes store apps are essential when using the iPad and the subsequent iOS environment. The following apps were used by teachers and students throughout the trial, and are referred to in this report.



Boggle

A word game that requires you to build words of three letters or longer from a random collection of letters within a set timeframe.

Electronic Arts Inc. 2011 "Boggle". iPad app: IPA Accessed 2011.
<http://itunes.apple.com/us/app/boggle-for-ipad/id372095432?mt=8>



Bananagrams

An anagram game that requires you to use a random selection of letter tiles to create a full board of words using all of your letter tiles.

Majesco Entertainment 2011 "Bananagrams". iPad app: IPA Accessed 2011
<http://itunes.apple.com/us/app/bananagrams/id329521810?mt=8>



Comic Life

A comic strip builder app enabling you to creatively display your digital photos with a range of comic strip templates, styles and fonts.

plasq LLC 2011 "Comic Life". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/comic-life/id432537882?mt=8>



Conversation Builder

A language support app designed to assist children with multi-exchange conversations in a variety of social settings. Content is presented in a visual format to help students recognize and master the flow of conversation.

Northwest Kinematics 2011 "ConversationBuilder". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/conversationbuilder/id413939366?mt=8>



GarageBand

A music app that uses multi-touch gestures to access and play a wide range of instruments and edit tracks with functions similar to full-featured recording studio.

Apple Pty Limited 2011 "GarageBand". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/garageband/id408709785?mt=8>



Keynote

A presentation app purpose built for iOS devices. You can create presentations using a choice of templates and include a range of animated charts and transitions.

Apple Pty Limited 2011 "Keynote". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/keynote/id361285480?mt=8>



Notes

A note taking app enabling you to quickly jot or scribble down important information without having to type on the onscreen keyboard.

Jack Rostron 2010 "Notes". iPad app: IPA Accessed 2011
<http://itunes.apple.com/bw/app/notes/id338028810?mt=8>



Numbers

A spreadsheeting app purpose built for iOS devices. You can include tables, charts, photos and graphics. Includes built in functions to help with data crunching.

Apple Pty Limited 2011 "Numbers". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/numbers/id361304891?mt=8>



Pages

A wordprocessing app purpose built for iOS devices. This app allows you to create, edit and view documents wherever you are.

Apple Pty Limited 2011 "Pages". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/pages/id361309726?mt=8>



QuickVoice Recorder

A voice recording app for items such as memos, emails, lectures or minutes. For professional, educational and personal use.

nFinity, Inc. 2008 "QuickVoice". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/quickvoice-recorder/id284675296?mt=8>



Soulver

A calculation app combining both notepad and calculator, enabling you to record your answers and notes all in the one space. You can see all your working, change any part of it, and your calculations are displayed as you type.

Acqualia Software 2011 "Soulver". iPad app: IPA Accessed 2011
<http://itunes.apple.com/au/app/soulver-for-ipad/id371982536?mt=8>



What did we learn?

Working Digitally

The choice of device used in the trial proved to be a major success factor. Students, teachers and parents commented positively on using the iPad, particularly its size, engagement 'wow factor', ease of use, battery life, collaborative nature, and range of available apps.

As the iPad is marketed as a personal productivity device, the focus of this trial was to determine if the iPad could be used within the department to contribute to teaching and learning. Working closely with the trial schools provided an opportunity to test numerous features of the device to assess the iPad as a supplementary device for a range of class uses, engagement and school management scenarios.

With a wide range of mobile devices now widely available, across a variety of operating systems, it was imperative to test what is seen as the market leading device within schools.

Parents were enthusiastic about the potential of the device to engage their children.

Since Apple market the iPad as a personal use device, the terms and conditions for the iPad, iPad iOS, iTunes and iTunes Store, naturally focus on this model of usage, providing minimal leverage for educational and shared device usage. Extensive dialogue was undertaken with the department's Legal and Administrative Law Branch to ensure Learning Technologies could provide adequate guidance surrounding copyright, licensing of content, purchasing apps and setting up Apple IDs.

Providing this advice was vital for schools so that the devices were administered in a way that would not leave the department open to breach of policy. This advice formed the basis for developing the *Schools guide for purchasing and using personal productivity devices*, currently available via the [Smart Classrooms](#) website. A similar document for corporate users, *Corporate guide for purchasing and using personal productivity devices*, has now been developed.

At the commencement of the trial, the iPad was seen as an unsupported device on the departmental network. The advice guide for schools in *Appendix B* was created as a product of the trial to give schools clear guidance on a range of issues, including:

We, too, are thrilled to bits with this new development in Frankie's (and his fellow students') educational opportunities.

...

I don't care about the hiccups with technology – it's all grist to their learning mill! Watching you cope with the hiccups will teach them how to confront challenges positively.

Parent – Kedron State High School



- purchasing apps
- recording iPads as school assets
- connecting to school Wi-Fi
- setting up email
- usage scenario examples
- current policy and copyright compliance
- creation of unique Apple IDs
- management of iOS and app updates
- syncing content to multiple devices.

During the trial, the iPad was used as both a shared device, being utilised by multiple students and a personal device, being utilised by individual students. The music teachers at Kedron found the group and collaborative model effective, while the English teachers at Kedron, and the teachers at Doomadgee found the 1-to-1 model was more effective. The students using iPads in a 1-to-1 model were able to store their work allowing them to easily continue where they left off, and personalise the device, therefore encouraging a sense of ownership.

If devices are to be shared as a class set, clear identification is required to assist students to be able to return to the same device for any stored or unfinished work.

It is not possible to log onto the iPad as different users, therefore it is a device best suited to a 1-to-1 model. This is particularly the case if personal information, documents, email accounts, calendars and photos need to be stored on the device.



Developing Professionals

Teachers at both schools agreed that using the device personally before classroom implementation is vital. There was a disparity in teacher comfort levels between the two schools involved in the trial. Doomadgee had no lead up time with the device due to unforeseen weather circumstances causing delays in the delivery of the iPads, whereas Kedron teachers had several weeks at the end of 2010 and the holidays before introducing the iPad to their classes. Teachers commented that familiarisation led to a greater depth of integration in classroom activities.

An unexpected benefit for Kedron State High School teachers arose when they stepped outside their comfort zone, acknowledging they were not expert in using the device and openly demonstrating that new technologies are an opportunity for all to learn. Students responded well to this and were keen to assist teachers with the technology, resulting in a shared approach to problem solving and the learning process.

The use of the professional communities in the Learning Place and discussion lists also helped staff to reflect on the trial, discuss problems and find solutions.

Under *The Australian Curriculum*, where ICT is a cross curriculum capability, it is expected that students investigate, create, communicate and operate ICT, as well as apply social and ethical protocols to operate and manage ICT.

We do not advocate obtaining an app and then going about 'making' it fit the curriculum. Rather, we identify an area of curriculum that might be addressed by an app. You need to know the app's strengths and limitations in order to determine whether it will address the need.

Teacher – Doomadgee State School

The iPad is a 'multi-tool' learning device that is adaptable into almost every facet of curriculum delivery across the P-12 spectrum. The iPad provided a link between the students and teachers, with the role of 'expert' continually shifting between them resulting in the development of a positive rapport.

Teacher – Kedron State High School

Responding to this current priority, Kedron State High School teachers saw an opportunity to blend the iPad into units of work for music and literacy. This demonstrated that the iPad can be successfully embedded within a secondary school setting. As such, the literacy unit of work in *Appendix C* has been created, implemented, submitted and assessed using the iPad.

Teachers from the trial schools provided advice and support to colleagues via the Education Queensland discussion lists and virtual spaces, sharing information about network connections, device problems, experiences with different apps and models of usage.



Enabling Learners

Student response to the iPad was overwhelmingly positive in both schools.

At Doomadgee, the iPads were used primarily as an assistive device for engaging students in literacy and numeracy activities. A range of literacy applications (eg: **Conversation Builder**) were used to improve reading and spelling. Students could hear a word they could not read or have a word that they had spelt read out correctly to them.

Mathematics games and an interactive clock app were used to boost students' basic numeracy skills. **Soulver** (a numeracy app) was used on an excursion to the local supermarket to calculate the costs of food – especially with multiples of weights and prices.

Students at Doomadgee also used apps such as **Pages**, **Comic Life**, **Numbers** and **Garageband** that were more open-ended and flexible, and therefore able to be used in any curriculum area.

At Kedron the iPads were also used to develop basic literacy skills using a variety of spelling apps and word games such as **Boggle**, **Bananagrams**, and **Wordfeud**. The teachers commented that “students engaged with the spelling and grammar programs with a degree of enthusiasm not usually seen with traditional methods”.

*The students took photos around the school and used **Comic Life** and **Pages** to create a story. As it is normally so difficult to get the students to write and create their own work, these applications were highly successful in engaging and providing a scaffold for students' story telling and recount of procedures.*

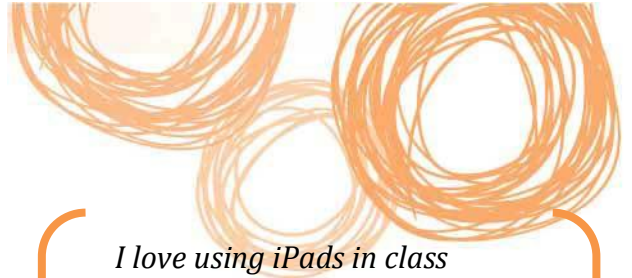
Teacher – Doomadgee State School

I must say I am very impressed with the progress, especially of my son ... he seems to take a lot more interest in his English work this year ... the iPad being a definite source of motivation ...

Parent – Kedron State High School

Apps such as **Notes** and **Quickvoice** allowed students to draft and edit their work easily. The **Resume** app enabled students to focus on the content of their resume rather than the layout as part of the 'language of the workplace' unit. They also used the **Keynote** app to present their research on a career path.

Working individually and collaboratively, teachers reported that students re-engaged in their learning. Teachers credit the use of the iPad, the fact it allows students to break tasks down into achievable parts, and the boys' perception that they are having fun whilst working, as being contributing factors to the positive improvement.



During the trial, the Kedron Year 9 class completed two assessment pieces using the iPad (written and oral). In both assessment pieces students demonstrated improved performance in comparison to previous grades. Of the 24 students in the class, 15 improved their level of achievement, eight stayed the same and only one dropped (from a B+ to a B).

Teachers and parents agreed that the 'wow factor', street credibility and simplicity of use associated with the device are major selling points when it comes to students engaging with the iPad.

Students enjoyed the game-based structure of a majority of the apps used in class, also the touch interface.

Parents have also been very positive regarding the use of the iPad – even offering suggestions of apps they have found. This enhanced collaboration beyond the classroom.

*I love using iPads in class
because it's a fun and
interesting way to learn. I love
playing some of the spelling
games like hangman and
boggle - it's a thousand times
better than writing all day.*

Student – Kedron State High School

*The tools available on iPads assist
students to discover their musical
potential, provide educational
assistance in solving musical
problems and provide practical
solutions to compositional
development.*

Teacher – Kedron State High School



Harnessing the Enterprise Platform

A major aim of the trial involved assessing if the iPad was compatible with the department's Enterprise Platform. Apple envisioned the iPad as a personal consumer device and so issues such as having multiple users accessing the device, downloading multiple copies of apps, accessing the internet through restrictive proxies and downloading large updates multiple times are only now being addressed because of its success in both education and corporate settings.

The problems that arose during the trial can be grouped under three main headings:

- management issues
- proxy issues
- iPad limitations.

Education Queensland discussion lists were consistently used throughout the trial by a range of schools using iPads both as part of, and external, to the trial. Participants shared information surrounding network connections, device problems, experiences with different apps and models of usage.

Management issues

These included:

- setting up and managing multiple iTunes accounts
- handling the updates to the operating system (iOS) and apps on multiple devices – particularly when an iOS update can have a file size greater than 600Mb and some apps are over 200Mb in size
- inability to easily purchase multiple copies of apps.

Most of these management issues have either been resolved or have an approved work-around. One of the outcomes from the trial is a document that outlines how to set up multiple iPads using MIS mailing groups. An extension of the trial is going to explore Mobile Device Management (MDM) software that will make it much easier to update, backup, sync and set policies on multiple iPads. The latest version of the iOS (iOS5) promises incremental updates rather than one-off large updates.

In the United States, Apple have introduced an *Education Volume Licencing* program and a *Business Volume Licencing* program which are expected to be introduced to Australia in coming months. This will make purchasing multiple copies of apps and 'gifting' apps to particular iPads much easier.



Proxy issues

These included:

- authentication issues with iTunes software and iTunes store
- internet dependent apps freezing
- inability to download apps directly to an iPad on School Wi-Fi networks.

Most of these issues are caused by a clash between the way iTunes and iOS interact with the internet and the Education Queensland proxy and were a cause of great frustration for the trial schools.

Teachers would trial apps at home successfully and then find they did not work at school. Kedron staff contacted some of the app developers and they built proxy awareness into their app which solved the problem for those particular apps. The latest version of the operating system (iOS5) has built-in proxy awareness and should solve a number of app freezing problems.

Students will still be required to enter their MIS name and password for each internet-aware app and this can become tedious – particularly, as Doomadgee found, if students continually misspell their password and lock their MIS account.

The larger proxy issues are still unresolved, however, and are continuing to be worked on by both Education Queensland and Apple technicians.

iPad limitations

These included:

- no support for plugins such as Adobe Flash, Microsoft Silverlight and Java
- rich text input fields unusable on some websites
- syncing and backups require connection to a computer.

Ultimately, it will be how these limitations impact on a school's vision for learning that will decide whether the iPad is the right device for that school.

For instance, the lack of support for Flash means that Flash-based websites and many of the Learning Place learning objects will not work on the iPad. The lack of support for Java means that iConnect, the department's web conferencing solution, also will not work on an iPad.



In the long term these problems will mostly be solved – for instance, Blackboard is working on an app that will allow the iPad to participate in iConnect sessions. In a similar manner, Adobe have created a server solution that will check whether a mobile device is running Flash, and if not will send the web pages using the new HTML5 standard for devices like the iPad which does not support Flash. Adobe have also created a tool that will allow Flash objects to be converted into iPad apps, this tool has had with limited success where interactivity is included. Recent announcements from Adobe state that HTML5 is the best solution for creating and deploying content in the browser across mobile platforms and outlines their direction away from the Flash Player use on mobile browsers.

Participating teachers collaboratively found professional solutions or alternatives to a significant number of the problems that arose throughout the trial.



Additional findings

Over the course of the trial many other schools throughout Queensland purchased iPads and this has provided further anecdotal evidence to confirm the results of the trial.

DET special education sites throughout Queensland have been a major consumer of the iPad. This has been attributed to the iPad's ability to be used as an assistive device to many types of impairment. The myriad of uses for special education are evident in the number of apps developed for this market. Examples include apps such as **Proloquo2Go** (a communication medium for non-verbal students), **Pocket pond** (a cause and effect interaction experience) and **iPrompts** (giving students the tools to independently complete everyday tasks).

Teachers in many DET schools have also used the iPad for administrative tasks using OneSchool, marking student rolls, reporting and taking meeting notes. The iPad does experience problems with Silverlight components of OneSchool, specifically the Timetabling components.

The Apple iTunes store has over 500,000 apps available for download. Apps range from being free to download, through to a range of price points up to \$1000. When teachers were reviewing apps to use in their classes, initially free apps were a great place to start exploring functionality on the iPad. As teachers became more discerning and mature with their use of the app store they began to look further into the functionality of apps, such as the ability to export/transfer student work off the device.

Teachers wished to ensure that work created in a particular app was able to be repurposed and exported off the iPad onto a PC, Mac, or other mobile device, rather than being restricted to a legacy format only viewable in that particular app. This became important as teachers were keen to use student work demonstrated within an app for student work portfolios and assessment pieces. There are many different ways of exporting content from iPad apps, including email, screen capture, Wi-Fi, cabled iTunes connection and uploading to a WebDav server, such as OnePortal.



Conclusion

As a result of the iPad Trial, participating schools have an increased knowledge of how iPads can be implemented within their schools and student reaction to the devices. Teachers demonstrated that the longer the devices are available to them in a classroom situation, the more confidence and expertise they gained in implementing iPads into the curriculum. The iPad was viewed unanimously by participating teachers as a cross curriculum device that is not constrained to a specific subject area. This is demonstrated by the range of apps available and mobility of the device.

The iPad was an appropriate benchmark to use as the official trial of slate/tablet devices in DET schools. With so many slate/tablet devices now available providing a myriad of choices to consumers, research organisations, such as Gartner, indicate the iPad is seen as the leading device in this market, due to its functionality, brand identification and ease of use. Apple's stringent processes surrounding the testing, approving and uploading of apps to the iTunes store provides assurance in using iTunes store content. It was evident throughout the trial that the iPad is best suited to a personal use model - this was highlighted by the technical and administrative issues experienced at trial schools. The iPad did display a range of issues in connecting, authenticating and updating on the department's enterprise infrastructure.

Students enthusiastically embraced their participation in the trial and demonstrated maturity, respect and creativity with the use of the iPads. They were thoroughly engaged using the device as they were able to take ownership of their learning both independently and also in collaborative situations.

The iPad trial has provided an opportunity to highlight the issues and successes in a range of departmental settings. As a result an iPad usage guide, which covers iTunes terms and conditions, has been created to guide DET staff in the use of iDevices and iTunes software. An iOS guide will also be published to support the trial and the expected increased usage of mobile devices within the department.

Teachers involved in the trial, along with other departmental staff, were willing to collaborate and discuss their experiences using the iPad through the iPhone discussion list. This provided an accessible source of information for all schools and teachers either implementing iPads themselves or considering introducing them to their school. Teachers have also presented at a variety of professional development activities, sharing their experiences with their colleagues.



Recommendations

For schools:

- Ensure you have a clear purpose before deploying a significant amount of iDevices.
- Consider the full cost of implementation including the management layer, professional development, additional hardware, mobile device management (MDM) software and additional technical support.
- Until such time that these are supported devices, schools are encouraged to utilise existing communication channels and resources for assistance.

For DET:

- Trial and publish findings on school or enterprise wide options for managing iPads, updates and app deployment.
- Work with Apple to establish departmental wide volume procurement opportunities for iPads in the new preferred supplier agreement.
- Create iOS guidelines to identify safe and secure usage practices for teachers, corporate users and institute users.
- Create generic iPhone Configuration Utility (ICU) profiles for school iPads, which include appropriate iOS restrictions and Wi-Fi set up for teachers and students. Additionally, internet filtering will be incorporated in the profiles requested for 3G enabled iPads.
- Further investigate iTunes and iPad connectivity with DET Wi-Fi and Proxy connections.
- Investigate iTunes volume purchasing when available in Australia.



References

Department of Education Employment and Workplace Relations:

<http://www.deewr.gov.au/Schooling/DigitalEducationRevolution/ComputerFund/Pages/NationalSecondarySchoolComputerFundOverview.aspx>

Department of Education and Training Queensland

Smart Classrooms:

<http://education.qld.gov.au/smartclassrooms/>

iPad Trial website:

<http://education.qld.gov.au/smartclassrooms/enterprise-platform/elab/ipad-trials.html>

Learning Place 1-to-1 professional community

<http://education.qld.gov.au/smartclassrooms/working-digitally/1-to-1-learning.html>

Victorian Government iPads for Learning website:

<http://www.ipadsforeducation.vic.edu.au/>

Redlands iPad Programme:

<https://ipad.redlands.qld.edu.au/>

Coogan, C., Hardy, R., & Lang, S. (2011). "Kedron_Final Collaboration iPad Trial." M.ed Diss., Queensland University of Technology.

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Appendix A:

The below graphs provide a breakdown of the 3G usage for each iPad used in Doomadgee State School for the three months of the trial.

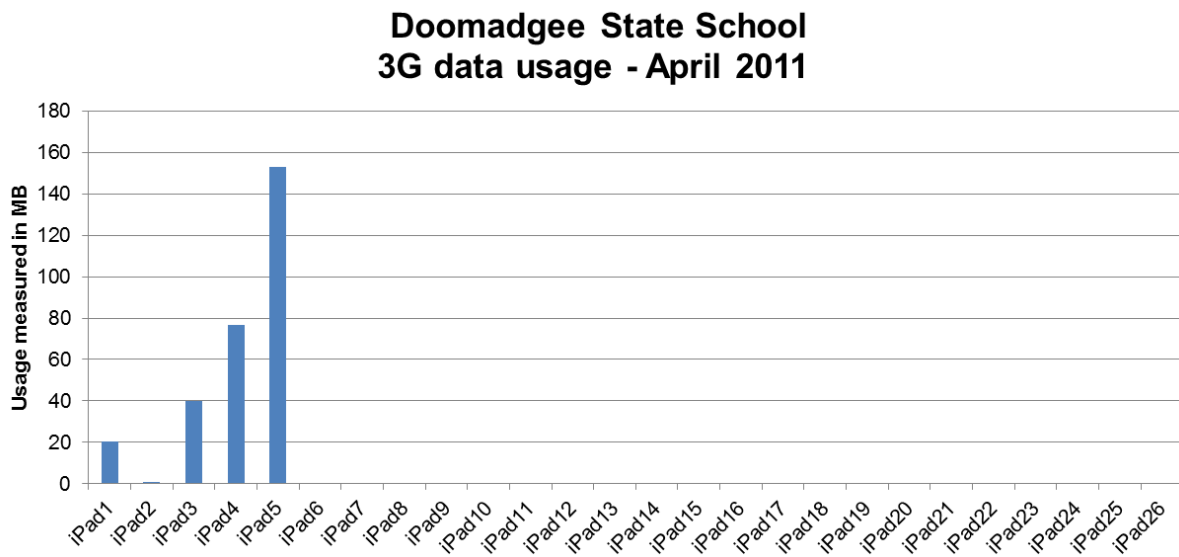


Figure 3: 3G usage for each Doomadgee State School iPad – April 2011

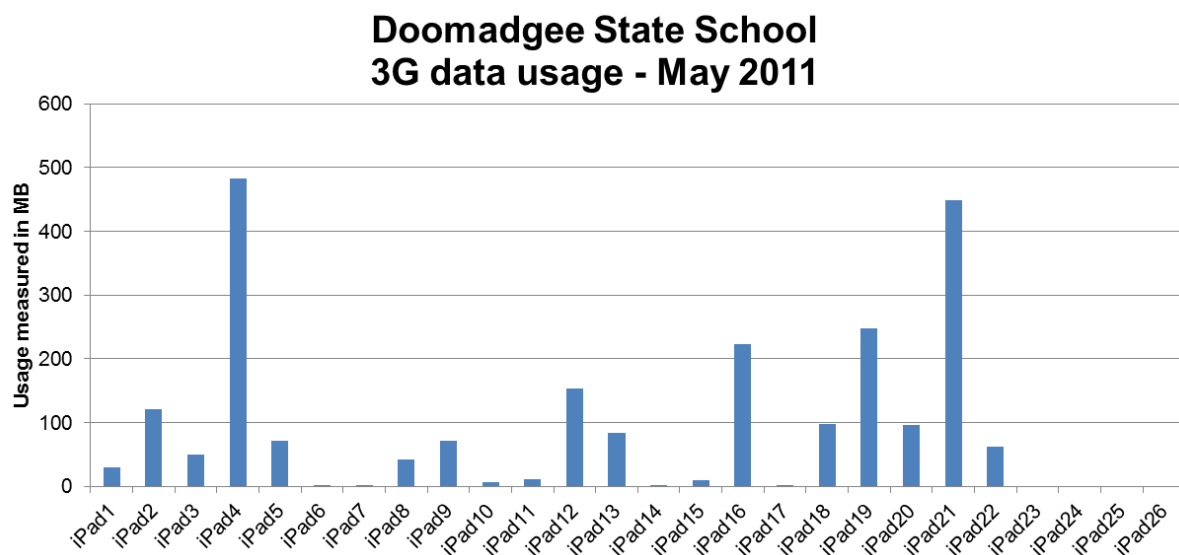


Figure 4: 3G usage for each Doomadgee State School iPad – May 2011



Doomadgee State School 3G data usage - June 2011

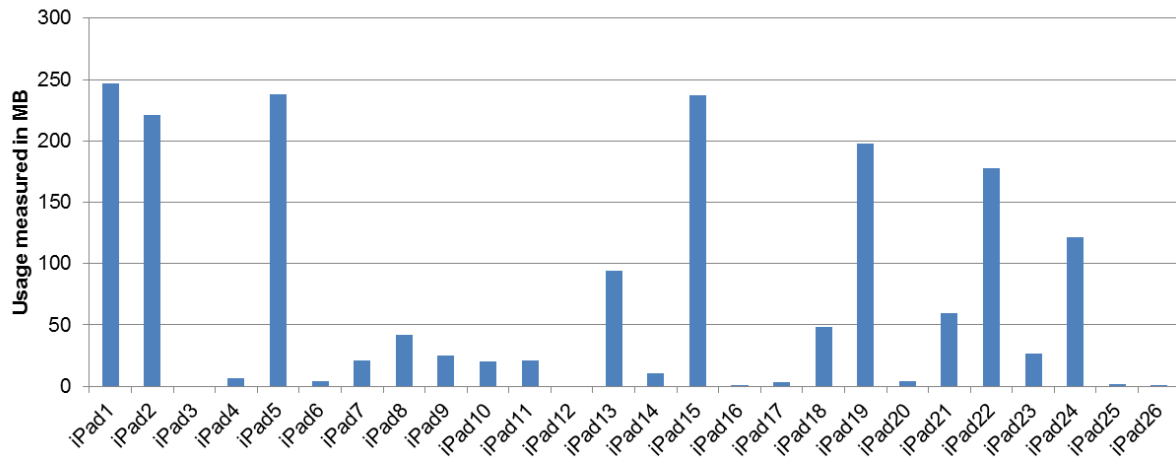


Figure 5: 3G usage for each Doomadgee State School iPad – June 2011

Appendix B:

Information and Technologies Branch

**Schools guide for purchasing and using personal
productivity devices**

Including iPads and iPhones



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Introduction

With increased availability of mobile Information and Communications Technology (ICT), principals and managers must ensure devices procured for use within the department's IT network adhere to Queensland legislation and departmental policy and procedures.

This is particularly important where ICT devices incapable of running the department's Managed Operating Environment (MOE) require a subscription to an online service or where personal information is transmitted externally to the department.

The advice provided in this document aims to support departmental staff responsible for the procurement, setup and management of Apple iPads within school and corporate environments. Where relevant, links to additional guidelines and departmental procedures are provided.



Device procurement

Before you purchase

The department is currently trialling iPads in schools and corporate environments to establish compatibility with our ICT environment, as well as the teaching and learning plus business productivity fit. During this trial we are exploring the iPads suitability and limitations within the department, its corporate applications and functionality within an educational context.

Schools wishing to purchase iPads before the conclusion of the trial should be aware that iPads do not currently support Java, Adobe Flash and Microsoft Silverlight applications. These unsupported applications restrict functionality within the new Learning Place, iConnect web conferencing sessions and OneSchool reporting. The original iPad does not have inbuilt cameras, and all iPads have no USB connections, which may limit or impede intended usage expectations. iPads are not supported by the Service Centre for technical issues relating to the use of them in schools and corporate locations.

Purchasing an iPad

Schools are responsible for funding the purchase of iPad devices and ensuring they comply with departmental procurement instructions.

If purchasing Apple personal productivity devices (such as iPads) online using a corporate card, the department's [Guidelines for the use of the Queensland Government Purchasing Card](#) must be adhered to. The Apple online store provides the required security as outlined in point 4.13 of the guidelines. The use of a corporate card to establish an account with PayPal or other third party payment providers for any purpose is prohibited.

<http://oneportal.deta.qld.gov.au/searchcenter/Pages/Results.aspx?k=corporate%20card%20guidelines&s=All%20Sites>

Apple iPads are not listed in the department's preferred supplier arrangement PSA131. These devices may be purchased from either a GITC accredited Apple reseller, general department store or the Apple online store.

[Guide to purchasing an iPad online](#)



Policies and procedures

As with all ICT, there are a number of departmental policies and procedures you should be aware of. This list below provides an overview of the policy and guideline items relevant to your use of an iPad. Please note this is not a comprehensive list of DET ICT policies and procedures, you should consult the DET Procedure Register for further information.

<http://education.qld.gov.au/strategic/eppr/>

Keep track of your iPad

Schools need to record all portable and attractive assets valued between \$100 to \$5000 — including iPads, iPod Touches and iPhones — on the Department of Education and Training SMS Asset Register. Detailed [policy and guidelines](#) are available.

<http://education.qld.gov.au/strategic/eppr/equipment/esmpr002/index.html>

Connecting your iPad to the Internet

3G-enabled personal productivity devices bought for departmental use are to be connected to a corporate data plan. Data plans are to be procured through the department's Telecommunications and Data Services Unit.

Please read the information about available [data plans](#), select a plan, then complete and submit a [mobile order form](#) to telecoms@deta.qld.gov.au for processing.

<http://oneportal.deta.qld.gov.au/Services/InformationTechnology/ICTServiceCatalogue/Mobiles/Pages/DataPlansandDevices.aspx>

<http://education.qld.gov.au/strategic/eppr/ict/ictpr003/>

A micro SIM card will be forwarded to you in the mail from Telstra. To activate the micro SIM card, contact the Service Centre on 1800 680 445 (option 4).

Connecting your iPad to the DET Wi-Fi network

Schools may connect departmentally acquired devices to the DET Wi-Fi network at the discretion of the school principal. A common-sense-approach based on risk awareness is recommended for the use of these devices. Staff wishing to connect private devices to the department's IT network should be familiar with [ICT-PR-004: Using the Department's Corporate ICT Network](#) before seeking approval from their principal.

<http://education.qld.gov.au/strategic/eppr/ict/ictpr004>



Setting up your new iPad

iPads have a multitude of functionality as mobile devices. The guides below will help you setup the basics including linking to your school's Wi-Fi network and accessing your email. More help guides will be available as the trial progresses.

Wi-Fi connectivity

School iPad users can access their departmental Wi-Fi internet connection using their iPads. See the below guide to set up Wi-Fi connectivity.

[Connect to your Schools Wi-Fi](#)

Email

School iPad users can access their departmental email using their iPads. See the below guide to set up email.

[Access your MIS email on your iPad](#)

Transferring documents

There are a range of Apps available to move files between computers and iPads. These include Pages, GoodReader and Filer Lite, to name a few. Advice on [iPad File Sharing](#) is available on the Apple website. A personal One Portal site may also be an alternative for accessing departmental documents offsite.

<http://support.apple.com/kb/HT4094>

Dropbox and other applications that copy files outside of the department's IT network to unsecured sites should not be used.



iTunes and iPads

iTunes is a free application for computers. It is what you use to add your downloaded media and Apps to Apple devices. Download iTunes to your computer from the [Apple website](http://www.apple.com/itunes).

<http://www.apple.com/itunes>

To download apps from the iTunes Store, you will need to create an iTunes account. [Advice on setting up an iTunes account](#) is available from the Apple website – Follow the ‘*Creating an Apple ID on a computer*’ link. Corporate credit cards should not be used to create an iTunes account. Instead, use an iTunes gift card on the *Provide a Payment Method* screen.

<http://support.apple.com/kb/HT2731>

Departmental staff should familiarise themselves with [ICT-PR-006: Using non-departmental online ICT services where personal information is provided](#), before setting up an iTunes account. This policy outlines the required consent documentation required for students and staff using similar types of ICT services.

<http://education.qld.gov.au/strategic/eppr/ict/ictpr006/>

Purchasing from iTunes

Corporate credit cards should not be used for iTunes store purchases. Instead, use iTunes gift cards.


There are no preferred supplier arrangements for the purchase of iTunes gift cards. They can be bought from major department stores, supermarkets and Apple stores.

iTunes gift cards bought privately to make departmental iTunes store purchases may be recouped at the discretion of schools and business units via a reconciliation process similar to petty cash claims.

When purchasing iTunes gift cards, small denomination cards are recommended to minimise the potential for loss of departmental funds held in iTunes accounts.

iTunes accounts in schools

For **shared Apple devices** it is recommended that a MIS mailing group be created to manage **each device** (for example, iPadAdmin1@*schoolname*.eq.edu.au). Members of this mailing group (such as business unit managers, heads of department and heads of curriculum) can use this mailing group address to create an iTunes Store account, make iTunes Store purchases, and monitor account balances and receipts. Each school's MIS administrator can create mailing groups as per the MIS Administrator manual, section 8.4.



For **departmentally owned, individual-use Apple devices**, a school finance email account **for each device** is to be used or one established to create an iTunes account for departmental iTunes Store purchases. Each school's MIS administrator can establish this account, with Principal approval. All iTunes Store purchases for these devices are to be made using iTunes gift cards. Departmental Apple devices should not be linked to personal iTunes accounts or personal email addresses for departmental iTunes Store purchases.

Staff may make personal use iTunes Store purchases with their personal iTunes Store account details, to be used on their departmentally owned Apple devices. These purchases are at each staff member's expense and are not reimbursable with departmental funds.

Students: Duty of care and student confidentiality / privacy will need to be considered if parents manage an iTunes account on behalf of their child, or should a schools request that students over the age of 16 create their own iTunes Store accounts to administer an iPads as part of a 1-to-1 learning take-home model.

Teachers: Be aware that creating an iTunes account does send personal information to the Apple website, for shared devices, a school mailing group should be created. Teachers should familiarise themselves with [ICT-PR-006: Using non-departmental online ICT services where personal information is provided](#) with regard to creating an iTunes account.



iTunes Terms of Service and Privacy Policy

Departmental employees making iTunes Store purchases need to know and abide by the [iTunes Terms of Service and Privacy Policy](http://www.apple.com/legal/itunes/au/terms.html#SALE). This agreement prescribes the use of iTunes Store purchases and the number of devices that iTunes applications (Apps), iBookstore and other iTunes Store purchases can be synched.

www.apple.com/legal/itunes/au/terms.html#SALE

Applications (Apps)

iTunes Terms of Service for Apps allow personal non-commercial and Educational Institution usage, therefore:

- Purchased and free Apps may be loaded on **up to five (5) individually operated corporate and school-owned personal use devices** (such as iPhones, iPods and iPads)
- Purchased and free Apps may be loaded on **one (1) shared corporate and school-owned device only** (that is, one App per device).

A flow chart and example scenarios are below.

iBookstore

iTunes Terms of Service for iBooks allow personal non-commercial use. Therefore iBookstore purchases may **ONLY** be loaded on, **up to five (5) individually operated corporate or school-owned personal use devices** (such as iPhones, iPods and iPads).

Other iTunes Store purchases

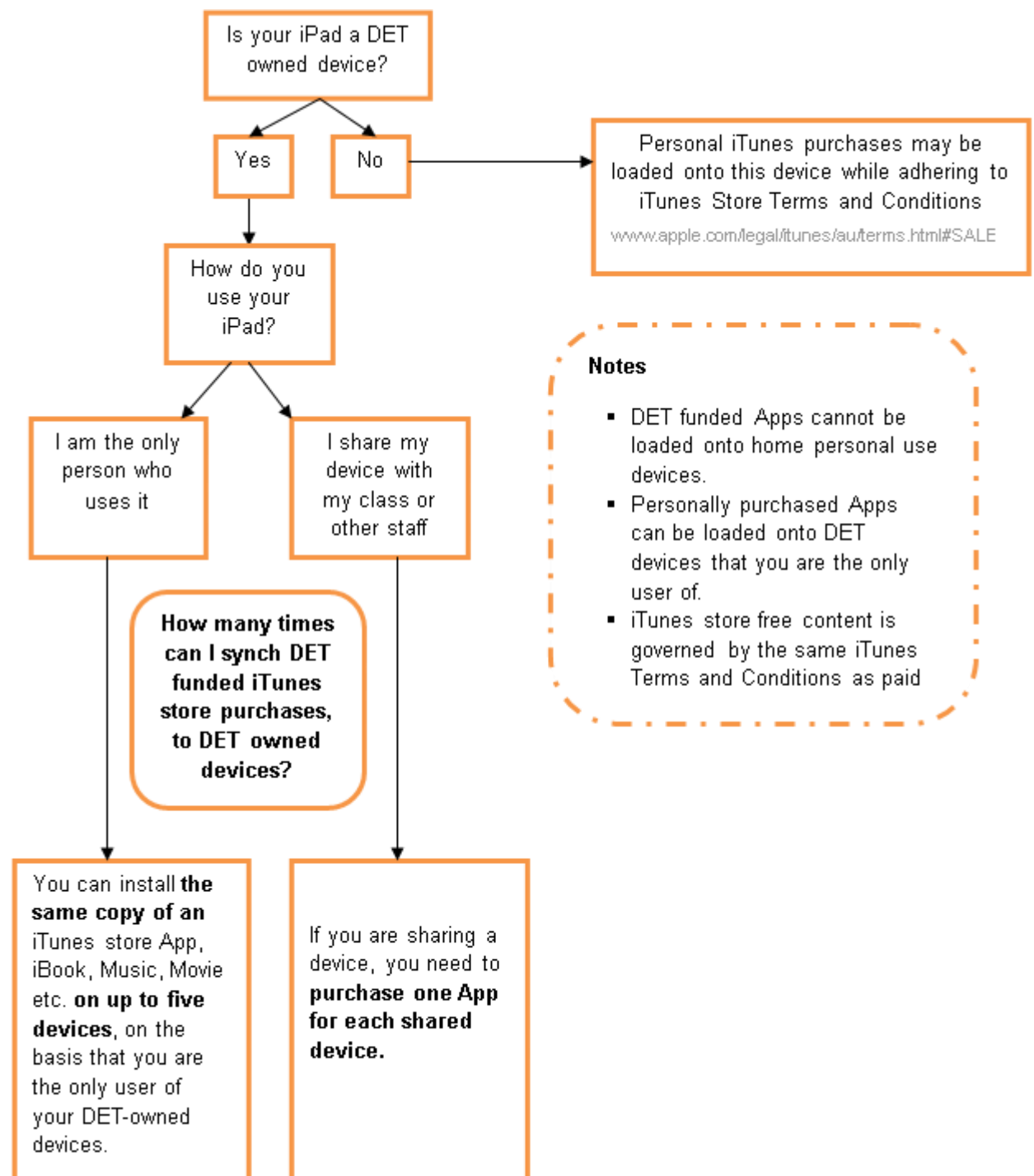
All other iTunes Store purchases, **including music** and rented content (with the exception of movie rentals) are governed by personal non-commercial usage rules. Therefore:

- Other iTunes Store purchases and rented content may **ONLY** be loaded on **up to five (5) individually operated corporate and school-owned personal use devices** (e.g. iPhone, iPod, iPad etc.).
- Movie Rentals may be loaded onto **one (1) device ONLY** at a time.

The Apple Terms of Service and Privacy Policy should be followed to ensure the department is not exposed to unnecessary policy breaches. Adhering to these terms demonstrates that staff are operating safely, legally and ethically with digital resources as outlined in the [Smart Classrooms Professional Development Framework](http://www.education.qld.gov.au/smartclassrooms/pdfframework/docs/scpd-framework.pdf).

www.education.qld.gov.au/smartclassrooms/pdfframework/docs/scpd-framework.pdf

iTunes Store usage flow chart for DET purchases





Correct iTunes Store usage scenarios

Scenario 1:

Tim is a teacher who has five (5) departmentally funded iPads that he shares with his class. When purchasing an App through the iTunes Store, Tim purchases five (5) copies of the same App and loads one copy onto each device.

Scenario 2:

Belle is a Principal who has a laptop, iPad and iPhone all exclusively for her use, purchased by the department, Belle also has a personally purchased iPad for home use. When making purchases from the iTunes store, Belle can purchase one copy of a specific App, iBook or Music track and load this purchase on up to five (5) of her departmentally owned devices. She cannot however load it onto her own iPad at home, even though she is the sole user of her personally-funded device.

Scenario 3:

Gordon is a teacher who has:

- a departmental laptop and an iPod Touch which he uses exclusively,
- an iPad and which he shares in class with his students, and
- a 'home personal use' iPhone (purchased with his own funds).

When purchasing Apps and music from the iTunes Store for his iPhone at home with personal funds, he can add these products to his iPhone and also his work iPod Touch as he is the exclusive user.

However, if Gordon purchases an iTunes store product with departmental funds for his iPod Touch this cannot be loaded onto his home use iPhone. Gordon will also need to buy Apps individually for the class iPad.



Copyright

Departmental employees should be familiar with Smartcopying, 'The Official Guide to Copyright Issues for Australian Schools and TAFEs'. Smartcopying provides advice on copyright related issues, specifically advice surrounding [digital sound recordings](http://smartcopying.edu.au/) and [Open Education/Free for Education Resources](http://smartcopying.edu.au/):

<http://smartcopying.edu.au/>

Furthermore, iPad content can be obtained from a range of sources including CD's, royalty free music sites and self-published content. When utilising material from sources other than iTunes, ensure you comply with any additional copyright guidelines.

Further advice

[Manuals](http://support.apple.com/manuals) on using Apple devices are available on the Apple website. [Troubleshooting help and support](http://support.apple.com/manuals) is also available, as are [tips and tricks](http://support.apple.com/manuals).

<http://support.apple.com/manuals>

<http://www.apple.com/support>

<http://discussions.apple.com/index.jspa>

For further information please contact: Learning.Technologies@deta.qld.gov.au.

To follow the department's iPad Trial online, simply search the new Learning Place for the following Learning Pathway Access Code: **54022867**

An online project discussion area has also been created to share iPad trial findings. The project room name is [DET iPad Trial](https://team.oneportal.deta.qld.gov.au/sites/ipad/default.aspx).







<https://team.oneportal.deta.qld.gov.au/sites/ipad/default.aspx>

Appendix C:

Year 9 unit overview — Australian Curriculum: English

School name	Unit title	Duration of unit
Kedron SHS	Please Sir, I Want Some More	8 weeks

Unit outline
<p>Students develop a critical understanding of the contemporary developments in technology and the genres that new technologies have instigated such as blogging and podcasting. Students will develop an understanding of the different audiences of persuasive texts and how the audience determines the types of language selected.</p> <p>Students develop an understanding of:</p> <ul style="list-style-type: none">• podcasting— an online format that focuses on a specialised topic for informational and/or persuasive purposes• the process of developing a blog and integrating a podcast• the protocols involved in creating and working in an online interactive space to review and edit their own and each other's work. <p>Inquiry questions for the unit:</p> <ul style="list-style-type: none">• How do technical and aesthetic language structures and features work together in an online hybrid text?• What are the rights, roles and responsibilities of working in an interactive space?• How do different authors innovate with text structures and language for specific purposes and effects?• How can the online hybrid space be used to interpret, analyse and evaluate different perspectives of an issue, event or situation and provide personal responses to texts created by peers?• How will the online forums, discussion threads and blogs be used to explore and explain the combinations of language and visual/aural choices that authors make to present information, opinions and perspectives in different texts?

Identify curriculum			
Content descriptions to be taught			General capabilities and cross-curriculum priorities
Language	Literature	Literacy	
<p>Language for variation and change</p> <ul style="list-style-type: none"> Understand that Standard Australian English is a living language within which the creation and loss of words and the evolution of usage is ongoing <p>Language for interaction</p> <ul style="list-style-type: none"> Understand that roles and relationships are developed and challenged through language and interpersonal skills Investigate how evaluation can be expressed directly and indirectly using devices, for example allusion, evocative vocabulary and metaphor <p>Text structure and organisation</p> <ul style="list-style-type: none"> Understand that authors innovate with text structures and language for specific purposes and effects Compare and contrast the use of cohesive devices in texts, focusing on how they serve to signpost ideas, to make connections and to build semantic associations Understand how punctuation is used in conjunction with layout and font variations in constructing texts for different audiences and 	<p>Responding to literature</p> <ul style="list-style-type: none"> Explore and reflect on personal understanding of the world and significant human experience gained from interpreting various representations of life matters in texts <p>Examining literature</p> <ul style="list-style-type: none"> Analyse texts from familiar and unfamiliar context and discuss and evaluate their content and the appeal of an individual author's literary style <p>Creating literature</p> <ul style="list-style-type: none"> Experiment with the ways that language features, image and sound can be adapted in literary texts, for example the effects of stereotypical characters and settings; the playfulness of humour and comedy, pun and hyperlink. 	<p>Texts in context</p> <ul style="list-style-type: none"> Analyse how the construction and interpretation of texts, including media texts, can be influenced by cultural perspectives and other texts <p>Interacting with others</p> <ul style="list-style-type: none"> Use interaction skills to present and discuss an idea and to influence and engage an audience by selecting persuasive language, varying voice tone, pitch, and pace, and using elements such as music and sound effects Plan, rehearse and deliver presentations, selecting and sequencing appropriate content and multimodal elements for aesthetic and playful purposes <p>Interpreting, analysing, evaluating</p> <ul style="list-style-type: none"> Interpret, analyse and evaluate how different perspectives of an issue, event, situation, individuals or groups are constructed to serve specific purposes in texts Apply an expanding vocabulary to read increasingly complex texts with fluency and comprehension Use comprehension strategies to interpret and analyse texts, comparing and evaluating representations of an event, 	<p> Literacy</p> <ul style="list-style-type: none"> reflect on different ways to use the communication skills they have developed during the year, in particular the use and production of texts in an online hybrid space <p> ICT competence</p> <ul style="list-style-type: none"> range of software used in the creation of a blog and a podcast <p> Critical and creative thinking</p> <ul style="list-style-type: none"> new connections students make with aesthetic and technical language in an online space <p> Ethical behaviour</p> <ul style="list-style-type: none"> maintaining protocols for working collaboratively in an online space respect when reviewing, providing feedback and editing the work of others <p> Personal and social competence</p> <ul style="list-style-type: none"> provide constructive feedback reflecting on own and others' work to refine and improve the final product <p> Aboriginal and Torres Strait Islander histories and cultures</p> <ul style="list-style-type: none"> connections to and consultation with communities.

Identify curriculum			
<p>purposes</p> <p>Expressing and developing ideas</p> <ul style="list-style-type: none"> • Explain how authors experiment with the structures of sentences and clauses to create particular effects • Analyse and explain the use of symbols, icons and myth in still and moving images and how these augment meaning • Identify how vocabulary choices contribute to specificity, abstraction and stylistic effectiveness. 		<p>issue, situation or character in texts</p> <ul style="list-style-type: none"> • Explore and explain the combinations of language and visual choices that authors make to present information, opinions and perspectives in differing texts <p>Creating texts</p> <ul style="list-style-type: none"> • Create imaginative, informative and persuasive texts that present a point of view and advance or illustrate arguments, including texts that integrate visual, print and/or audio features • Review and edit students' own and others' texts to improve clarity and control over content, organisation, paragraphing, sentence structure, vocabulary and audio/visual features • Use a range of software, including word processing programs, flexibly and imaginatively to publish texts. 	

Relevant prior curriculum	Curriculum working towards
<p>Through their experience with the curriculum by the end of Year 9, students are able to:</p> <ul style="list-style-type: none"> • demonstrate and analyse the relationship between audience, subject matter, purpose and text type • interpret and analyse how language elements and other aspects of texts position readers/viewers/listeners • construct non-literary texts by planning and organising subject matter according to specific text structure and referring to other texts • reflect on and analyse how language choices position readers/viewers/listeners in particular ways for different purposes and can exclude information • reflect on learning, apply new understandings and justify future applications • understand that words and phrases, symbols, images and audio affect meaning and establish and maintain roles and relationships to influence an audience • understand that writers and designers refer to authoritative sources and use a number of active writing strategies, including planning, drafting, revising, editing, proofreading, publishing and reflecting • understand that feature articles, current affairs and news reports, formal letters, editorials, radio programs, film documentaries, reviews, biographies, advertisements, letters to the editor, expositions, formal meetings and debates, and extended presentations are types of non-literary texts. <p>Year 8 Australian Curriculum English</p> <ul style="list-style-type: none"> • Analyse how the text structures and language features of persuasive texts, including media texts, vary according to the medium and mode of communication. • Recognise that vocabulary choices contribute to the specificity, abstraction and style of texts. • Understand and explain how combinations of words and images in texts are used to represent particular groups in society, and how texts position readers in relation to those groups. • Analyse and explain how language has evolved over time and how technology and the media have influenced language use and forms of communication. • Use interaction skills for identified purposes, using voice and language conventions to suit different situations, selecting vocabulary, modulating voice and using elements such as music, images and sound for specific effects. • Analyse and evaluate the ways that text structures and language features vary according to the purpose of the text and the ways that referenced sources add authority to a text. • Explore and explain the ways authors combine different modes and media in creating texts, and the 	<p>Year 10 Australian Curriculum:</p> <ul style="list-style-type: none"> • Understand how language use can have inclusive and exclusive social effects, and can empower or disempower people • Compare the purposes, text structures and language features of traditional and contemporary texts in different media • Evaluate the impact on audiences of different choices in the representation of still and moving images • Evaluate the social, moral and ethical positions represented in texts • Analyse and evaluate how people, cultures, places, events, objects and concepts are represented in texts, including media texts, through language, structural and/or visual choices • Use comprehension strategies to compare and contrast information within and between texts, identifying and analysing embedded perspectives, and evaluating supporting evidence • Create sustained texts, including texts that combine specific digital or media content, for imaginative, informative, or persuasive purposes that reflect upon challenging and complex issues • Review, edit and refine students' own and others' texts for control of content, organisation, sentence structure, vocabulary, and/or visual features to achieve particular purposes and effects • Use a range of software, including word processing programs, confidently, flexibly and imaginatively to create, edit and publish texts, considering the identified purpose and the characteristics of the

<p>impact of these choices on the viewer/listener.</p> <ul style="list-style-type: none"> Experiment with text structures and language features to refine and clarify ideas to improve the effectiveness of students' own texts. Use a range of software, including word processing programs, to create, edit and publish texts imaginatively. 	<p>user.</p>
Bridging content	
<p>The focus is on explicit teaching of :</p> <ul style="list-style-type: none"> developing a critical understanding of the contemporary technology the differences between media texts both written and spoken in a range of face-to-face and online/virtual environments experimenting with text structures and language features to refine and clarify ideas to improve the effectiveness of students' own texts using a range of software to create, edit and publish texts imaginatively creating a hybrid online text and podcast — a text in which different elements can be used for different purposes at different times. 	
Achievement standard	
<p>By the end of Year 9, students listen to, read and view a range of spoken, written and multimodal texts, recognising how events, situations and people can be represented from different perspectives, and identifying stated and implied meaning in texts. They infer meaning by interpreting and integrating ideas and information from different parts of texts. They draw conclusions about characters, events and key ideas, justifying these with selective use of textual evidence. They interpret and critically evaluate the use of visual and non-verbal forms of language used to establish relationships with different audiences. They identify and explain how text structures and language features of texts, including literary techniques, are designed to appeal to audiences. They compare, contrast and evaluate their own responses to texts and different interpretations presented by others.</p> <p>Students create engaging representations of people, places, events and concepts in coherent and well-structured written, spoken and multimodal texts for specified purposes. They use a variety of strategies to participate effectively in conversations, discussions and debates, to ask questions to clarify meaning, and to express their own ideas and viewpoints. They collaborate and negotiate with others to solve problems, and to deliver planned, multimodal presentations. They connect and organise ideas and information in logically sequenced texts. They use a variety of text structures and language features for particular purposes, and effects. They select relevant subject matter to advance arguments logically and to persuade others. They make vocabulary choices that contribute effectively to the precision, and persuasiveness of texts. They use a variety of appropriate punctuation to support meaning in complex sentences.</p>	
Links to other learning areas	
<p>The skills, processes and knowledge of text structures and organisation developed in English will be explored across a range of learning areas but include the specific language and structure of the learning area. Selection of e-zines for analysis in this unit will cover a range of subject matter and technical vocabulary that links to other learning areas.</p>	

Assessment		Make judgments
Describe the assessment	Assessment date	Teachers can gather evidence and make judgments about:
Multimodal: informative and persuasive Spoken/signed analytical discussion	Weeks 4–5 Multimodal: Informative text/blog Multimodal: Persuasive text/podcast Weeks 8–9 Spoken/signed: Analytical discussion	Persuasive multimodal text: blog and podcast <ul style="list-style-type: none"> • Present a coherent, cohesive and sustained written and verbal that articulates complex ideas and explores social issues of global and local concern. • Choose appropriate language for the context, purpose and the audience. • Logically sequence and organise content to manage the flow of information and ideas, to engage audiences and generate aesthetic and emotional appeal. • Vary vocabulary choices and sentence structures for impact. • Correctly use punctuation in complex sentences and complex texts. • Review and edit their own and others' texts to improve clarity and control over content, organisation, paragraphing, sentence structure, vocabulary and audio/visual features. Spoken/signed analytical discussion <ul style="list-style-type: none"> • Use interaction skills to present and discuss an idea and to influence and engage an audience by selecting persuasive language. • Explore and explain the combinations of language and visual choices that authors make to present information, opinions and perspectives in different texts.

Teaching and learning	Supportive learning environment	
Teaching strategies and learning experiences	Adjustments for needs of learners	Resources
<ul style="list-style-type: none"> Analyse different contemporary technology developments with a focus on the iPad. Create draft online collaboration space for blogs and podcasts and begin to populate the space with appropriate student created texts and ideas. Set up forums, wikis to provide a space for tracked commentary on feedback to improve own and others' texts to be included in the blog and podcast Discuss ethical considerations for using an interactive website and develop class protocols for responsible web citizenship in an online hybrid space. Debate the rights and responsibilities for reviewing and commenting on others' work and model respectful ways for giving and receiving critical and constructive feedback. Provide access to experts in podcasting, blogging editing and communication Explicitly teach technical vocabulary and the language of persuasion. Explore a range of software, layouts and text structures to create online space with students. Moderate and monitor blogs and tracked commentary to ensure appropriateness and provide feedback. 	<p>Section 6 of the <i>Disability Standards for Education</i> (The Standards for Curriculum Development, Accreditation and Delivery) state that education providers, including class teachers, must take reasonable steps to ensure a course/program is designed to allow any student to participate and experience success in learning.</p> <p>The <i>Disability Standards for Education 2005</i> (Cwlth) is available from: <www.ag.gov.au> select Human rights and anti-discrimination > Disability standards for education.</p>	<ul style="list-style-type: none"> .

Use feedback	
Ways to monitor learning and assessment	<p>Year 9 teachers:</p> <ul style="list-style-type: none"> initially meet to collaboratively plan the teaching, learning and assessment to meet the needs of all learners co-mark written persuasive review and moderate to achieve consensus and consistency of teacher judgment cross-mark the transformation of texts moderate blogs and podcasts and review student folios across a range and balance of assessments. <p>Curriculum leaders:</p> <ul style="list-style-type: none"> randomly sample student work to check for consistency of teacher judgments.
Feedback to students	<p>Teachers:</p> <ul style="list-style-type: none"> plan opportunities for conversations to provide ongoing feedback (spoken and written) and encouragement to students on their strengths and areas for improvement reflect on and review learning opportunities to individualise learning experiences required provide multiple opportunities for students to experience, practise and improve knowledge, processes and skills. <p>Students:</p> <ul style="list-style-type: none"> identify what they can do well and what they need to improve provide feedback to a peer on interaction skills and suggest some strategies for improvement (written and spoken feedback).
Reflection on the unit plan	<p>At the conclusion of the unit all teachers who have been involved in planning, teaching, learning and assessment will come together to reflect on the successes and challenges of the unit. They will come with their personal reflections through answers to the following questions:</p> <ul style="list-style-type: none"> What worked well in this unit? What was a stumbling block? How would you refine it? What trends and gaps in learning have you identified? How will you build on these learning experiences next term and beyond?